Exploring the influence of creative thinking on the pedagogy of primary-aged children's writing

Adrian J. Copping
BA QTS MA

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I, Adrian Copping, declare that this thesis is my own work and has not been submitted in substantially the same form for the award of a higher degree elsewhere

Abstract

This two year case study explored the influence that creative thinking has on writing pedagogy within a primary school context. Whilst the fields of creative thinking and writing pedagogy have been researched extensively, there is a paucity of research that explores how they are inextricably connected. It is useful to consider this connection in the context of firstly, children's writing and thinking development and secondly the context of an English education system driven by high stakes testing that puts an emphasis on product not process. This testing arguably drives schools' pedagogic decisions towards a focus on attaining good marks in the test often at the expense of understanding and knowledge application.

The study involved design and facilitation of writing workshops for six primary classes in one school over a two year period. Data were collected through observation, follow-up interviews and focus groups and documentation analysis. Data were analysed using a thematic approach informing the development of a 'think for writing' planning model for practitioners.

Analysis revealed several pre-requisites for children's development of creative thinking. Notably, working within a classroom that is developed to enable thinking through consideration of task, developing learner agency and valuing the process of writing. For thinking to then influence writing, teachers must develop creative self-efficacy in their learners through teaching in between the building blocks of the writing process as much as on the blocks themselves.

The findings have implications for teaching of writing in primary schools, such as developing writing pedagogies that both satisfy a high-stakes testing and accountability agenda whilst developing creative thinking. There are also implications for developing primary English modules in teacher education that emphasise the importance of working in between those writing building blocks. Recommendations are made for the development of these approaches utilising my 'think for writing' framework.

Acknowledgements

One does not embark on and journey through such an endeavour as this research alone and this work would not have been possible without the willingness and help of many people. I would like to acknowledge those who have contributed to my work.

Firstly, the staff and pupils of 'Parklands Primary', my research participants. Their willingness to engage with the research process, allow me to experiment pedagogically in their classes and be open about their teaching and learning completely enabled my research.

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This thesis is dedicated to my wife, Ceridwen.

Contents

List of Figures

List of illustrations

List of Abbreviations

ACCT	Analysing Children's Creative Thinking
ACEs	Adverse Childhood Experiences
ADHD	Attention Deficit Hyperactive Disorder
AREs	Age Related Expectations
ATTA	Abbreviated Torrance Test for Adults
BA	Batchelor of Arts
CAQDAS	Computer Aided Qualitative Data Analysis Software
CAT	Consensual Assessment Technique
DESWO	Department for Education, Science and the Welsh Office
DfE	Department for Education
DfES	Department for Education and Skills
EEG	Electroencephalogram
GDS	Greater Depth Standard
NQT	Newly Qualified Teacher
QCA	Qualifications and Curriculum Authority
RQT	Recently Qualified Teacher
SATs	Statutory Assessment Tests
SEND	Special Educational Needs and Disability
TGAT	Task Group on Assessment and Testing
TTCT	Torrance Tests of Creative Thinking
WAGOLL	What A Good One Looks Like
WAM	Writing Assessment Measure

Chapter 1: Introduction

In this introduction the context within which my research takes place will be introduced. This includes implications of the National Curriculum for England (2013), specifically English, set out for primary year groups 1-6 (children aged 5-11), how primary schools in England are assessed within the subject and the resultant implications for teachers and schools. Following this, I will provide a rationale for my research, demonstrating why it is worthwhile and the new knowledge I aim to contribute to the fields of creative thinking and the pedagogy of primary-aged children's writing. I will then explain my own background, and approaches to pedagogy that have led me to undertake this research. The introduction will conclude with a stating of my specific research questions.

1:1 Context: Educational and Political background

The Education Reform Act (1988) set out the requirement that all maintained schools in England and Wales must follow a basic curriculum, to be known as The National Curriculum (part 1 sub section 2). Prior to this, schools and teachers were more autonomous, able to design and impart a curriculum and assessment that they felt best met the needs of the learners within their contexts. These curricula were often influenced and supported by Local Education Authorities (Wyse and Torrance 2009: 213). This new legislation determined core subjects: English, Maths and Science and foundation subjects: History, Geography, Technology, Art, Music and Physical Education (1: 3). This Act also stated that the curriculum would specify knowledge, skills, and understanding for each of these aforementioned subjects through programmes of study and attainment targets (1: 2). It stated children would be assessed on their achievement at the end of each key stage (1: 2), for primary (end of year 2 (aged 6-7) and end of year 6 (aged 10-11), but gave no indication of the nature of the assessment or how it would be used. It is stated, within the act that it is the Secretary of State for Education's duty is to complete the curriculum, revise where appropriate and specify attainment targets, programmes of study and assessment arrangements (part 1 sub section 4). This piece of context is important as with this Act, the curriculum in England and Wales was taken into the control of the presiding government and therefore into the political realm. Reasons for the Act can be found in debates around

accountability. Wyse and Torrance state *'the perceived need for governmental control over education, and in particular control over expenditure related to value for money in terms of the national investment in education'* (2009: 215). A Task Group on Assessment and Testing (TGAT) was set up by the government in 1988 to design and prepare a statutory testing system (DESWO 1988). This group made four recommendations;

1) That assessment results should be criterion-referenced and related to objectives;
2) Assessment should be formative and results should provide a basis for determining future teaching;
3) Assessments should be calibrated and results able to be compared across schools;
4) Assessments should relate to children's developmental stages and progression;

Responses to the initial proposals and recommendations for national testing were identified by Haviland (1988) in Wyse and Torrance (2009: 215). They included concern about the number of purposes the tests were supposed to serve and the likelihood that the curriculum may well be constrained as teaching to the test may well result. The work of TGAT resulted in the development of 'Statutory Assessment Tests' (SATs), so as to standardise testing across England and Wales. These would be marked by their teachers and taken by the children when ready and used ostensibly as a measure of the children's progress against the stated attainment targets. However, Black (1994: 191), who chaired the TGAT argued that during the implementation of these tests, the political process behind it modified the original thinking behind them. As a result the reality became significantly different to the intention, notably, the publishing of league tables (Wyse and Torrance 2009: 215), the implication being a more profound focus on accountability purposes of the new assessment system rather than on development: feedback on learning for teachers, parents and the children themselves (Daugherty 1995). Testing had become a government's evaluation of the effectiveness of teaching in school, rather than diagnosing individual strengths and weaknesses to help develop learning (Skidelsky 1993, in Chitty 2014: 156).

The implications of government-imposed statutory, standardised testing and the increased focus on accountability is still a challenge thirty years on. Keddie (2014: 230) argues that assessment and publishing league tables can be seen to reduce teaching to driving up standards, dictated by the government's measure with often a downgrading to the scope and quality of curriculum, learning opportunities and pedagogy. This is developed by Marshall (2017: 33) who argues that standards-based tests are more to do with fitting the economists need to see whether the public investment in education has paid off.

1.2 Context: National Curriculum 2013, SATs focus

In January 2015, Secretary of State for education, Nicky Morgan endorsed a knowledge-based curriculum in a speech published on the Department for Education website. This speech reflected the changes made to the National Curriculum in 2013, which is still statutory including knowledge-based changes made to the 2019 SATs. *(N.B. 2019 is the year where the majority of my data collection took place)*. These changes gave English more focus on technical aspects of writing such as grammar, punctuation and spelling. This presented implications for teachers' pedagogical knowledge of the contribution these aspects make to effective writing (Myhill, Jones, Watson 2013). As a result, a focus in writing pedagogy has shifted to teaching from the National Curriculum grammar and punctuation appendices (DfE 2013) with an emphasis on learning key terms. This leaves limited time available for developing understanding of how these grammatical features can effectively contribute to quality writing.

During May each year, eligible children will sit SATs papers. These dates are set and published on the Department for Education (DfE) website alongside administration guidance. Papers are delivered to maintained schools and must be locked away until the prescribed testing dates. For 2019, the grammar, punctuation and spelling test was made optional for key stage 1. The tests are marked by school staff and teachers can use this test as part of evidence over the year to make overall writing attainment judgements against the DfE's Teacher Assessment Frameworks.

Key Stage 2 SATs have an increased statutory focus on spelling, grammar and punctuation with two tests and one on reading. These are sent away and marked externally. As for Key Stage 1 writing, Teacher assessment judgements should be using the interim Teacher Assessment frameworks when making their judgements. The KS2 English writing framework (2018) contains 3 standards: working towards the expected standard, working at the expected standard, working at greater depth within the expected standard. Exemplification of these standards is available on the DfE website.

The increased focus on the more technical aspects of writing: spelling, grammar and punctuation in National Curriculum (2013) and the government's belief in a knowledge-based curriculum is evidenced in the statutory assessment that children complete and school's report to inform their league table position. This gives the results high stakes for

each school, keen to increase their league table position and to be seen in the school marketplace as a high quality site of learning for children. More children on roll means more money for the school, as a school's funding is allocated per child. It is therefore within this context of a culture of teaching to a test which values knowledge of a wide variety of the technical aspects of writing, including key terms and high anxiety (Connor 200: 101), caused by high stakes testing that my research takes place.

1.3 Rationale for my research

The implications of the educational context as laid out above are significant. The pressure on teachers to cover a demanding curriculum and deliver high scores on tests has reduced the focus of teaching writing to produce pieces with grammatical features identified in the DfE exemplification. High stakes testing has distorted practice, reduced the curriculum and given children a narrower range of opportunity (Polesel, Rice, Dulfer 2014: 640). However, the majority of research into effective writing pedagogy over the last thirty years is rooted in a process model (Graves 1983; Kellogg 1999; Gillespie and Graham 2010; Graham and Sandmel 2011; Graham et al. 2012; Cremin 2015). This model purports that learning takes place through the process of writing and that it is context-situated (Kellogg 1999: 49). Writing is about composition, effect, intent as the author and the grammatical features of the writing are tools for the writer to use to create pictures, evoke emotion and weave their intent. It is a creative endeavour. My research, therefore seeks to 'meddle in the middle' (McWilliam 2009) and explore the process of writing, a pedagogy of process that the literature endorses, rather than the quantifiable, product-based writing that political policy demands.

Another implication of high stakes testing is a focus on curriculum coverage rather than on securing understanding. This has led to the marketization of learning with published schemes and resources readily available ensuring curriculum coverage and therefore the assumption that children are then prepared for the tests. These tests are designed to align with the curriculum and test recall of the knowledge the curriculum contains but do they support the development of understanding? Kellogg (1999: 50) contends that the process of writing can lead to a growth in understanding and this is why my research is worthwhile. My research looks to develop a model that can support teachers develop children's understanding through the process of writing. Within that process is understanding that

writing is a creative endeavour and therefore involves creative thinking. My research is worthwhile in that it looks to develop a model to support teachers in developing a pedagogy of understanding not just knowledge, to help children understand the grammatical and structural tools in composing writing and use them for their own purposes. Bereiter and Scardamalia (1993: 175) contend that it is not more constructs that are required but an understanding of the nature and functions of the writing process and the knowledge to apply this to writing tasks. This application of understanding is a key element of creative thinking in my research, again making my research worthwhile.

1.4 My background, experience and approach to pedagogy

My passion for exploring the process of writing and using creative approaches to teaching began when working with an inspiring teacher in my late teens. His passion and advice led me to undertake and complete a four year BA honours degree in English Literature and Drama with Qualified Teacher Status (QTS) in 1996. Following this I worked as a primary teacher in a small, three class school in West Lancashire, teaching a mixed age class of Year 4,5,6 (ages 8-11) for two years. One of my roles there was leading the subject of English. This was during a significant time of change as the highly prescriptive National Literacy Strategy (DfE 1998) was introduced. In 1998 I moved to a large, two form entry, multi-cultural inner city school where I taught years 4, 5 and 6 during my five years there. I led the subject of music, was responsible for school productions and later joined the senior management team as lead mentor for students and Newly Qualified Teachers (NQTs). Here the National Literacy Strategy was in its infancy still and my five year process of working through the requirements, adjusting and amending approaches to meet the needs of learners, led me to develop more creative approaches, such as linking problem-solving through the use of murder-mysteries. I also used curriculum topics, notably Tudors and Victorians as contexts for writing and used real life purposes and contexts, such as local land development to motivate and inspire writing and send letters to the local newspaper. These approaches I found motivated and inspired children and developed their writing achievement.

I have worked as a teacher educator since 2003. Through this role I have had the opportunity to reflect on my primary teaching work, deconstruct and reconstruct my practice so as to model and enact with understanding for student teachers. It is significant

that I taught pre and post National Literacy Strategy (DfE 1998) and through the Primary National Strategies 'Excellence and enjoyment, learning and teaching in the primary years' (2003) under a labour party government. This document brought attention to the importance of the process of learning, learning styles and assessment as part of learning and understanding. Teacher development during this journey through political strategy was conceptualised by Twiselton (2007) and resonates with my own reflections. She suggests three stages along a teacher development continuum in the context of teaching pre, during and post National Literacy Strategy (DfE 1998). The early stage – 'Task Manager', a focus on activities, the second stage 'Curriculum Deliverer', prevalent during the coverage focus of the strategy and finally, 'Concept/skill builder' – having worked through the curriculum knowledge, a teacher can then develop more creative approaches to understanding. Having passed along this continuum of development as a teacher educator I have now developed ways to help teachers support children's understanding of the curriculum through the process of writing, involving developing creative thinking. Having continued to work in school facilitating writing workshops over the last five years, my approach to writing pedagogy through problem solving has yielded some high quality writing from a range of children. My research explores this approach more deeply and conceptualises it in a model for more teachers/ practitioners to use, with the intention of developing their own understanding of composing text and pedagogy of writing, working within the statutory curriculum and giving permission to value the process of writing to develop understanding whilst achieving high quality work.

The experiences and approaches outlined above do bring forth my own bias: that the process of writing is crucial for understanding, that creative thinking is a key part of the writing process and that understanding not just knowledge of grammatical and structural components of writing should be utilised by the writer to create effect. It is therefore my belief that approaching teaching in this way would significantly influence children's writing in a positive way and develop achievement and attainment.

1.5. Contribution to knowledge and research questions

My research contributes new knowledge to the fields of creative thinking and writing pedagogy in several ways. Empirical studies predominantly assess creative thinking using Torrance's Test for Creative Thinking (TTCT) (Kim 2006: 3), a test relying on the participant's extrinsic motivation to do well in a test and to communicate effectively (Robson 2014: 124). My research analyses creative thinking using observation not a controlled test. The observation framework I have developed is adapted from the work of Robson (2014) and draws in the idea of creative thinking being attitudinal (Sternberg 2003; Meadows 2006).

Work in the field of children's writing pedagogy, with a primary focus, does consider creative approaches, for example, Cremin (2015) and Copping (2016). These, alongside others, discuss the process of writing being valuable however they do not fully consider creative thinking specifically as part of that process. In fact there is little work that brings the two fields of creative thinking and the pedagogy of children's writing together. Wang (2012) does begin to do this and pulls out a key feature of creative thinking – elaboration as a key factor that connects the two ideas, but again this work is tested using the TTCT, rather than an observational approach. My research will therefore contribute by bringing these two concepts together.

My research will also contribute through the development of a theoretical framework that brings the two ideas together and can be used as a conceptual planning framework by teachers/ practitioners to develop an approach as outlined above.

My research therefore seeks to explore the influence of creative thinking on the pedagogy of primary-aged children's writing.

This area of exploration is deconstructed into three research questions;

1) From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?
2) From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?

3) From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?

Having outlined the context of my research the next section will review literature relevant to the context, theoretical framework and research questions and will consider where there are limitations in the literature which this study will contribute to.

Chapter 2: Literature Review

Part 1: Creativity and creative thinking

2.1 Introduction

This chapter will situate the study within the existing literature concerning the two key fields within which my research sits: creative thinking and the pedagogy of primary writing.

This chapter is divided into three parts. The first part explores conceptions of creativity, as a foundation for literature on creative thinking. This analysis takes place through selection and critique of some of the key literature, notably Kaufmann and Beghetto (2009), Sternberg (2003) and Meadows (2006). This part begins by examining varying conceptions of creativity followed by the justification of my own position so as to contextualise chosen literature in the field of creative thinking. Following this some of the literature on analysing, evaluating and assessing children's creative thinking will be discussed. The first part will then conclude with the justification of my own approach to analysing children's creative thinking.

The second part of this chapter selects, critiques and explores some of the literature on the pedagogy of primary-aged children's writing. This part begins by interpreting and discussing the different pedagogic models for teaching writing prevalent in the literature. Following this, some of the literature on the impact and implications of the England and Wales' Department for Education system will be discussed. This is followed by guidance on writing pedagogy, including children's voice. I will then interpret and synthesise some of the literature on creative approaches to teaching writing. This literature includes Kellogg's (1984) work on the psychology of writing, Bereiter and Scardamalia (1993), the later work of Lundgren (2013) and Lambirth (2016). Through this I will demonstrate how a creative thinking approach fills a gap in much of the literature on creative approaches to writing pedagogy. This section will conclude with a discussion and interpretation of the literature on the challenges that children face when composing text and how creative thinking can support this process.

The third part of this chapter is a brief evaluation of the one piece of empirical research, Wang (2012) I have found that brings the concepts of creative thinking and writing

pedagogy together. Wang's methodology and findings will be evaluated and in so doing I will demonstrate how my study adds something new to the body of knowledge on creative thinking and its influence on writing pedagogy.

2.2 Conceptions of Creativity: Laying a foundation

Defining the terms

This section explores conceptions of creativity thus providing a foundation for discussion later of literature on creative thinking. Before further discussion of the complexities of these concepts, it is helpful to briefly ground them to explain my fundamental position. Explaining this is important, as providing clarity on my fundamental position provides understanding of where my research is rooted. This is however, just a starting point. My interpretation of creativity is based on a wide variety of reading but has been informed largely by (Robinson 1999: 6) who states that creativity is a capacity possible in all areas of human activity. My first point regarding creativity is that I believe it is a capacity that all are capable of, not something you are born with or only possessed by a few. Robinson (1999:6) also posits that creativity is possible in all areas of human activity. This is my second point. I believe that creativity is not confined to the arts or to people labelled as 'creative' but as (Beghetto and Kaufmann 2010: 198) suggest: creativity is accessible to all, possible for all in any subject, an integral part of classroom learning and teaching. Creative thinking, I consider to be a complex, cognitive process involving exploration of a range of possibilities in problem solving and setting, or 'Possibility Thinking' (Craft et al. 2013: 539). I also consider creative thinking to be the outworking of particular attitudes (Sternberg 2003: 333). These include choosing challenge, tolerating risk and enjoying ambiguity (Meadows 2006: 257). I have chosen to use the terms 'creativity' and 'creative thinking' together often in this section as I see creative thinking as being the cognitive process by which creativity is developed.

Having given my own perspective and starting point definition of the key terms 'creativity' and 'creative thinking', some of the complexities of these concepts will now be explored more fully. In order to do this, I will be using Kaufman and Beghetto's (2009) conceptual framework 'The Four C Model of Creativity' to structure my exploration. This framework was selected because it encapsulates the full range of creativity and creative thinking definitions and where they can have influence. It also provides a good framework to

demonstrate clearly within which concept of creativity my research is positioned and which concept it is not. Kaufman and Beghetto's (2009) model, developed from an earlier 2007 work, suggests four categories of creativity (four Cs). These are 'Big C' creativity': 'clear-cut, eminent, creative contributions' (2009: 2), 'Pro C creativity': 'professional creators who have not reached eminent status' (2009: 4), 'Little C creativity': 'creative activity in everyday life and in everyday settings' (2009: 2/3) and 'Mini C creativity': 'transformative learning, or 'creativity within the learning process' (2009:3). These are represented diagrammatically by Kaufman and Beghetto (2009:7) as a complete model with end points and transitional periods, suggesting that everyone starts at 'Mini C' and that there are pathways and the potential to reach 'Big C' status. This model is shown below.

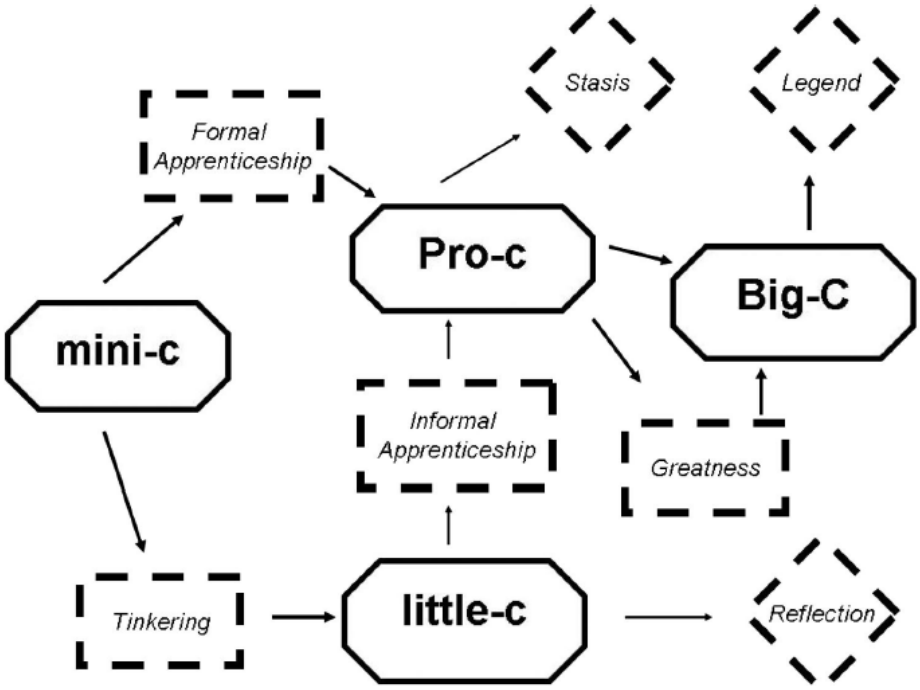


Figure 1: The Complete Four C Model. Kaufman and Beghetto (2009: 7)

It is important to state that as my research is based within a primary school context, I am not seeing this model in a developmental way. One of the reasons Kaufman and Beghetto give for their creation of the 'Four C' model is that the traditional 'little C' and 'Big C' dichotomy does not allow for '*more nuanced levels of creativity*' (2009:2) or the personal (Runco 1996). In their categorising of 'Mini C' creativity they consider the role creativity and creative thinking plays in personal learning and development and it is within this definition and also the everyday innovation and problem solving elements of 'Little C' creativity that my research sits.

Firstly I explore 'Big C' creativity. This more traditional view of creativity, attributed to '*accomplished (often times eminent) creators*' (Beghetto and Kaufman 2007: 73), is, in Beghetto and Kaufman's (2007) view, too narrow and does not take into consideration the role that creative thinking plays in the development of everyday new knowledge and problem solving. It is important to explore it as it provides a counterpoint to my own perspective and the opposite end to where my research sits.

2.3 Defining 'Big C' creativity

This section, exploring 'Big C' creativity, is structured to demonstrate how the content and focus of literature moves chronologically from focusing on creative individuals, to a focus on what those individuals produce, termed creative contributions. The focus of the literature on 'Big C' creativity then shifts to exploring the cognitive process by which those contributions are produced, creative thinking. However, before any detailed discussion of these different elements of 'Big C' creativity, a definition is put forward. Amabile states that 'Big C' creativity is centred around 'eminent creative individuals' (2012:1) and Simonton states that creativity 'yields a product' (2011: 74). Connected together, these two elements are identified by Sternberg (1999) as creative contributions. Sternberg would therefore suggest that a 'Big C' creative contribution can only come from an eminent individual and the two elements cannot really be separated. The word 'eminent' is significant also as it is used more in the literature describing creative individuals than it is to describe contributions. The only work I have found using it to describe an 'eminent creative contribution' as a feature of 'Big C' creativity is Kaufman and Beghetto (2009:2). Examples of such eminence they give as winners of the Pulitzer Prize for literary fiction and people who have entries of over 100 words in length in Encyclopaedia Britannica. To summarise, a definition of 'Big C' creativity put forward here is one which must include an eminent contribution as a product yielded from the creativity of an eminent individual.

2.4 Creative individuals

'Big C' creativity with a focus on creative individuals dominated creativity research from Guilford's work in the 1950s for approximately forty years. In fact, as Beghetto and Kaufman (2007: 73) state, '…much of the research of the past half century has studied accomplished (often eminent) creators'. This demonstrates an important but possibly only implied viewpoint that a person is creative and their contributions are incidental. For example, Gardner (1983) presented case histories of eminent thinkers who have contributed significant creative outputs in their context, culture and time, including composer Stravinsky, artist Picasso and author T.S. Eliot, suggesting that these original, famous and valuable thinkers are the panacea of creative thinking. Gardner's work focuses on the people, their characteristics and the way they were, however he does concede that their contributions were so creatively significant in their time that their thinking was way ahead of their peers (p.18). So, in summary, whilst this earlier literature and thinking around 'Big C' creativity does focus on the creative individual, there is some recognition, albeit of lesser importance, of the contribution they have made and by using the term 'creative thinkers' Gardner (1983) has begun to recognise the thinking processes that an individual demonstrates. However, from 1999 the literature shifts emphasis, moves on from being about people as creative to give a greater emphasis to the contributions they make and the processes they go through as also being creative. This understanding is important for my research as I see creative thinking as the cognitive process involved in creativity. This will be discussed in more detail in a later section.

2.5 Creative contributions

In considering creativity as focused on a contribution rather than an individual, Sternberg (1999) proposes a Propulsion model of Creative Contributions. This model starts from the view that creativity is about products that have global influence. He suggests a definition of a creative contribution, arising from creative thinking, as something that is relatively original and high in quality with some purpose. This aligns with Robinson's (1999:6) definition of creativity as something that is original and has value. Sternberg's model emphasises the notion that it is the contribution that is creative rather than the creator (1999: 89) because

the creative thinking is the result of the interaction between the creator and their context (1999: 83). He suggests that a creative contribution either accepts a current paradigm and attempts to extend it or rejects a current paradigm and attempts to replace it (1999: 88). His first four types of creative contribution: replication, redefinition, forward incrementation (moving the field forward in the same direction) and advance forward incrementation (moving the field forward beyond where others have been) accept and attempt to extend the current paradigm. In these areas, Sternberg (1999) goes on to suggest that the contribution is adding more or something different to something already in existence following the same world view. For example, my research sits within this view in many ways because it looks to extend and adapt existing approaches within what academic literature suggests is effective children's writing pedagogy. His next three: redirection, reconstruct / redirect and re-initiation (moving forward in a different direction from a different starting point) reject a current paradigm and attempt to replace it. Taking the example of my research again, there is a current paradigm that the Department for Education for England and Wales operates within that is content and summative assessment driven. Children's knowledge gained and the quality of the teaching they receive is demonstrated by the passing of decontextualised high-stakes tests in English and Maths at the end of primary school (Wyse and Torrance 2009: 215). Ferguson-Patrick (2018: 90) citing Thompson and Harbaugh (2013) states that an international body of research looking at the implications of high stakes testing in English and Maths has found some significant, albeit unintended pedagogic consequences. These are: the curriculum focus becomes narrower, teaching becomes more teacher instruction focused and children's motivation for learning decreases. This viewpoint supports the work of Madaus who stated that 'increasingly instruction is driven by the testing process,' (1988:30) and that 'emphasis on test preparation in turn distorts the test's ability to validly portray the skill level of students' (1988: 37). By looking at creative thinking as part of the learning process and emphasising the complex processes of learning, my research operates within a very different paradigm of learning, taking a different direction to the current one where high stakes testing drives teaching and learning.

Sternberg's Propulsion model of Creative Contributions infers that these contributions can only really be understood, 'independent of the context in which the person works' (1999: 83). Gomes et al. (2016:282), citing the work of Shalley, Zhou and Oldham (2004), also suggests that contextual factors play an important role in creativity. Gomes et al. (2016:283) also cite the work of Glaveanu (2013) who states that the process of creativity is linked to

the processes and structures surrounding a person, therefore arguing that creativity, the cognitive process of creative thinking and any creative product cannot be seen outside of the context within which that person lives and works. Understanding creative thinking in context is fundamental to my research as the policy and practice that my research participants have to work within as well as the social and economic context within which they live and work is an important lens through which my research should be understood. Elisondo states that creativity 'does not exist in a vacuum' (2016:194) and that 'the cognitive processes involved in divergent thinking are intrinsically social as they both emerge out of social experience' (2016:195). Therefore the thinking processes my participants use and any contribution they make must be seen through their social behaviours and the cultural context of the school environment within which they work. This socio-cultural view of creative thinking is developed by Sawyer who argues that creativity, and he later goes on to discriminate between different components of creativity such as creative thinking, 'can only be understood fully through the added consideration of social factors like collaboration, networks of support, education, and cultural background' (2006:4).

2.6 Creative thinking

Creative thinking as a process is at the centre of my research. The aim of my research is to explore how the process of creative thinking can influence the pedagogy of primary-aged children's writing. In other words, how can this multi-faceted cognitive process improve the teaching of writing and therefore children's writing achievement? One aim in the exploration of creative thinking is to understand it better so as to develop a theoretical framework for children's writing pedagogy alongside my data collection. Paul and Elder's (2019) work makes connections between the 'Big C' focus of eminent thinkers and influential creative contributions to the processes they may go through in their thinking. They however make a paradigmatic leap insofar as they suggest it is not just eminent thinkers who are capable of creative thinking but anyone. They equate the term 'creative thinking' with thinking that excels and use the pronoun 'our' to suggest this thinking is more inclusive than a traditional 'Big C' definition might allow. They state that;

> Whenever our thinking excels, it excels because we succeed in designing or engendering, fashioning or originating, creating or producing results and

> outcomes appropriate to our ends in thinking. It has in a word, a creative dimension (2019:6).

Here, Paul and Elder (2019) state what the brain does during creative thinking. They use the language of thinking having a creative dimension. By the term 'excels' they are suggesting that the processes engaged in during creative thinking are more advanced or of a higher quality, thinking that is purposeful. They do not suggest any caveats, or any particular classification of creativity but they do list some helpful verbs to illustrate what the brain does during creative thinking: fashioning, originating, creating and producing. These verbs align with other definitions of creative thinking (Craft 2003; Fink et al. 2007; Deejring 2016). Whilst Paul and Elder (2019) claim that everyone is capable of creative thinking, they go on to suggest that this type of thinking is not natural and needs training and development. They state that it is only with a 'fit mind' (2019:7), a mind that is developed, honed and trained that a person can '*engage successfully in designing, fashioning, formulating, originating or producing intellectual products'* (2019:7). Their definition aligns with Sternberg's (2003) suggestion that creative thinking is an attitude of mind and therefore something which all can develop. This idea is at the centre of my research as the theoretical model I am creating relies on the teaching of creative thinking.

2.7 The contested nature of 'Big C' Creativity

Having explored how the literature on 'Big C' creativity journeys largely chronologically from creative individual to creative contribution and onto creative thinking, it is now important to examine the term itself in terms of its validity as a category of creativity and whether in fact categorising creativity at all is credible.

The term 'Big C' as a category of creativity is contested. Merrotsy (2013a:474) argues that there is little support in creativity literature that 'Big C' creativity exists, let al.one that it can be taught. His argument is that in order to try and make sense of creative thinking, writers, such as Kaufmann and Beghetto (2009) have developed categories and models that are artificial and unhelpful. He makes the point that whilst the term 'Big C' creativity is used prolifically, there is a failure in the literature to cite an original source for the term. Merrotsy (2013a:474) states that Plucker, Beghetto and Dow (2004), Csikszentmihalyi (1999); and Sternberg and Lubart (1996) all introduce the term but none of these sources lay claim to being the originator of it. In fact they question whether there is really any difference

between the thinking processes used by eminent creative individuals to produce creative contributions and the processes used in more every day creative thinking. Merrotsy (2013:475) does make some helpful contextual comment. He notes that in the 1990s, researchers and writers were recognising only 'Big C' types of creative thinking –thinking and innovation had led to eminence in their fields. But there were a couple of notable exceptions – Weisberg and Runco. Weisberg (1993) focuses on the innovative power of 'ordinary' thinking, the everyday skills of problem solving, idea creation and question posing. He suggests these creative thinking skills are as valid to be labelled creative as the more eminent 'Big C' thinking. This is echoed by Runco (1996) who emphasises personal creative thinking, everyday experiences of adults and children as creative, giving rise to possibility thinking – acting effectively, as Craft (2005:19) states, with flexibility, intelligence and novelty in the everyday tasks of life. It is this conception of creativity that Kaufmann and Beghetto (2009) term 'Little c'.

2.8 'Little C', 'Mini C' and 'Pro C' creativity

Having explored definitions of 'Big C' creativity, this next section explores the remaining three Cs that make up Kaufman and Beghetto's (2009) model. Discussion in the previous section of the importance of the social and cultural context as a lens to look at creativity should not be confined to 'Big C' creativity but is an important factor to explore all other creativity types – as my research is rooted in the idea of creativity being a social process and practice (Burns, Machado and Corte 2015; Elisondo 2016; Citta et al. 2019). This section will also continue the discussion around the contested nature categorising creativity as Kaufman and Beghetto (2009) have done, focusing now on 'Little C', 'Mini C and Pro C' creativity. Suffice it to say I am not advocating a categorisation approach to creativity or creative thinking through my research as the cognitive process of creative thinking transcends categorisation. My reason for using this model as a framework in this part my literature review is that it is helpful to distinguish between the broad and wide-ranging definitions of creativity available and to position my research in a particular conception, helpfully defined as 'little' and 'mini' c through the four c model.

'Little C' creativity is defined by Kaufman and Beghetto as that which is 'more focused on everyday activities' (2009: 2). This aligns with the work of Plucker et al. (2004: 83) who emphasise the role creativity plays in diverse, everyday areas such as leadership,

psychological functioning and conflict resolution. Creativity and creative thinking are processes that play an active role in everyday work, life and relationships (Richards 2007; Agars, Baer and Kaufman 2005; Cropley 2006) rather than purely for eminent individuals making eminent contributions as a 'Big C' definition would suggest. In defining 'Little C' creativity it is also important to discuss variables required for this type of everyday creativity and creative thinking to occur. For 'Little C' creativity to occur, Amabile (1996) argues through her componential model of creativity that for every-day 'Little C' creativity to occur: domain-relevant skills, creativity relevant skills and task motivation are needed. Using an example from my research to illustrate this: domain relevant skills would be an understanding of the genre, subject matter, content and language skills I am asking my participants (primary-school children) to use, creativity skills could be demonstrating a willingness to take risks with language (Robson 2014: 127), being tolerant of the ambiguity of the task (Robson 2014: 127) and that many responses to the task are possible. In order for creative thinking to occur, my participants would also need to be motivated by the tasks set. To summarise, 'Little C' creativity describes the type of thinking used to problem-solve often complex and uncertain everyday tasks in complex and uncertain everyday situations, managing complex and uncertain everyday relationships.

The language of 'dichotomy' and 'distinction' to distinguish between perceived types of creativity has first been attributed to Stein (1987) cited by Merrotsy (2013a: 475). Amabile (2012) reports on a conference she attended discussing creativity. She reports on the apparent dichotomy presented earlier in this review – Are 'Big C' and 'Little C' creativity really opposed at all? She writes, "The question that nagged me that day and nags me still is whether we were talking apples and oranges…Is there a single underlying process?" (2012: 2). Amabile's point is that whilst apples and oranges are different, they share many of the same characteristics and growth processes. She explores whether each conception of creativity could reveal more similarity than first believed and categorisation does not allow for. This view is supported by Runco (2014: 131) who argues that making the distinctions between types of creativity is misleading and unrealistic as 'the developmental and functional connections between the two [Big C and Little C] are relegated or even forgotten'. Runco (2014: 131) goes on to argue strongly that the processes involved in high level creative performance (Big C) and every day, personal, mundane forms of creativity (Little or Mini C) are the same. Therefore making the distinction between them is

unhelpful. His view is that the reality of creativity is not categorical and to try and do so is unrealistic. Runco (2014) presents two problems with making the 'Big C, Little C' distinction. Firstly he suggests that creativity requires fame, reputation, eminence and making a huge impact or significant contribution to a field of work. In an earlier work (Runco 1995: 378), argues that fame and eminent contribution may involve creativity but are not central to it. For example, being in the right place at the right time, born in the right era, knowing the right people, persistence, tenacity may also play a big part. Runco (2014)'s second problem with making a distinction between 'Big C and 'Little C' creativity is that it is often presented as such. Both 'Big C' and 'Little C' start, in his view, with the individual and both involve the construction of an original idea or interpretation of experience. His view is the processes are the same, they differ in things not to do with creativity as outlined above. Furthermore, Nijstad et al. (2010) do not differentiate between the two conceptions in their work on developing creative ideas. They in fact incorporate process from both 'Big C' and 'Little C' creativity, as Runco (2014) advocates, showing the importance of cognitive flexibility and persistence in the development of creative ideas. They do not differentiate between every day creative ideas and more eminent, famous creative ideas just that these two cognitive processes are crucial to their formation. This builds on points I have made before regarding the cognitive process of creative thinking being just as important in every day creativity.

Merrotsy (2013:474) goes on to suggest that Kaufman and Beghetto's (2009) 'four c model of creativity' is the erection of more categories to respond to the presented dichotomy of 'Big C' and 'Little C' creativity. However this is a little unfair. Firstly, Kaufman and Beghetto (2009: 6) claim they are 'representing a developmental trajectory of creativity in a person's life' and don't consider creativity in terms of dichotomy. However, seeing the four Cs as a developmental trajectory from 'mini C' to 'Big C' is a little misleading. Their representation of the four c model (figure 1, p.21) does show exit and transition points to move between each category but they recognise that creativity and creative thinking is multi-faceted and connects to different constructs of positive psychology, personality and motivation. In so doing, they raise important questions that the 'Big C' and 'Little C' dichotomy does not really answer around whether everyone can be creative or has the capacity to think creatively and following that, whether this capacity can be taught.

Johnson (2014) brings the 'Big C, Little C' debate into an educational setting, the context in which my research place. Drawing on Csikszentmihalyi (1997), who emphasises both of the above conceptions of creativity, Johnson (2014) states that the distinction between 'Big C' and 'Little C' is important, but in an educational setting 'Little C' creativity should be honoured. He highlights the everyday skills of problem solving: innovation in adjusting teaching to learners' needs and ingenuity in developing resources as examples of everyday 'Little C' creativity.

Having discussed some of the distinctions between 'Big C' and 'Little C' creativity but also considered that the creative thinking processes involved in both definitions are connected, it is now helpful to consider Kaufman and Beghetto's two other Cs in their 'four C' model – 'Mini C' and 'Pro C'. The reason Kaufman and Beghetto (2009) give for their development, specifically of 'Mini C' and 'Pro C' creativity is that whilst the 'Big C, Little C' distinction is helpful in distinguishing the eminent accomplishments that have big impact from the more incremental contributions made by everyday people, it does not take into account the more intrapersonal and developmental nature of creativity and creative thinking (2009:2).

Beghetto and Kaufman state that 'Mini C' highlights an important relationship between learning and creativity (2007:73). It includes the fact that knowledge is not merely transmitted but filtered and interpreted by the recipient in the light of their environment 'and through the lens of their existing conceptions, personal histories and past experiences' (2007:73). This definition draws on the work of Runco (1996) who highlighted the personal dimension of creativity and thinking, mentioned earlier and also developmental elements, influenced by Cohen (1989). 'Mini C' creativity is defined by Kaufman and Beghetto (2009) as the personal and meaningful interpretation of experiences, events and actions. This aligns to Craft's (2005) notion of responding flexibly and innovatively to the everyday events of life. It also links to Niu and Sternberg's (2006) concept of individual creativity. Central to Niu and Sternberg's concept is the idea of creativity and thinking as a dynamic process, where the product is less valuable. 'Mini C' creativity is also based on the premise that everyone has the capability to think creatively, based on the Vygotskian (1967/2004) constructivist conception of learning where any individual can appropriate the necessary cultural tools and social interactions to create new learning. 'Mini C' creativity also highlights the importance of learners' meaningful intrapersonal insights in response to

subject matter and the way in which they can make connections between different elements of learning to create innovative ideas and thinking.

The fourth 'c' that Kaufman and Beghetto (2009) introduce is the concept of professional creativity and thinking ('Pro C'). Those who could be categorised as 'Pro C' would be individuals who are professionally creative in their chosen professions who have not yet reached eminence, for example a chef who innovatively combines ingredients and methods but has not reached acclaim or fame for this creative thinking both in process and product. This concept connects with Csikszentmihalyi's (1999) Systems model, in which the domain of work, specific field and person work interactively together. Whilst 'Pro C' creativity would seem to fit a process concept of creative thinking, it can also be aligned to a more objective, product-led concept. It coheres with an expertise acquisition approach (Ericsson 1996; Ericsson, Roring and Nandagopal 2007) which suggests that ten years of preparation in a field of expertise is what is required to reach world-class expert status. This could suggest that everyone can therefore achieve this.

Kaufmann and Beghetto's (2009) four C model has been used to provide a framework to discuss and explore the many different facets of creativity and creative thinking that the literature discusses. Whilst the delineation and categorisation of creativity and creative thinking does have its challenges, the two main concepts 'Big C' and 'Little C' creativity that I have discussed here are important in terms of positioning my research. My research is rooted in the concept of 'Little C' creativity, the thinking processes that take place in the everyday workplace environment by everyday people. This is partly due to the fact my research participants are everyday teachers and children in a complex social and cultural environment of a school, but also because of the different variables required for creative thinking. These variables: domain relevant skills, creativity skills and task motivation are all clearly featured as part of my research work. Furthermore, my research also sits within elements of 'Mini C' creativity as this recognises the creative thinking that takes place as learners filter information through the lens of their social, cultural and personal contexts. Having now positioned my research within everyday creativity ('Little C' with elements of 'Mini C') I now look to explore this cognitive process in the context of everyday creativity in more depth.

2.9 Creative thinking: Cognitive processes within every day creativity.

This section starts from the assumption that every individual can think creatively (Amabile 1996; Kaufman and Beghetto 2009:3) and that it is a capacity of human intelligence (Prentice 2000:150). It also starts from the position, as stated in the previous section, that creative thinking is no longer a luxury for the few but a necessity for all (Csikszentmihalyi 2006:13). McWilliam and Haukka emphasise the necessity of creative thinking for a creative workforce to commercial enterprise (2008: 651) because the twenty first century's social and economic order in which we live is highly complex, challenge-ridden and rapidly changing. Therefore the capacity to think creatively is a fundamental requirement to navigate it successfully. The children involved in my research have to operate now in this highly complex and rapidly changing social and economic order. Therefore to facilitate their creative thinking within their current context of school and help them to begin their creative thinking journey through navigating the complex process of writing is a good starting point.

Throughout this review of literature thus far I have considered the role of process and product within creativity and defined creative thinking as the cognitive process that facilitates creativity. However creative thinking has also been conceptualised in many ways in the literature. Becanli et al. state that creative thinking is 'based on the insufficiency of data and the need for a different point of view' (2011:541). Their point is that creative thinking often requires one to bridge gaps in information and provide a different perspective to the obvious one. Sternberg develops this idea by suggesting creative thinking has novelty: 'thinking that is novel and that produces ideas that are of value' (2003:325-326), novelty being something different, innovative or unique. In addition, Paraskeva et al. (2015:16) state that creative thinking is very high profile and sought after. They go on to reveal that it is a core 21st century learning skill and an intended impact target for a number of European learning metrics such as the European University Association. Creative thinking, therefore has a large range of definitions. But what does it involve? This section, from a sociological and psychological perspective, explores and unpacks some of the literature around the characteristics of this cognitive process and explores what creative thinking actually involves. Understanding some of the characteristics of creative thinking or what evidence creative thinking leaves is important in order to be able to evaluate and assess

whether it is occurring. Being able to assess creative thinking is a central part of my research in order to explore the influence it has on the pedagogy of children's writing.

2.10 Characteristics of creative thinking

It is Sternberg (2003) who develops the concept of creative thinking as a way of thinking with its own specific characteristics. He develops this idea by going on to suggest that creative thinking is not just about the process one goes through when thinking creatively, but also the way in which it is done, or the attitude with which it is done. Sternberg (2003) is therefore shifting the focus slightly from a process people do to a way in which people think. It is important to note that he does not do away with the role of the product as he states that 'Creative thinking is defined here as thinking that is novel and produces ideas that are of value' (2003: 325/326), the product being ideas that are judged to be of value.

The concept of creative thinking as an attitude is developed by Meadows (2006). In her discussion of how cognition is acquired and developed in childhood, she suggests three important 'cognitive attitudes' that creative thinkers display (2006: 194). These attitudes are important to consider as they have informed the creation of the observation schedules used in my research. The first is 'choosing challenges rather than avoiding them' (2006: 194). By this she means having ambition, embracing a challenging task or situation and coming to it with an attitude that is all about personal development and learning. Meadows' second attitude is 'confronting uncertainty and enjoying complexity' (2006: 195). This is another important characteristic of creative thinking that has also informed my observation schedules. Meadows, aligning with McWilliam and Haukka's (2008) dispositions of flexibility and adaptability, is suggesting here that creative thinkers enjoy operating within the grey areas of a task, situation or problem rather than the more certain black and white. The third of Meadows' attitudes is to do with problem-setting and solving (2006: 195). This is a key feature of creative thinking across a range of literature over a significant time period, for example Guilford (1967), Ward (2007), Craft et al. (2013), and Deejring (2016). Problem solving is also important to explore in more detail because it forms the basis for the design of the writing workshops that make up my case study and provide a context for data collection. Meadows (2006) however focuses more on the attitudes towards problem solving that creative thinkers have. She suggests that creative thinkers enjoy the complexity of the process: familiarising oneself with the problem, gathering information, trying out

every avenue towards a solution, letting the problem lie, the Eureka moment and then testing out the solutions (2006: 195). There is a recognition here that not only is this an enjoyment of the process and complex nature of challenging 'grey area' problems but also the attitude of perseverance and tenacity to see it through.

Both Sternberg (2003) and Meadows (2006) develop their arguments by suggesting that not only are certain attitudes important for creative thinking in the context of problem solving but also particular knowledge. Meadows in fact states that the creative thinker has an 'exhaustive knowledge of his or her field, a sizeable basic repertoire of strategies and skills and information' (2006: 195). Both make the argument that in order to think around a particular topic or domain creatively, an attitude is not enough, knowledge of that topic or domain is of fundamental importance. Sternberg emphasises creative thinking as an attitude, he claims 'creative people are creative in the large part because they have decided to be creative' (2003:333) and he also acknowledges that having a greater domain specific knowledge facilitates a greater degree of creativity (2003: 334). This aligns with Sweller, who in his work on cognitive load during problem solving, makes the point that 'domain specific knowledge in the form of schemas is the primary factor distinguishing experts from novices in problem solving skill' (1988: 257). Here Sweller is referring to the interplay between the skills of problem solving: working flexibly, being adaptable, embracing challenge – the attitudes we have seen in fact that Meadows (2006) shared, and domain-specific knowledge, the concepts, understanding and knowledge of the field or area in which the problem sits.

Having explored some of the key characteristics of creative thinking from a sociological and psychological perspective, as outlined in my earlier section defining creative thinking, the next section explores creative thinking from a neuroscience perspective. Creative thinking is a central concept to my research and therefore it is important to gain an understanding of what it involves from a range of different disciplines. The previous sections have focused on attitudes and dispositions as well as characteristics of creative thinking, this section focuses on what the brain does during those processes. In this section I will also be drawing out points from the neuroscience literature that cohere with that from a sociological and psychological perspective. This section on creative thinking began from the assumption that every individual can think creatively (Amabile 1996; Kaufman and Beghetto 2009:3). This assumption is also the basis for the neuroscience literature I am exploring. Dietrich

(2004:1011), citing Boden (1998) and Weisberg (1993) states that creative thinking is grounded in ordinary mental processes and is therefore an integral part of cognitive science and neuroscience. Dietrich also cites the work of Pfenninger and Shubik who state that 'any theory on creativity must be consistent and integrated with contemporary understanding of brain function' (2001:217; 2004:1011). Therefore to gain a neuroscience perspective on brain function during creative thinking adds a greater depth of understanding to this cognitive process.

2.11 Creative thinking: A neuroscience perspective.

Understanding brain function is helpful in further understanding the creative thinking process. If, as Dietrich states, we understand that the 'neural circuits that process specific information to yield non-creative combinations of information are the same neural circuits that generate creative combination of information' (2004:1011), then the assumption that all have the capacity to be creative has, it would seem some proof through scientific study of brain function. Whilst Dietrich states that the neural circuits in normal and creative thinking are the same, drawing on the work of Cabeza and Nyberg (2000), Damasio (2001) and Duncan and Owen (2000), he does equate creative thinking with higher brain function (2004: 1011). According to Dietrich (2004) It is not clear in any of the work listed above if this is the same as an increase in brain cells sending messages to each other, but the implication that creative thinking involves the human brain operating at a higher level than in other thinking is crucial to understanding why the capacity or ability to think in this way is desirable for learners. Dietrich (2004:1011) states that the prefrontal cortex part of the brain contains many of the cognitive abilities ascribed to creative thinking. These are working memory, sustained attention, cognitive flexibility and judgement of propriety. Cognitive flexibility, linked to Guilford's (1967) divergent thinking and Craft's (1999) possibility thinking, discussed in the previous section, is stressed as the epitome of creative thinking. This is described by Ionescu as 'what helps humans pursue complex tasks, such as multitasking and finding novel, adaptable solutions to changing demands' (2011:190). The prefrontal cortex is therefore crucial in problem-solving activity, bringing to bear "the full arsenal of higher cognitive functions to the problem" (2004:1015). These are defined as sustained attention or persistence, retrieving relevant information, buffering it, ordering it and making connections with other relevant information.

The language Dietrich uses is interesting. He describes creative thinking as a 'capacity', or a capability, but one that requires cognitive ability (2004: 1011). Dietrich's point is that there has to be some level of thinking competence, some aptitude for thinking in order to think creatively. Alongside this and alluding to Sternberg's (2003) definition discussed earlier, Fink et al. state that 'most researchers agree that creative thinking is an ability to produce thinking that is of value' (2007:68) . Here there is some apparent contradiction as the term 'ability' does not necessarily cohere with the concept of creative thinking being an ordinary mental process or an attitude or capacity. The latter two terms suggest all people can think creatively whereas the term 'ability' might suggest that only those who have a certain competence can think in this way. However, the literature in this area does seem to use the term 'ability' in a broad sense rather than in the sense of an ability being a special skill. In his discussion of mental ability domains, Weisberg (1999) certainly uses the term meaning 'able to do something'. Therefore throughout the remainder of this section I will be using the term 'ability' in this sense.

Weisberg makes the point, as we have already seen through the work of Meadows (2006) and Sternberg (2003), that 'knowledge plays a positive role in creative thinking' (1999: 247). He is clear that there is usually a domain context for creative thinking and that those with a higher level of domain-specific knowledge are more able to think creatively (1999:247). This idea is developed from Barron and Harrington (1981:445) who state that intellectual ability is a key variable in creative thinking. Their view is that those with a higher level of intellectual ability have a greater ability to think creatively. However this all comes from a viewpoint that creative thinking and creativity are performance or ability-orientated traits. This is a slightly different point to having domain specific knowledge as the inference is that this is open to all, whereas Barron and Harrington's point about intellect infers that only those with superior intellect can think creatively. This is at odds with the foundation assumption that creative thinking is for all.

Despite much of the literature on neuroscience research into creative thinking coming from a performance or ability-orientated trait, there is significant understanding offered into the complex cognitive processes of creative thinking. Dietrich (2004), cited by Fink et al., does argue that creative thinking requires such 'cognitive abilities as working memory, sustained attention and cognitive flexibility' (2007: 69). This includes the ability to break conventional rules of thinking and develop new strategies and applications. It also involves

using already stored ideas and connecting them in different ways or connecting ideas that may not have been already. This analysis links to the work of Sternberg and Lubart (1995) who draw out synthesising already existing ideas, connecting existing ideas and adapting experiences and ideas to new situations as key characteristics of creative thinking. These are key cognitive processes that occur during an already identified key element of creative thinking: problematizing and problem-solving. This connects directly to Jung-Beeman et al.'s (2004) and later (2005) work where they contrasted brain activity during problem-solving with insight versus without. Jung Beeman et al., drawing on Schooler et al. (1993) define this as 'the subjective ''Aha!'' or ''Eureka!'' experience that follows an insight solution' (2004: 500) and infer that problem solving without insight is based on pure knowledge and logic. Jung Beeman et al. (2004) used an electroencephalogram (EEG) to measure brain function during the problem solving activity. This technology places sensors on the scalp to pick up electrical signals when brain cells send messages to each other. Other empirical researchers have used this technology to measure brain function through a range of creative thinking activity and the findings, brought together, compared and synthesised by Fink et al. (2007) give some interesting and helpful perspectives on what the brain does during creative thinking and therefore what is required to enable it to occur. These are interesting and helpful as they do align with sociological and psychological perspectives. Fink et al. refer to 'sustained attention' and 'cognitive flexibility' (2007: 69) which aligns also with Dietrich's (2004) work, discussed in an earlier paragraph.

These characteristics also align with Meadows' (2006) attitudes towards problem solving. All state that domain-specific knowledge is important for problem solving (an aspect of creative thinking). However Fink et al. develop the argument further. They state that creative thinking is demonstrating by 'combining already stored knowledge elements' (2007:69). In other words being flexible with and making connections between knowledge already acquired. So, Fink et al. (2007) argue that it is clearly not just the knowledge that is required but the willingness or capability to be flexible with it, use it and connect to other knowledge to produce novel solutions. There are however, some areas of challenge to Fink et al.'s (2007) findings. Most of the creative thinking tasks reported here were pencil and paper tasks which can cause anomaly using the EEG as the time interval between creative thinking and writing cannot be isolated so therefore could skew results and conclusions. There were however some verbal response tasks which were deemed to give more accurate results of brain function due largely to the lack of time lapse between thought and response. Many of

the creative thinking tasks included open-ended problem solving, idea generation and other divergent thinking activity. Idea generation was measured. Objective measurement, however, does not take into account the context-embedded nature of creative thinking. Despite these objections, the findings from the EEG results do align significantly with discussion in the earlier part of this section regarding what creative thinking is and what the brain is doing during this complex, cognitive process. Firstly, stronger increases in EEG alpha activity (alpha activity is the EEG's measure of the increase in messages brain cells send to each other) were found in the creation of more original ideas than less original ones, suggesting an increased state of active information processing during the creation of more original thought. These findings are based on fixed tasks and as Fink et al. (2007) explain, the results are only as useful as the creative thinking tasks and they are focused on the product of original thought. More study into whether the participants are fully engaged in creative thinking rather than producing original ideas is required.

Neuroscientific research into the cognitive processes of thinking as demonstrated by both Dietrich (2004) and Fink et al. (2007) relies on assessing creative thinking through a number of contestable measures which are widely used throughout literature in this area. These measures include Amabile's Consensual Assessment Technique (CAT) but also include the widely used Torrance Tests of Creative Thinking (Torrance 1966). These tests, do not give the full picture of creative thinking (Hennessy 2003: 257). These are important to mention here as creative thinking ability is measured with this type of testing in the literature but will be explored more fully in a later section as I focus on the challenges of evaluating and making a judgement on evidence of creative thinking.

This neuroscience literature looking at what happens during creative thinking aligns closely with that discussed from psychological and sociological perspectives. Problem-solving features heavily across all of the literature discussed. The neuroscience literature also draws attention to another key characteristic of creative thinking: making connections between existing domain-specific knowledge, other knowledge gained and new situations (Sternberg and Lubart 1995). However, where the literature does come into conflict is in the assessment of creative thinking. As discussed, much of the neuroscience and psychological literature that requires creativity or creative thinking to be assessed draws largely upon Torrance's Tests of Creative Thinking (Torrance 1966) to provide a creativity score. However Fink et al. (2007) suggests that the cognitive processes involved in creative thinking are too

complex to be measured by monitoring brain function or using other measurement tools. My research is exploring the influence of creative thinking on the pedagogy of children's writing, so in order to do this their creative thinking will need to be measured, assessed or evaluated in some way. The next section explores some of the challenges of assessing creative thinking, discusses the tests mentioned above and explores an observation framework for assessing creative thinking.

2.12 'Assessing' creative thinking: Summarising the problem?

In the previous section I introduced a number of contestable measures of creative thinking, notably, Torrance Tests of Creative Thinking (Torrance 1966). Others include, Remote Associations Test (Mednick 1962) and Guilford's divergent production tests (1967). These measures are seen as contestable as they are trying to give an objective score to a subjective process. They are essentially disembedded from a context, and discussion of literature so far suggests that creativity cannot be understood outside of its context (Sternberg 1999; Glaveanu 2013; Gomes et al. 2016; Elisondo 2016). This is echoed by Robson (2014:124) who argues that these types of tests, although widely used as measures of creative thinking in many empirical studies are flawed, as a test context is usually dependent on extrinsic motivation, ability to perform in the disembedded situation of a test and the ability to reproduce information in the way the test designer has asked for it. In her review of the Torrance Tests of Creative Thinking, Kim (2006:4) states that Torrance was aware of the problem of decontextualisation and, to mitigate against that, he recommended these tests be framed through a game-like scenario. He attempted to add some context, avoiding a threatening test environment and putting the tests into a problem-solving atmosphere. These tests, verbal and figural are intended for young children and ask the candidates to engage in divergent thinking. In the context of these texts divergent thinking involves improving a product, embracing unusualness, responding to 'just suppose' questions and constructing and completing pictures.

Kim (2006:4) states that Torrance's purpose was to understand and nurture qualities that help expressions of creativity, not necessarily to try and measure a person's creative thinking. The key point here is that Torrance, according to Kim (2006) did not intend his tests to be used as a definitive measure of a person's creativity or creative thinking capability so, it could be that his purposes have been misappropriated. However, what

these tests do give is a score across all the tasks, the score depends on the number of times creative thinking is used, then scores are standardised and averaged to yield a 'creative index', a score 'based upon a pooling of results from the separate assessments along with ratings from special creative strengths' (2018: 3). Here is where the Torrance tests, advocating a score based on quantity of creative responses, and others like them become contestable.

The way creativity is tested and measured in tests such as these suggests that the quantity of responses is an appropriate measure whereas Weisberg (1986) cited by Derks and Hervas (1988: 37) and Meadows (2006:191) suggest that quality of divergent thinking is a more appropriate measure. These tests are also dependent on a candidate being extrinsically motivated to perform well in a test environment. Whereas Robson (2014:124), citing Amabile (1996:107) 'suggests that the intrinsically motivated state is conducive to creativity' because children specifically are more likely to be creative when they are enjoying or engaged in the task because the task is interesting and purposeful. Robson (2014: 124) goes on to raise the question of whether a test, often dependent on extrinsic motivation, allows a child to demonstrate the full extent of their creative thinking. Kim (2006:6) makes the point that The Torrance Tests and other similar measures of creativity are used as tools by many researchers in the neuroscience field as they do provide reliability and validity. However, for young children, as stated earlier, they may be less helpful. Young children may well have communicative difficulties, rather than cognitive, which impact upon their responses (Samuelsson & Pramling 2009, cited by Robson 2014:124). Alongside this, as mentioned at the beginning of this section on the problem with measuring creativity, young children's performance in disembedded situations may not give them the best place to demonstrate their knowledge and understanding. Robson (2014: 124) cites Donaldson (1978) who states that children perform best in environments and contexts that make sense to them and have meaning for them, they can relate to them from experience. This suggests that a way to discover the extent to which children can think creatively is to do it in their context with tasks that are personally meaningful and context embedded. Hennessy (2003:256) makes the point that Torrance Tests and others like them only 'measure' divergent thinking, which as Runco points out, is 'not synonymous with creative thinking' (2008: 93) but just an element of it.

There are also a number of challenges with attempting to 'assess' creative thinking. I have mentioned some of those challenges earlier in this section, but will expand upon them more here. In their systematic review of literature on approaches to assessing creativity, Said-Metwaly et al. (2017) collate some of these challenges. Their systematic review evaluated 152 pieces of creativity literature published in books and journals, up to the end of year 2016. Their findings suggested that one of the main challenges to 'assessing' creativity was that academics could not come to an agreement on how it should be defined (2017:239). This is unsurprising as it is a complex concept. This is important to understand as Said-Metwaly et al. continue by stating that each tool presented by an academic to 'assess' creativity is based on their own definition which therefore creates variety, not consensus. To therefore try and give any type of objective, consensual definition and objective measure to such a subjective concept is highly problematic. Assessing creativity is therefore fraught with problems, challenges, lack of consensus and there is clearly a lack of agreement on the most effective tools to use.

However, as Said-Metwaly et al. (2017: 245) suggest, these tests are seen throughout the literature, to be reliable, citing for example, the work of Cropley (2000), Hocevar, (1979), Lemons (2011), Torrance (2008). However, Said-Metwaly et al. (2017:245) go on to say that the validity of these tests in measuring creativity has been called into question. Here they cite, for example, Baer (2016), Lemons (2011) and Hennessey & Amabile, (2010). Reasons stated for this include: scores only reflect one factor of creativity, in this case divergent thinking. Originality scores and results were seen to be dependent on sample size – it became 'less possible to distinguish original responses in large samples, which may lead to inconsistent results among creativity studies due to the influence of different sample sizes' (2017:245). Another main reason is that a divergent thinking test assumes that creativity is the same construct across all domains (2017:245). However, Said-Metwaly et al.'s review, draws on creativity researchers such as Han (2003), Han & Marvin (2002) and Palmiero, Nori, Aloisi, Ferrara, & Piccardi (2015), who would argue that 'creativity may be best conceived as a domain-specific construct and that general skills or processes only have a limited contribution to creative achievement' (2017:245). Creativity and creative thinking can therefore be seen not as a general set of skills that can be objectively tested and replicated but as a cognitive process rooted in a domain-specific context and it is in that context that creativity should be 'assessed'. This concept is really important for my research as the creative thinking my participants will be engaging with is in their school context and

within the policy and practices they have been exposed to and have interpreted for themselves. My participants are also engaging in creative thinking within the context of their classrooms and the teaching approaches they have engaged with, alongside the complex relationships that make up their classroom social context. Each writing workshop, which makes up my case study is therefore different, to meet those needs and so the creative thinking engaged with will be specific to those children in those classes. Therefore the characteristics of creativity I observe is interpreted through the lens of the context within which I am observing.

Informed by the literature presented above, for my research, I will not be 'assessing' creativity using any testing tools. I will be using an observation approach to analyse the creative thinking my participants demonstrate. Observing will not reveal what a child is thinking, as Robson, citing Sylva et al. (1980:10) states that 'young children do communicate much about their inner thoughts and emotions by overt behaviour' (2014: 124). The context-embedded approach I will be taking is heavily influenced by Robson (2014) who suggests that an approach to discovering, or her term is 'analysing', children's creative thinking is to observe their behaviour whilst engaging in activity. Robson (2014) has developed an observation framework called 'Analysing Children's Creative Thinking' (ACCT) to observe, record and analyse evidence of children's creative thinking in their social and cultural contexts, engaging in context-embedded activity. I have chosen to use her framework as a basis for my own observation tool to analyse the creative thinking of my research participants engaged in the writing workshops I facilitate. An observational approach to assessing creativity is also advocated more recently by OECD's (2019) PISA Creative Thinking Assessment. The following section explores Robson's (2014) framework in more detail and demonstrates how it will be adapted, from literature for my research.

2.13 Adapting Robson's 'Analysing Children's Creative Thinking' (ACCT) framework:

Before exploring Robson (2014)'s framework in detail, I will first consider the importance of using a framework more generally to analyse this complex concept. Robson (2014) is not the first creativity researcher to use this type of analytic tool. Earlier creativity researchers, such as Torrance (1966), Guilford (1967) and Batey (2012) have developed frameworks with which to assess creativity based upon their own research and definitions of creativity. Guilford (1967), cited by Paraskeva et al. (2015) and Deejring (2016) established a creative

thinking framework with four criteria: originality (is the thinking novel or suggest something new), fluency (can many diverse ideas be developed quickly), flexibility (can the thinker adapt to new situations, improvise and manoeuvre strategies to meet a range of challenges) and elaboration (can the thinker provide more detail and information to their initial thoughts). This framework is seen as the foundation for later frameworks such as Batey (2012) and Robson (2014) that aim to encapsulate creative thinking. However, Paraskeva et al. (2015:24) state that these were used by Guilford because the output of this type of thinking can be assessed, which was apparently Guildford's purpose. Making any assessment of the products of creative thinking is problematic but trying to assess or evaluate the process, as in creative thinking itself, is arguably even more so. This is because creative thinking judgements are made based on interpretation of behaviour observed and language heard and are therefore subjective and based on the conception of creative thinking the judge adheres to.

Robson (2014) has created her framework drawing on Guilford's (1956) categories of fluency, flexibility, originality and elaboration (Kim 2006: 4). These also connect to Meadows (2006), particularly through flexibility and originality, yet Robson (2014) broadens out her terms making them a little less specific. She identifies four areas: exploration, involvement, enjoyment and persistence, some of which align Guilford's framework, whilst others, notably persistence, are categories which suggest different elements of creative thinking**.**

Robson (2014) has not created these categories from her own research. They are rooted in much of the literature I have explored throughout this review, for example, Sternberg (2003), Claxton (1999), Craft (2003) and Meadows (2006). Robson's category labels appear regularly in the literature referenced in the last sentences, rooted in Guilford's work. They are therefore rooted in established literature and a range of studies and therefore have additional validity. Robson (2014) has chosen to use the term 'categories' to describe the characteristics of creative thinking she has chosen for her framework. Sternberg (2003:333) however, does not use the word 'category'. His argument, alongside Meadows (2006:194) is that that these characteristics of creative thinking are 'attitudes'. Sternberg goes on to say that as well as attitudes, these characteristics of creativity are also 'decisions, discernible in children's behaviour' (2003: 333) that underlie creative thinking. This suggests that as well as attitudes a creative thinker may have, they are also actively chosen decisions made when approaching a task. These terms, 'categories', 'attitudes, 'decisions' do suggest that creative

thinking is something that can be pinned down and defined with set boundaries, yet this is not the case. Despite Robson's categories of creativity: exploration, involvement, enjoyment and persistence being prevalent in the literature, they are not and cannot be complete definitions of creative thinking as the concept requires interpretation. Instead, Robson is more circumspect and suggests that her categories are only 'indicators of creative thinking' (2014: 123). My reason for stating this is because the language I have introduced here is important. I have referred to the categories that Robson uses in her framework, categories, attitudes, decisions or indicators. These mean slightly different things in the literature. However for ease of clarification I will hereafter adopt Robson's term 'categories' with a recognition that they could also be termed decisions, indicators or attitudes.

Robson (2014)'s first category is 'exploration and engagement'. This category connects with skills of problematising, and the attitudes of embracing risk and having a tolerance of ambiguity. Exploration is, according to Robson, an approach to thinking that must embrace new challenges, ambiguity and making a choice to engage in a new way of thinking. It demonstrates an attitude of being willing to embrace risk. This is a characteristic of creative thinking found throughout the literature, notably Sternberg (2003: 335). Robson and Rowe, observing young children in activity using the Analysing Children's Creative Thinking (ACCT) framework, found that 'it was evident that children's exploratory play with materials and resources of all kinds proved a very strong context for their creative thinking' (2012: 356). They did however find that a willingness to explore and engage came from the stimulus of adult direction (2012: 357) indicating that in some senses exploration as a decision was instigated by an adult. However, looking at exploration in the context of problematising and tolerance of risk, one could argue that, as Mumford, Reiter-Palmon and Redmond state 'Problem construction or problem definition represents one of the cognitive processes that play a role in creative thought' (2008: 4). Reflecting on exploration, I would argue that in the context of problematizing, exploration and engagement must be combined with specific knowledge of the problem context. Exploration involves examining possible approaches to the problem and examining a variety of possible solutions. Exploration, in my view is by nature open-ended and with that sense of possibility in terms of problem constructing, defining and even solving, comes the need to be tolerant of ambiguity and lack of certainty. In his discussion of creative thinking, Merrotsy recognises that 'the term tolerance of ambiguity … is found in the creativity literature … perhaps expressed as tolerance for ambiguity or tolerance toward ambiguity, as a commonly cited trait of the creative

personality' (2013b:232). He cites Furnham and Ribchester (1995:179) who state that 'a person with a high tolerance for ambiguity perceives ambiguous situations as desirable, challenging, and interesting and neither denies nor distorts their complexity of incongruity' (2013:235). The exploration process therefore requires the attitude of embracing the grey areas of a problem, where the boundaries of the problem are ambiguous and sees that as challenging and interesting rather than stressful and too hard. I mention problem solving here as it is a characteristic of creative thinking, discussed in an earlier section referring to Meadows (2006). This provides a helpful context for discussion and exploration of Robson (2014)'s categories as the activities she observed were framed by a problem-solving approach. Also, relating to my research, the design of my writing workshops that form my case study centre on a problem solving approach.

Robson's (2014) second category is involvement and enjoyment and again aligns with problematising. Involvement and enjoyment align with problematising, or seeing a situation, task or activity as something that needs to be solved, because it encompasses the willingness to try out ideas, analyse them, speculate and also involve others (Robson 2014: 129). Willingness to try out new ideas, speculate and analyse those new ideas feature in literature as characteristics of creative thinking. In his work on assessing creative and critical thinking, Yan Piaw explores what these characteristics mean by suggesting that students who display this attitude 'do not get stuck by assuming rules ….make a mental leap beyond the limit and ….break the boundaries' (2010: 553). In other words thinkers displaying this attitude are happy to break conventional rules. In the context of my research, this may involve children being willing to break traditional grammatical conventions in their writing, being willing to try something different in their work to what they may have normally been taught. It may also involve being willing to introduce characters into their work who would not normally fit the genre. However, creative thinking, according to Robson's (2014) categories involves more than just trying new ideas out. It also involves analysing them. Applying these definitions of involvement and enjoyment to the context of my research, during my writing workshops children would have opportunity to analyse the impact of their decisions, speculate on possible alternatives and ask themselves whether they have effectively communicated what they wanted to say. They would be actively involved in the writing process, taking ownership of their ideas and therefore enjoying their learning.

Another element of this second category is 'involving others'. In their observations of young children engaged in activity Robson and Rowe found that children working with or alongside one another yielded significant examples of creative thinking. They found that 'interactions between children more often supported thinking in that they were concerned with developing an idea'. (2012: 360). Idea development, is all part of trying out ideas and speculating, trying things out, seen in literature, again notably Sternberg (2003) as a characteristic of creative thinking. Robson (2014) is therefore suggesting through this category that trying out ideas, speculating, analysing ideas is more effective in terms of creative thinking if done with others. In other words, creative thinking is a social practice. This links to an earlier section where I have explored looking at creativity through its social context (section 2.12). There, I referenced the work of Elisondo (2016) who stated that creative thinking is intrinsically social. This aligns to the work of Plucker, Beghetto and Dow who define creativity as 'the interaction among aptitude, process and environment by which an individual or group produces *a* perceptible product *that is both* novel and useful' (2004:90). The key phrase I am drawing on at this point is 'an individual or group', demonstrating that the creative process can involve minds thinking together. However, Plucker, Beghetto and Dow (2004) not only discuss the interaction between members of a group here but also the interaction between aptitude for thinking, the process of thinking, the environment, which dependent on how it is interacted with can enable or constrain creative thinking. Creativity is about interaction. Involving others or collaboration does also come into discussion of environments that enable creative thinking (Byron 2007). This is discussed in a later section of this literature review (section 2.23) in the context of writing pedagogy as enabling environments for creative thinking and writing are similar.

Robson (2014)'s final category is persistence. Within this category she places risk taking and completing challenges, possibility and divergent thinking. Persistence is required to try out ideas and seek a variety of solutions during problematising. Problematising may require thinking divergently, asking 'what if' questions and so in this context, persistence is required to seek possible solutions, not one solution. In an earlier section (2.10, p.33) where I explored the characteristics of creative thinking, I have discussed persistence or perseverance and tenacity as being important attitudes that creative thinkers have. Robson's operational definition here for persistence in what she observes is: 'child shows resilience and maintains involvement in an activity in the face of difficulty, challenge or uncertainty' (2014:129). Persistence here is not just about the willingness to keep going

with a task, but the ability to keep thinking around the task, persistence in thinking, trying out new ideas, keeping the thought process going. A process Nijstad et al. (2010) term 'cognitive persistence'. In the discussion of their 'dual pathway to creativity model', Nijstad et al. (2010:34), connect cognitive persistence with cognitive flexibility, a concept already discussed in (section 2.11, p.35) looking at neuroscience and creativity. Their dual pathway model suggests that the interplay between cognitive flexibility (the ease with which a person can move from their idea to consider alternatives) and cognitive persistence (the degree of sustained and focused effort) leads to creative ideas. Nijstad et al. define their persistence pathway as representing 'the possibility of achieving creative ideas, insights, and problem solutions through hard work' (2010: 44). This is important to consider as it can often be omitted in creativity research and in thinking about this area. Cropley (2016) discusses several myths about creativity. One of those being that creativity is the work of genius, a sudden inspiration with minimal effort. He says that although this was more of an early twentieth century concept, even towards the end of the twentieth century 'strong support for the idea of sudden inspiration, especially in introspective studies in which famous creators described the way their own products came into existence.'(2016: 240). Hard work and persistence, perseverance were not really words associated with creativity. Cropley and Cropley however, remind us why perseverance and persistence are so important in their argument that creativity and from my perspective, creative thinking is a process. They state that this thinking process may be 'messy, reiterative, and often involves two steps forwards for one step backwards plus several side-steps' (2015: 137). In order to navigate a level of messiness and uncertainty, being able to cope with things not working out in a perfectly straightforward way, persistence is needed.

The aim of Robson (2014)'s observation framework was to create fewer, more comprehensive categories to support the observation of creative thinking. She is also clear that there is much more to creative thinking than learners ticking the category boxes – the comprehensive more wide ranging categories allow for creative thinking narratives and episodes to be developed. The categories that Robson has used to create her observation framework, drawn from literature, have been used, tested and modified (Robson and Rowe 2012; Robson 2014). This process has led to what is presented as an effective framework to observe children's creative thinking in their own contexts. In the second paragraph in this section I have considered the language that creative thinkers used to describe 'categories'. I have included attitudes, decisions and indicators. However I do want to make some

distinctions at this point as Robson's (2014) framework arguably focuses more on observing what is done during the processes of creative thinking, so the term category might fit. However, as Sternberg (2003) states, discussed in an earlier section defining creative thinking, creative thinking is about attitude and the embracing of some of the uncertainty that possibility thinking certainly brings. Therefore whilst drawing on much of Robson's (2014) framework to analyse creative thinking, I have adapted it to include analysing the ways in which my participants go about their contextualised tasks so as to gain wider understanding of more facets of creative thinking they engage in. Not only have I decided, therefore to observe what my research participants do as they engage in the problem solving activities in the writing workshops, but also the attitude within which they do it. I have therefore adapted Robson's framework to include in my observation framework, a more defined 'attitude' section. In this section notes can be made and conversation recorded where the children show that they have embraced the complexity, uncertainty and ambiguity that are needed to navigate the open-ended problem-based tasks they engage in.

The final attitude I have included, but is derived from Robson's (2014) research is called embracing pretence. Robson suggests this involves 'making leaps of the imagination that requires confidence on the thinker's part and a willingness to take risks' (2014: 123). In other words asking children to almost suspend their disbelief and engage in the story that is being told and the imaginative context that might be being created for them to operate within. In Robson's study, she found that 'pretend play, particularly socio-dramatic play, was the most likely of any activity to lead to high levels of creative thinking' (2014: 130). This finding provides opportunity for my research through designing my writing workshops around simulated contexts. This may encourage my participants to play with the scenarios, create characters and may provide a useful source of observation data.

Part 2: Pedagogy of children's writing

2.14: Introduction

Having discussed literature pertaining to the areas of creativity and creative thinking, part two of this literature review explores the pedagogy of children's writing, with particular reference to children within the primary age range (5-11). My research takes place within a primary school and my child participants are between these ages. Following this introduction, I will begin by defining 'writing'. This is important as it is a key term and can be defined in different ways. By defining the term, drawing on authors such as Kellogg (1999, 2008) and Graham et al. (2012), I will be providing a theoretical foundation for this part of the literature review and my research as a whole. Having laid this foundation through defining writing, pedagogic models for teaching writing prevalent in the literature will be explored. This will include Graves' (1983) Process model which will be discussed as an 'umbrella' model for skills based approaches to writing pedagogy (Graham et al. 2012; Cremin 2015) and Bereiter and Scardamalia's (1993) knowledge telling and knowledge transforming model. I have chosen the latter pedagogic model as a focus because it links to problem solving, one of the key features of creative thinking, discussed in the first part of this review. Scardamalia and Bereiter state that knowledge transforming through writing 'is the result of complex problem-solving procedures that form part of one way of writing' (1987: 143). Following these two theoretical sections, I will explore some of the implications that the literature suggests, of the England and Wales' Department for Education National Curriculum 2013 requirements for teaching writing and statutory testing. This is an important area of exploration as my second research question seeks to discover the influence of external factors on pedagogic choices. As part of this section I will explore literature around children's voice and discourses of writing drawing on research including Ivanic (2004) and Lambirth (2016). These pieces of research, twelve years apart are interesting to compare in terms of discourses of writing. Ivanic's (2004) work took place in the context of a Labour government whose education policy of 'high challenge, high support' (Vulliamy and Webb, 2006: 11) saw an emphasis on schools taking control of their

curricula and being innovative through the development of key publications such as 'Excellence and Enjoyment: a strategy for primary schools' (DfES 2003). This document emphasised the importance of creativity, creating a learning culture in schools and assessment for learning being as or more important than statutory testing's assessment of learning. Lambirth's (2016) research takes place in the context of the current National Curriculum (2013) and the conservative government's performativity agenda (de St Croix 2018: 414). Comparing the findings of these two pieces of research will provide an insight into the influence that national education policy has had on teachers' pedagogy of writing and how children perceive writing as a result. This part of the review will then explore literature on explore enabling environments for writing and for creative thinking, as the literature suggests there is overlap. Enabling environments will then be used as a foundation to explore key aspects such as the role of the teacher (Cremin 2006) and having a mind-set of freedom (Waitman and Plucker 2009) to write with intent (Bereiter and Scardamalia 1993). Part 2 of this literature review will then conclude with a summary that will bring all of the main arguments together.

2.15 Defining writing: composition, transcription and self-regulation

This section puts forward literature demonstrating how I define writing for the purposes of my research, laying a foundation for part 2 of this literature review. I will begin by defining writing firstly as a range of complex processes involving composition, transcription and self-regulation that work together simultaneously. These processes are not linear or even cyclical, they are, as Myhill, citing Hayes and Flower (1980) state: 'the act of juggling simultaneous constraints' (2009: 47). Secondly, I define writing as a cognitive process, not just a physical one. I put forward the idea that writing is a thinking process and a problem-solving activity, which aligns to a key characteristic of creative thinking. To complement this, I will draw upon Bereiter and Scardamalia's (1993) models of composing as knowledge telling and knowledge transforming, knowledge transforming being more of a problem-solving process used by skilled writers. I will then consider how struggling writers can be hobbled and often demotivated by the transcription elements of writing, as these are the processes they will struggle with. This section on defining writing will conclude by exploring self-regulation and its contribution to a writer's success.

The vast majority of literature I have explored discussing writing and the pedagogy of primary-aged children's writing (the focus of my research) states that writing is a process (Graves 1983; Kellogg 1999; Gillespie and Graham 2010; Graham and Sandmel 2011; Graham et al. 2012; Cremin 2015). By this I take them to mean a series of actions or stages usually defined as planning, drafting, editing and revising (Seow 2002: 315). This process is also described as being difficult and requiring a variety of skills. Hiatt and Rooke state that 'At the moment of writing children are struggling to bring together a clutch of different skills...the act of writing is less about an artistic encounter and more about a practical and rather complicated process of construction' (2002: 1). In this statement I suggest they are referring to skills needed within the stages of planning, drafting, editing and revising. Hiatt and Rooke suggest that the clutch of skills the junior writer needs to bring together are 'the fine motor skills of handwriting … alongside the skills of spelling, sentence construction, paragraphing and organisation of the whole text' (2002: 2). Alongside these I would add the skills of working with ideas, using imagination and applying knowledge of story. Whilst all of this is happening, the internal dialogue of decision is taking place – word choice, punctuation, ideas, text structure and layout. What adjustments should be made? Hiatt and Rooke conclude their argument with a statement that adds what seems to me to be pressure on the junior writer: 'The quality of the child's composition depends upon the quality of this internal dialogue about what to use and how everything should be put together' (2002: 2). They seem to be suggesting that the quality of writing is dependent on the ability to connect and bring together different skills, which puts a lot of pressure on the writer.

To reiterate an image from the introduction, Myhill, citing the work of Hayes and Flower (1980), writing can therefore be seen as a little like juggling: keeping the balls of ideas, spelling, sentence construction, punctuation, word choice, paragraphing and text organisation in the air at the same time. This image brings an additional layer of meaning to the term 'process'. I began this section by stating that writers agree that writing is a process, but the term 'process' often suggests that one element of that process follows the next, then the next. However, literature discussed so far suggests that within writing, these processes are simultaneous: planning, drafting, editing, revising are not linear steps, these processes often operate together. Within these four processes, the skills of organising ideas,

spelling, grammar, punctuation and text structure, all mentioned earlier, operate simultaneously, not one following the other.

In their discussion of defining the processes involved in writing, Hiatt and Rooke (2002) use the term 'composition' (2002:2). This term is used regularly in the literature on writing (Bereiter and Scardamalia 1987; Alexander et al. 1991; Kellogg 1999; Harmey et al. 2019) to bring together the cognitive processes that support writing. Here we consider writing as not just a set of physical processes, but cognitive processes too. Hayes and Flower make the point that 'writing is best understood as a set of distinctive thinking processes which writers orchestrate or organise during the act of composing' (1981: 366). These cognitive or thinking processes are stated by Alves and Limpo (2015: 374) as (1) Planning processes – that support the generation of ideas, (2) Translation processes - converting those ideas into written language, (3) Transcription processes that utilise spelling, grammar and punctuation, handwriting or typing those written language ideas into written text and then (4) revising processes that evaluate and adjust the stage 3 process to ensure authors intended communication is achieved. Stages 1 and 2 above are often connected in literature under the umbrella term 'composition' (Harmey et al. 2019: 317), composition being the planning and translating of ideas into the written word. Writing is therefore defined here as involving two simultaneous processes – composition being the first and transcription (skills of spelling, handwriting, grammar, sentence construction and editing) being the second. There is a third, self-regulation, which will be discussed later in this section.

Kellogg states that writing, he may be referring to the processes that encapsulate what I have termed composition, is the 'challenge of creating coherent ideas in the private realm of thought and mapping those ideas into the public world of linguistic symbols' (1999: 3). He is essentially saying that the act of composition is the act of making meaning, turning personal thought into public text and he acknowledges the challenges that presents. Understanding the process of composition is fundamental to my research. During each writing workshop within my research each child participant will be engaging in the process of composition. How each child approaches the process of composition is connected to the pedagogy of writing to which they have been exposed. Understanding the composition process also makes it possible to see how that process can be influenced by creative thinking and how that can in turn influence pedagogy.

I began this section by citing Kellogg (1999:3) who refers to composing as the act of mapping personal thought into public text or communicating what is in one's mind to a public audience using the tools of linguistic symbols. Communicating effectively using linguistic symbols means the communicator is denied what Gardner refers to as 'the potency of other symbol systems. Much knowledge is apprehended and communicated through gesture and other paralinguistic means' (1991: 56). In other words, written communication is denied the power of gesture, facial expression, pause, inflection and accent that for example oral communication enjoys. Written composition is therefore challenging: communicating meaning and intent with the aid of only words, structure and punctuation requires juggling a number of processes and also knowledge simultaneously, as I have referred to in the previous paragraph. Kellogg outlines some of these processes: 'retrieving information from memory, generating new ideas…organising… linguistic structures… reading the evolving text…' (1999: 10).

Kellogg (1999: 71) also outlines the different types of knowledge required for the process of composing, that is to say turning personal thought into public text. He draws on the work of Alexander et al. (1991) who describe three forms of knowledge the writer draws upon in composing: The first is socio-cultural knowledge. This, in the context of my research, would be the norms of behaviour and expectations in the class and how they are expressed through language. The second is conceptual knowledge or 'knowledge of the world and knowledge of language' (1999: 71). This, in the context of my research would be the wider knowledge and experiences the children have of life and the range of language they have acquired through these experiences and now have at their disposal. The third is metacognitive knowledge, in the case of my research this would be the children's beliefs and knowledge of themselves, their understanding of the task asked of them and strategies they have and can use to complete it. Kellogg (1999: 73) goes on to cite the work of Rowan (1990) who suggests another area of knowledge required for composing, domain-specific knowledge or knowledge of the content or area which is the context for their composition. More recently, OECD's (2019) PISA's Creative Thinking Assessment, cites domain readiness as an enabler of creative thinking. This is a type of knowledge that is also noted in creativity literature, discussed in section 2.10, p.34, as being required for creative thinking. This, in the context of my research would be knowledge, but also retained knowledge of the contexts for writing, for example space and the features of science fiction genres.

This juggling of simultaneous processes and types of knowledge requires a degree of problem solving and in his discussion of writing as a form of thinking, Kellogg draws this parallel. He suggests that creating meaning in the form of writing is 'enormously complex' (1999:13) one of many 'ill-defined domains of problem-solving' (1999: 13). Problem-solving, discussed in section 2.10 is also a key characteristic of creative thinking. Flower and Hayes (1977: 450), in their exploration of the composition process, describe it as a form of problem-solving, a problem of thinking rather than a problem of purely arranging words on a page. This is developed by Bereiter and Scardamalia (1987: 10) who suggest that there are two contrasting models of composition that are followed; knowledge telling and knowledge transforming. Knowledge telling, which I understand to be using cues from the brief of a given writing assignment to activate the writers knowledge, retrieve that content and then write it. Knowledge transformation, however is ascribed by Bereiter et al. to more skilful writers as 'a variety of problem-solving operations involving … identifying goals and constraints, searching, testing … modifying knowledge in response to gaps, inconsistencies and the like' (1988: 261). Whilst knowledge-telling is undoubtedly composition, it is little more than the 'arrangement of content reflecting what is salient in the mind of the writer' (Flower 1979 in Bereiter et al. 1988: 261). Yet Bereiter et al.'s viewpoint is that more skilful composing of text does more than just tell knowledge, it brings together existing knowledge, interprets it, connects it, tests it and pits it against other knowledge to create something transformative, much as this literature review is aiming to achieve. It is a cognitive process of problem solving. Bereiter and Scardamalia (2013: 361) use the terms 'intentional writing' and 'intentional cognition' connected to their knowledge transforming model. These terms are defined as developed thought content in writing, the writer communicating knowledge and thoughts intentionally. Considering this here does raise the question: Do the England and Wales' Department for Education National Curriculum (DfE 2013) requirements for teaching writing and statutory testing encourage intentional cognition and writing or passive cognition and knowledge telling?

Like Kellogg (1999), Flower and Hayes (1977:450) term writing as a cognitive process rather than just a physical one and connect this process to the cognitive process of thinking. This concept of writing as a problem-solving activity is developed by Harmey et al. (2019) in their creation of an observational rubric of writing. Their perspective, linked to my approach to observing and analysing children's creative thinking (2.12/3, p.42) is that if writing is seen as a problem –solving activity involving thinking, then when evaluating or assessing writing, it

is the process that should be observed rather than the traditional form of assessing writing: evaluating the product. This connection of writing (composition) and thinking as two simultaneous cognitive processes is very important for my research as by exploring the influence of creative thinking on writing and the pedagogy of writing, I am exploring two processes that should be aligned and work together simultaneously and if that is not the case then there could be some problem within the pedagogic process or other constraints that are bringing them out of alignment.

Having explored composition, one of the three simultaneous processes at work during writing, transcription, the second will now be examined.

Understanding the challenges of transcription processes is important for my research as they are a key component of the writing tasks children will be engaging with during my data collection. They are also the processes that cause struggling writers the most difficulty. MacArthur (1999: 169) makes the point that children who struggle with writing find the mechanics- handwriting and spelling, grammar and punctuation difficult. This is also posited by Graham and Harris (1997: 415) and by Graham and Harris (2009) in their meta-analysis of evidence-based writing practices. Transcription skills are however an important aspect of writing. In their discussion of the effects of grammar teaching on writing development, Andrews et al. comment on why transcription skills are important. They state that 'different aspects of teaching grammar improve the quality and accuracy of … writing in English' (2006: 39). My research participants, across all of the classes and age groups, are at different stages in their writing development. Some, already developing into skilled writers and some struggling writers.

MacArthur goes on to say that whilst these transcription processes (or mechanics) can often be seen as less important than communicating the message, they are of importance because 'errors distract readers from the message the writer is trying to convey' (1999: 170). In their work on self-regulation and transcription, Graham and Harris develop this idea of struggling with the mechanics of writing. Building on work by Graham (1997) and De La Paz, Swanson and Graham (1998), they suggest that it is only struggling writers that 'may be hobbled by difficulties managing and co-ordinating the elements underlying the process of revising' (2000: 6). They are referring here to the mechanics of transcription; checking

spelling, punctuation and grammatical accuracy. Graham and Harris (2000: 5/6) go on to make the point that because struggling and developing writers to an extent find the mechanics of transcription difficult they will make less revisions than skilled writers and as a result, it could be argued, their writing is not as well-crafted or developed. Graham and Harris (2000) go on to put forward the argument that this lack of willingness to engage in revising (a transcription process) is down to a lack of self-regulation. Revising work requires the self-regulation disciplines of motivation, perseverance and persistence that contribute to 'mental subroutines for enhancing writing performance' (Zimmerman and Risemberg 1997:75). The importance of self-regulation as a simultaneous process for writing with composition and transcription is discussed in the next section.

Graham and Harris (2000) have cast writers into three categories: skilled, developing and struggling. One of the main differences between each category, they argue, is the writer's ability to self-regulate. Self-regulation as a necessity for skilled writing (Wason 1980; Bereiter & Scardamelia 1987; Zimmerman and Risemberg 1997) has long been considered a significant process towards writing alongside composition and transcription. Zimmerman and Risemberg state that 'Becoming an adept writer involves more than knowledge of vocabulary and grammar, it depends on high levels of personal regulation because writing activities are usually self-planned, self-initiated, and self-sustained' (1997: 73). Zimmerman and Risemberg (1997) are arguing that writing is also about motivation and the ability to motivate oneself, to initiate writing, plan it and then sustain the writing through the challenging processes of turning personal thought into public text. This is developed by Arrimada, Torrance and Fidalgo (2019) and Oddsdóttir et al. (2021) in their work on teaching self-regulation strategies to young writers. Both studies found that teaching these explicit strategies led to more effective writing and affected more of the variables in writing. Harris et al. (2011: 188) identify a variety of self-regulation strategies that writers use to manage the complexities of the processes of composition and transcription. These include planning, gathering information, organising ideas, transforming knowledge for the writing purpose, revising, self - monitoring and self - evaluation. They go on to add that skilled writers are more self-regulated than struggling writers (2011: 188) and that a writing pedagogy that combines teaching self-regulation with meaningful practice is the way to develop writing performance. The area of writing pedagogy will be explored in the next section of this review, but the importance of developing a writer's self-regulation alongside their writing skills needed to be mentioned as part of exploring definitions of writing, alongside

composition and transcription processes. In their work with children with learning disabilities, Keller et al. (2019) suggesting the metacognitive strategy of mindfulness is an effective way to develop self-regulation in writing. This is important to discuss for my research because in considering those research participants who are struggling with the mechanics of writing, there must be consideration that they are struggling with self-regulation also.

This section, 'Defining Writing' has put forward literature that lays a foundation for the remainder of part 2 of this literature review. Within this summary I want to reiterate the key ideas put forward within this section so as to provide a clear definition of how I conceive writing. This provides a clear foundation for the next section, 'the pedagogy of children's writing', to build on.

I have defined writing firstly as a range of complex processes encapsulated in the terms composition, transcription and self-regulation that work together simultaneously. These processes are not linear or even cyclical, they are concurrent. Secondly, I have defined writing as a cognitive process, not just a physical one. I have put forward the idea that writing is a thinking process and a problem-solving activity, which aligns to a key characteristic of creative thinking. To complement this, I have drawn upon Bereiter and Scardamalia's (1993) models of composing, referring specifically to the idea of the writing process being about transforming knowledge rather than just telling knowledge. Knowledge transforming being more of a problem-solving process used by skilled writers. I have then considered how struggling writers can be demotivated by the transcription elements of writing, the mechanics of writing including editing as these are the processes they will struggle with. I have then concluded the section by exploring self-regulation and the contribution that a lack of self-regulation makes to the struggling writer.

Having laid the foundations for the remainder of Part 2 of this literature review by giving my position on what writing is, the next section builds on particularly my main argument, that writing involves several simultaneous processes, by exploring different pedagogic models of children's writing and how they influence my research.

2.16 Pedagogy and pedagogic models of children's writing

My research seeks to explore the influence that creative thinking has on the pedagogy of children's writing. Therefore examining some of the pedagogic models of children's writing in the light of part 1 of this review and in the context of my definition of writing (2.15, p.50) is of fundamental importance. This examination of some of the pedagogic models of children's writing underpins the classroom practice I observed and provides a theoretical foundation to connect to creative thinking. Before introducing the different pedagogic models of children's writing from the literature, the term 'pedagogy' will be defined. Pedagogy is a broad term in relation to learning and teaching and has many different facets. In defining pedagogy I am presenting my position on this concept which provides a foundation for my research.

Siraj-Blatchford et al. (2002:10) define pedagogy in terms of techniques for instruction and strategies that help learners learn. Farquhar (2003: 5) develops this further, losing the word 'instruction' for the more sociocultural term 'facilitation', defining pedagogy as those practices which facilitate access to knowledge and skill development. However Murphy builds on the socio-cultural definition of pedagogy, describing pedagogy as 'interactions between teachers, students and the learning environment and the learning tasks' (2008: 35). Murphy, it could be argued, is suggesting that pedagogy, or teaching in a way that helps learners learn, is an interactive process not just between the teacher and student but also how both teacher and learner interact with the environment and tasks set. This definition of pedagogy aligns most effectively with my research. During the writing workshops that form my research, children interacted with me as teacher and researcher as well as the task set. Also, one of the main enablers for both creative thinking and writing, discussed in section 2.23, is the environment where the thinking and writing will take place. Part of my research is observing how the classroom environment influences thinking and so children's interaction with that is important. This therefore is how I conceive the term 'pedagogy'. A teacher's pedagogy can then be developed from a theoretical framework or pedagogic model. A pedagogic model is, I suggest, a theoretical framework, derived from literature that provides a structure for the pedagogy to take place.

Having defined 'pedagogy' and 'pedagogic model' the remainder of this section will begin by exploring Graves' (1983) process model of writing pedagogy which will be discussed as an

'umbrella' model. The reason is because Graves' model and how he conceives it aligns with how I have defined writing: a set of simultaneous processes. Graves himself states that writing is a complex process whose components are interrelated (1975: 227). I have termed this an 'umbrella model' is because the other models explored throughout this section arise out of Graves' work. Following discussion of Graves' model, a skills based approaches to writing pedagogy (Graham et al. 2012) will be explored. This will then be followed by a discussion of cognitive models of writing pedagogy (Deane et al. 2008) and Bereiter and Scardamalia's (1993) knowledge telling and knowledge transforming model. This model has already been introduced in the previous section 'defining writing' but will be developed further in this section. This section on pedagogic models of writing will conclude by exploring the pedagogic model behind the England and Wales' Department for Education National Curriculum (DFE 2013) requirements for teaching writing, a product-based approach. Concluding the section with this model provides a logical springboard to the section which follows: exploring the implications for and influence of a product-based approach on the teaching of primary-aged children's writing.

2.17 Putting up the Umbrella: Exploring Graves' Process model of writing pedagogy

Beginning this section with a process model of writing pedagogy could suggest that I am putting forward the idea that there is a set writing process that can be applied to all writing situations. Literature on process approaches to writing pedagogy would suggest this is not the case. Dyson and Freedman posit that writing is more of a 'developmental process' (2003: 967), a flexible process, one influenced by the kind of writing being attempted, the writer's purpose and the situational conditions" (2003: 974). Therefore a process model or approach to writing pedagogy, following Dyson and Freedman's (2003) argument, should be a flexible one, not a rigid or linear set of steps but more a set of principles that can be tailored according to the writing context. This argument of a flexible process underpins Graves' (1983) process model. Sharp (2016), in her discussion of several pedagogic models of writing, makes this point. Graves, as Sharp argues, emphasises that the processes within the stages of Graves' model are 'not a systematic order of actions. Rather they encapsulated common actions that young writers took during acts of writing' (2016: 85). Graves (1983: 221-229) sets out his development of writing processes which Sharp (2016: 85) has produced in a diagrammatic form. My slightly adapted version of this is presented below in

figure 2. Sharp's (2016:85) diagram includes arrows showing the influence of Vygotsky's emphasis on mental processing as foundation underneath both 'beginnings' and 'composing patterns' processes. Whilst I agree that mental processing is an important element throughout the writing process, for the purpose of this section I have omitted that part of Sharp's diagram so as to maintain the emphasis of this section purely on the writing actions taken in the 'beginnings' process and 'composing patterns' process.

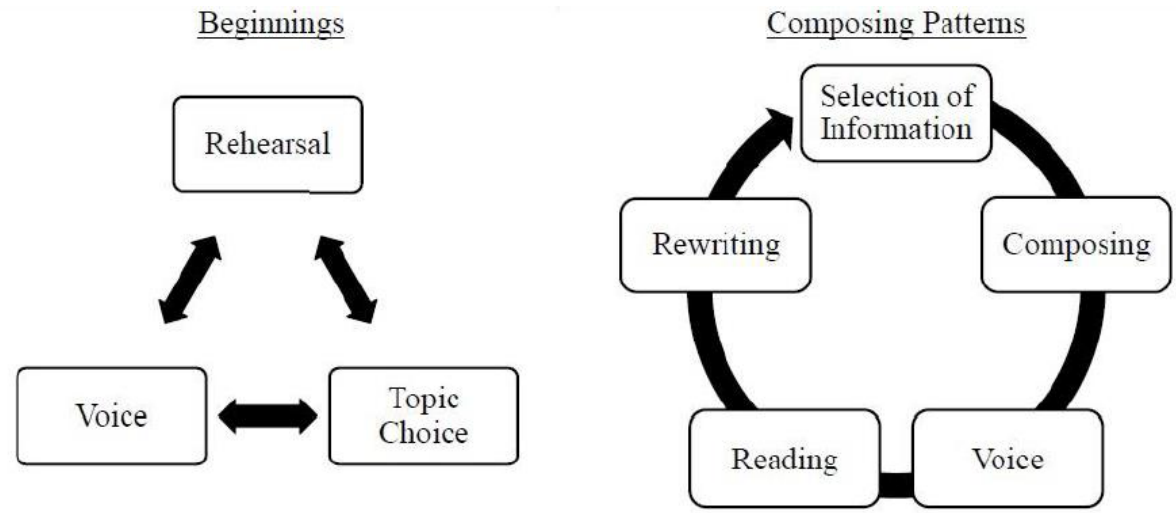


Figure 2: My adaptation of Sharp's diagram of Graves' Process model (2016:85).

Graves (1983: 221), as demonstrated above, places emphasis on how writing begins. He emphasises the connections between rehearsals for writing, which could be thinking, doodling, reading, talking, playing, how the choice of topic for writing flows out of those rehearsals and are given shape through the writer's voice. (1983: 223). Graves suggests that children should be given ownership of topic choice for writing, opportunities to rehearse in ways that they consider to be helpful for them and allow more topics to emerge through writing. Following the beginning stage, Graves (1983: 223 – 229) introduces a composing stage. He defines this as 'everything a writer does from the time first words are put on paper until all drafts are completed' (1983: 223). There is, Graves states (1983: 223), sometimes overlap between the two stages, beginning and composing. Here, as figure 2 demonstrates, Graves suggests a clearer, arguably less flexible pattern to composing: select, compose, read, rewrite. Sharp (2016: 85) has added writer's voice as a component part of the composing process noted in figure 2, but Graves (1983: 227) states that voice is the driving force of writing and underlies every part of the process. Graves emphasis on writer's voice is an element of his model that Sharp (2016) pays little attention to, however I want to

suggest it has great importance pedagogically. Graves states that 'Voice breathes through the entire process: rehearsal, topic choice… composing...re-writing. Not only is it the dynamo for writing, but it contributes most to the development of the writer.' (1983: 229). Graves states that 'when the voice is strong, writing improves as well as all the skills that go to improve writing' (1983: 229). This pedagogic model of beginning writing into composing underpinned by voice is important for my research as whilst the broader topics for my writing workshops have been set, my research participants have a lot of writing choices to make and opportunities to develop their own voices.

As noted earlier, I have chosen to use Graves' (1983) process model as an 'umbrella' model because, it could be argued, the principles of Graves' model underpin others discussed later in this section: skills-based approaches, cognitive models and product-based approaches. However, Graves' (1983) model was influenced and has been developed, it would seem, from several other pieces of earlier work. Rohman and Wlecke suggest writing as a developmental process like the growth of a plant (1964: 12) and arguably, through their emphasis on a pre-writing stage inspired the thinking behind Graves' (1983) beginning phase. Pre-writing for Rohman and Wlecke is a stage of discovery (1964:16) and good writing, as Sharp in her summary of Rohman and Wlecke's (1964) work states, 'depends on productive discovery thought processes' (2016: 79). Therefore writing pedagogy, following their argument logically, should involve facilitating children to take ownership of writing, engage their cognitive processes and discover their writer's voice through experience.

One element of writing pedagogy that underpins Graves' process model has not yet been discussed and that is the role of talk. Graves advocated a social approach to writing through the utilisation of the writing conference (1983: 97-148) which he views as a key element of scaffolding the writing process (1983: 270). This was arguably influenced by Zoellner's (1969) 'talk write' model which essentially involves externalising the internal thought processes taking place during writing and in so doing becoming a human 'model for the act of writing' (1969: 310). A social approach to writing pedagogy is very important for my research as my writing workshops are predicated upon a social constructivist theory of how children learn. Creative thinking, the other key concept explored in this literature is also defined as a social practice, (section 2.13, 45/6). Literature draws out the importance of the role of the social to both writing pedagogy and creative thinking. Social aspects of learning therefore are a thread running through my research and a cohesive tie throughout this literature review uniting both creative thinking and writing pedagogy.

Having examined and discussed Graves' (1983) process model, other models and approaches that, it could be argued, have it as their foundation will now be explored. The first is a skills-based approach.

2.18 Skills-based approaches to writing pedagogy

The emphasis that I have given in the previous section to a process model of writing pedagogy being child-led, discovery-based and experiential could suggest that the role of instruction, the direct teaching of writing skills, is negated. However Graham et al.'s (2012) meta-analysis of one hundred and fifteen pieces of writing intervention literature would suggest otherwise. As a context for discussion of Graham et al.'s (2012) meta-analysis, a discussion of their proposed skills-based approach and the research that investigated it is helpful. Graham and Sandmel (2011), conducted a meta-analysis of twenty nine experimental studies across the United States of America that used a process writing instruction approach to writing pedagogy. This approach has resonance with the exploration of Graves' (1983) model in the previous section: students will plan, draft (compose) and revise (2011: 397). Like Graves' model 'mini lessons, conferences and teachable moments' (2011: 397) take place and should result in improved quality of writing. However, the process writing instruction model does emphasise the teaching of skills 'addressing the instructional needs of individual students' (2011: 397). Why is this important? Critics of the process approach, as Graham and Sandmel suggest, say that 'not enough attention is devoted to mastering foundational skills such as handwriting, spelling and sentence construction' and …'basic writing processes such as planning and revising' (2011: 397). Graham and Sandmel found that 'the process approach to writing instruction improved the quality of writing produced by students'. (2011: 403). This is corroborated by Popovic (2020) in her work with primary-aged children. However, the process approach did not improve struggling writers' overall writing quality (2011: 403). This could reflect the measures that were used for scoring quality or it could be that it shows a different approach is needed for struggling writers. Graham et al.'s (2012) meta-analysis, again the context is the United States of America, found commonality in specific writing skills taught. The skills of writing taught comprised of specific writing strategies such as plan, draft (compose) revise, how to

apply them and self-regulation strategies. Children were seen as collaborators in the writing process, so active participants, not passive recipients of instruction. According to Graham et al.'s (2012) meta-analysis this strategy instruction enhanced the quality of writing according to their measures in all studies, however struggling writers are not mentioned. These findings align with Cutler and Graham's survey of one hundred and seventy eight teachers across the United States who utilise a process approach with skills-based instruction. One of their recommendations for improving quality of writing was, teachers' should give more time for children to write and spend less time giving instruction (2008: 907). This, they said also helped to increase children's motivation to write (2008: 914).

The findings of these meta-analyses suggest a deep connection between a process model and a skills-based approach. They argue for the importance of some writing instruction: teaching strategies such as, drafting and revising alongside self-regulation. They also suggest giving more time for children to write and for children to be seen as active collaborators in the writing process rather than passive recipients of instruction. This is very important for my research because each of my writing workshops involve some strategy instruction as part of a process approach. Being able to consider how that instruction influences writing quality alongside my participants' creative thinking for writing will be helpful to analyse. Children will also have extended time to write during each workshop, it will be interesting, aligned with persistence (a creative thinking criterion to be observed during writing), to see if being given more time improves quality or if the more teacher-led pedagogy with a higher level of instruction and less time to write which my participants are used to influences their persistence in writing.

2.19 Cognitive models of writing pedagogy

In their research report, citing the work of McCutchen, Teske, & Bankston (2008), Deane et al. state that 'cognitive models have tended to define writing in terms of problem solving' (2008: 3). This is important to include for my research as in section 2.10 of this literature review I have referred to problem solving as a key aspect of creative thinking, the other key concept explored in this literature review and my research. A cognitive model of writing pedagogy also, as Deane et al. (2008) state, takes into account that the writing process is a complex one, with a range of different processes taking place simultaneously. This notion of writing as problem-solving and also problematising is introduced by Bereiter and

Scardamelia and termed 'knowledge transforming' (1987: 10). This concept is introduced earlier in this literature review, discussing definitions of writing on page 54. Deane et al. in their comment on Bereiter and Scardamelia's (1987) cognitive model of writing as knowledge transforming or knowledge telling, states that expert writers have the skills to transform knowledge through writing, whereas novice writers can only declare knowledge (2008:3). This could suggest pedagogically that writing skills or strategies need to be taught and developed before the problematising or problem solving required to transform knowledge through writing can take place. Deane et al. do confirm this argument. They state that 'the inefficient skills of novices may restrict them to a knowledge-telling approach, skilled writers can move freely between knowledge telling and knowledge transforming.' (2008: 3). This could therefore suggest that a skilled writer has developed writing efficiency, which could mean they know and can apply strategies effectively such as planning, drafting, revising. It could also mean they have mastered the mechanics of writing: spelling, grammar, punctuation, and therefore have the building blocks needed to move onto the next level, writing as knowledge transformation.

The concept of writing as knowledge transformation comes from seeing writing as a set of cognitive processes as well as physical ones. Hayes' (1996) framework to understand cognition and affect in writing develops the Hayes and Flower (1980) writing model which is based on cognitive psychology (1996: 7). Hayes and Flower's (1980) model suggested four cognitive processes: plan, translate, review, monitor. However, Hayes (1996) framework emphasises the role of working memory in a cognitive model of writing. The implication is that a cognitive model of writing pedagogy should include supporting the development of information processing needed to develop working memory. Deane et al. connect problem solving and problematising to information processing (2008: 3). This is important for my research as those of my research participants who are struggling writers may also struggle with information processing. John and Cole suggest several factors that affect information processing such as 'limitations in memory capacity, memory strategies and knowledge-bases' (1986: 298). However, it is arguable that a cognitive model of writing pedagogy should include developing working memory, knowledge of the topics being written about and memory strategies alongside writing skills and strategies, underpinned by a process model.

Having explored different models of writing pedagogy and discussed how they sit under the umbrella of a process model or writing pedagogy, the pedagogic model behind the England

and Wales' Department for Education National Curriculum (DfE 2013) requirements for teaching writing will be explored. This can be described as a product-based approach.

2.20 A product-based approach to writing pedagogy.

The extrapolation of the England and Wales' Department for Education National Curriculum (DfE 2013) requirements for teaching writing is very important for my research. This statutory document has been in place for the school life of each of my child research participants. My teacher participants have all worked with this current national curriculum (DfE 2013) and three of them with previous iterations of the National Curriculum (QCA 1999) and the new framework report DfE (2011) as they were more experienced teachers and taught as the national curriculum was undergoing changes. This document and how it has been interpreted has almost certainly informed and influenced their developing pedagogy since its implementation and my second research question seeks to explore to what extent that has influenced opportunities for their children to think creatively.

It could be argued that the National Curriculum (DfE 2013) requirements do not stipulate or favour a particular pedagogy. The content of the curriculum is purely statements of what should be taught, not how. However, it is perhaps the way the content is assessed that drives prevailing pedagogic approaches (Skidmore 2006: 511; Alexander 2008:47; Donnelly 2015: 46). I would also argue that it is not just the way the content is assessed but what those measures are used for. One way that assessments are used is as a measure of outcomes to make schools accountable (Acquah 2013). Hutchings, in his research into the impact of measures to hold schools accountable found that the high stakes testing in English 'results in an improvement in test scores because teachers focus their teaching on the test; however, higher test scores do not necessarily represent an increase in pupils' level of understanding and knowledge' (2015: 2). This finding demonstrates how high stakes assessments drive pedagogy but also could suggest that higher score on a test does not necessarily correlate with a higher level of understanding, inferring perhaps that the high stakes test is not perhaps fit for purpose. Marshall (2017) makes the point that high stakes

testing is not a recent phenomenon. Since 1989, governments have used exams to rate a school's success, creating a marketised sector through the use of league tables (2017: 31). Assessment, a product, therefore has had an impact on pedagogy as Hutchings (2015) purports: a focus on a product, a test. A product-approach to teaching writing is defined by Nordin and Mohammed (2017: 76) as writing imitating a pattern with a focus on a product. They go on to describe a product- approach as focused on structure, language and often an imitation of input from a teacher. This approach is arguably formulaic, focused on what has previously been described on page 55 as the mechanics of writing. This approach is evidenced through the grammar test, introduced for year 6 children from 2016 (Marshall 2017: 35) and focuses on children's knowledge of word classes rather than how to use grammar effectively to communicate in writing. However Badger and White (2000: 157) argue that children can learn linguistic knowledge of texts partly through imitation and that a product approach, through imitation of native texts, helps children to not repeat errors. Pincas (1982) cited in Badger and White, 2000:157) focused on the appropriate use of vocabulary, syntax and cohesive devices that a native text helps children imitate and develop their learning.

The product-based approach to writing pedagogy, it could be argued is currently prevalent, not because of the content laid out in Department for Education National Curriculum (DfE 2013) requirements for teaching writing but because of how that content is assessed: de-contextualised tests in grammar and spelling (Marshall 2017: 37) and the fact that these tests are an accountability measure used to judge a school's effectiveness.

This section began by providing some discussion of the definition of pedagogy and my position on the term which is that pedagogy is a dynamic and flexible concept to describe teaching. Drawing on Murphy (2008), I have put forward the argument that pedagogy is about the interactions between learner, teacher, environment and materials. Using Graves' (1983) Process model as an umbrella term this section has then explored pedagogic models of writing prevalent in the literature. These models are rooted in Graves' (1983) process model and arise from it. I have concluded this section by discussing a product-based approach to writing pedagogy and have put forward the argument that it is this pedagogy that is currently prevalent in primary schools in England and Wales. I have also suggested that schools' and teachers' adoption of this pedagogy is heavily influenced, as West (2010:23) argues, by high stakes testing as part of a system-wide market-oriented approach

to school-based education. The next section of this literature review explores what the literature says in more detail about some of these implications of high stakes testing and product-based pedagogy on how children learn. This includes extrapolating literature that explores children's voice. Children's voice is important within my research, as two out of my three research questions begin with 'from teachers' and children's perspectives…' This means that much of the evidence and data collected during my research is from my children research participants.

2.21 Implications of high-stakes testing and product-based pedagogy on how children learn.

Considering these implications is important for my research: my second research question is 'from their own viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy influence their writing pedagogy and the development of children's creative thinking?' Understanding how external drivers such as high stakes testing influence school policy and writing pedagogy could provide some useful insight into teachers' practices. Literature puts forward some clear arguments regarding this. West (2010) suggests that high-stakes testing is indicative of a market-oriented approach which includes accountability and test results used to judge a school's effectiveness. West states 'such tests determine, or help to determine, the future of pupils, teachers or schools' (2010:25). West (2010: 23) in fact suggests that there are questions over the validity of high-stakes test results and she also questions whether high stakes testing meets the needs of society more generally. Wyse and Torrance (2009: 221) argue that the existence of high-stakes testing carries considerable risk to children's learning. Berliner (2011: 287) gives an example of one of those risks, arguing that high-stakes testing has led to excessive test preparation and cheating by schools focused solely on excellent test results. However, he says the most pernicious of all the results of high stakes testing is curriculum narrowing. This is also argued by Au (2011:25), who suggests that high stakes testing standardises teachers' approaches through scripted curricula, leading to a narrowing of learning.

The school context within which my research took place provides a narrative lens through which to consider the influence of such product-based pedagogy and testing on children's

experiences This school is not an academy or private school so is statutorily obliged to teach the National Curriculum and is therefore subject to the high-stakes testing and accountability measures applied to publicly funded primary schools. Also, at the time my research was in process, the school had been graded by Ofsted as 'Requires Improvement' (RI) and had a clear action plan to achieve grade 2 (good). This grading was a judgement made against Ofsted's grade descriptors of overall effectiveness (2019:40) Part of the school's post-inspection action plan included the implementation of a whole school policy to improve writing across the school. This highly structured and quite formulaic product-based approach was being implemented throughout the school, with the end goal of producing higher marks in high stakes tests, as my research was taking place. The impact of how a negative Ofsted judgement can drive pedagogic decisions is a very important context through which to view my research as this limits a teacher's professional judgement on how best to teach their class. Baumfield (2006: 192) argues that teachers' professional pedagogic decisions are under threat from these school accountability measures and now schools have to demonstrate progress according to the measures laid down by those doing the measuring. Pedagogic decisions the school leadership in my research school had to make therefore arguably prescribed the writing pedagogy of the teaching staff, leaving, seemingly little room for autonomy and flexibility in their approach. This prescriptive and very formulaic approach to teaching, would therefore impact upon the way the children experienced writing, the purposes of writing and arguably their enjoyment of it.

2.22 Exploring children's discourses of writing: Ivanic and Lambirth

The opening sections have explored the implications of high-stakes testing in general terms followed by application to my school research context. The following section explores how children talk about writing in school and the influence that high-stakes testing and writing pedagogy has upon how they articulate their experiences of writing.

Exploring children's experiences of writing is important for my research as the perspectives of my children participants will provide evidence to contribute to my research findings. Starting with Ivanic (2004), whose work provides a theoretical framework to analyse discourses of writing, I will compare with the work of Lambirth (2016) on exploring children's writing discourses. Their work, although twelve years apart, with different

governments in power and different national curricula, were researching when both curricula contexts were subject to high-stakes testing.

Ivanic's (2004) work is not specifically primary research with children, it is more theoretical, providing an analytic tool to evaluate discourse from a range of sources such as documents, teaching and learning resources as well as interviews and focus groups. It is a 'meta-analysis of theory and research about writing and writing pedagogy' (2004: 220). As a meta-analysis it combines multiple studies and compares their findings enhancing the reliability of the conclusions. Ivanic uses a multi-layered view of language as a starting point (2004: 224), the various layers being text (linguistic substance), cognitive processes, event (social context in which language is used) and sociocultural and political context. This is helpful as there is a recognition here that writing is not purely mechanistic or procedural but involves cognition and should be viewed within a context. This contextual factor is arguably the same for writing pedagogy; it should, Ivanic (2004:226) argues, be viewed through a sociocultural and political context. Ivanic's (2004: 225) framework has identified six discourses of writing: skills discourse, creativity discourse, process discourse, genre discourse, social practices discourse and socio-political discourse. Although I will dwell mostly on the skills discourse as it is most pertinent and relevant for my research, I will touch on creativity discourse which appears later in discussion of and comparison to Lambirth's (2016) work. In the following section I have utilised the work of Grainger, Goouch and Lambirth (2003) to add some children's voice research to Ivanic's framework.

Ivanic defines a skills discourse as a 'belief that writing consists of applying knowledge of a set of linguistic patterns and rules for sound–symbol relationships and sentence construction' (2004: 226). This definition suggests that writing is about building sentences and applying patterns and rules. The implication may be that within this view of writing, there is no room for the artistry of writing or cognitive problem-solving in writing. This discourse that writing is skills only and context free is of particular importance for writing pedagogy and is emphasised by Beard and Burrell (2010: 77) in relation to the National Curriculum (2013) and an allusion to high-stakes testing. In their investigation of narrative writing by 9-11 year olds, they emphasise the National Curriculum expectations for this age group as being significantly skills-based: emphasising the more mechanistic elements of writing including correct spelling, the correct use of full stops and other punctuation. This skills discourse is picked up by Grainger, Goouch and Lambirth (2003) as their work suggests that it is the skills-based elements of writing that arguably makes for children's negative

attitudes to writing. Grainger, Goouch and Lambirth found that the pupils they spoke to in Years 3 and 4 expressed negative views about writing, their 'dislikes focused mostly on punctuation, spelling and aching hands' (2003:7). They had also made judgements about their competence based on their perception of their punctuation and spelling skills. However, children in Foundation stage and Key stage 1 that Grainger, Goouch and Lambirth (2003) spoke to expressed enjoyment of writing as it had a clear purpose and a real audience, for example making cards for special occasions and writing to fictional characters from books. These positive attitudes to writing were shared by children in Years 5 and 6 in Grainger, Gouuch and Lambirth's (2003) work. It seemed that enjoyment of writing was linked to freedom of task (2003:7) but also children enjoyed writing more when they felt they had mastered the more mechanical skills of writing. The National Literacy Strategy (1998) was a prevalent piece of guidance given to teachers five years earlier. This had extrapolated the National Curriculum programmes of study for English into word level (spelling and punctuation), sentence level (grammar) and text level (language features) to be taught during each term and year group. Grainger, Goouch and Lambirth report that the influence this had on teaching was that 'early KS2 teaching became disproportionately focused on teaching transcriptional skills' (2003:8). This focus on the transcriptional skills of spelling, handwriting, punctuation could possibly account for year 3/4 children in Grainger, Goouch and Lambirth's (2003) research expressing negative attitudes towards English. This is a really interesting insight for my research as two of the classes where I carried out data collection were year 4 and Grainger, Goouch and Lambirth's (2003) findings will provide a useful lens through which to look at the data from these classes.

Lambirth (2016) uses Ivanic's (2004) discourses of writing framework to analyse children's responses to being asked about writing. In his two year project exploring children's discourses of writing, Lambirth's research focuses on two of Ivanic's (2004) discourses only as 'these were identified as recurring themes that emerged from the data: skills and creativity discourses' (2016: 217). Lambirth defines a skills discourse as one that 'concentrates on learners' attaining technical accuracy in their writing...demonstrated by presentations of finished transcriptions of texts that adhere to the appropriate linguistic rules' (2016:217). This develops Ivanic's definition through the use of language such as 'technical accuracy' and suggests a learner focus on a finished, accurate piece of writing, arguably at the expense of learning through the process of content composition. Creativity

discourse, as defined by Lambirth 'highlights the quality of the content and style of a piece of writing' (2016:217). These definitions take their basis from Ivanic's (2004) work but have been developed. Lambirth (2016) draws upon an earlier piece of work by Grainger, Goouch and Lambirth (2003) and also Wray's (1993) work exploring what children think about writing. Across these three studies, Lambirth (2016) posits that children were more ready to discuss aspects of writing they found most difficult and as they became more confident with an aspect of writing they mentioned it less. This is an important piece of contextual information as it could suggest that for example if the children's views were primarily negative towards certain transcriptional aspects of writing it could mean perhaps that they were struggling with those aspects and this struggle was leading to the negative view. This coheres with MacArthur (1999) and Graham and Harris (1999, 2007) who put forward the argument that it is these transcriptional elements of the writing process that writers struggle with. It is therefore perhaps of little surprise that the skills discourse is most prevalent in Lambirth's (2016) work. Transcriptional elements are the elements of writing children struggle most with, therefore these are the elements they talk about most (Wray 1993:68). One of Lambirth's (2016) conclusions was that children could use tools such as adjectives and adverbs effectively, use names of parts of speech and generally utilise these tools well but do not necessarily understand how to best utilise these tools to make meaning effectively in their writing and improve quality. The focus 'was upon the mechanism of the writing produced' (2016: 226) rather than necessarily style and content and presentation seemed to be of greater importance than content.

Lambirth (2016) also categorises some of the children's responses into what he terms creativity discourse. These responses included and valued the use of imagination, the ability to draw the reader in and write good action. However this only accounted for 17% of responses. Skills discourse accounted for 54% of responses. The UK government's Department for Education (2012:19) research evidence for writing teaching also reflected this need to balance both transcriptional and compositional aspects of writing. This report found that effective teaching of writing involved teaching the writing process including providing opportunity for children to write for a variety of purposes (2012:12). Effective practice included working with children to create a community of writers, alongside teaching fluency of handwriting, spelling and sentence construction (2012:13). Despite this

balanced rhetoric of writing pedagogy, there does, as Lambirth's (2016) research seems to show, seem to be an imbalance in the way children respond to being asked about writing.

Lambirth's (2016) research develops Ivanic's (2004) discourses framework by introducing a seventh discourse of writing, this, he titles compliance discourse. According to Lambirth (2016), this discourse category accounted for 22% of responses when the children in his research were being asked about writing. This research took place with up to 565 children across 17 primary schools in South East England (2016:215). Compliance discourse is defined by Lambirth as that which 'describes children's beliefs about the necessary efforts needed to produce writing which will please the adults from whom the writing tasks are given' (2016: 221). Examples of responses ascribed to this category included external motivation for writing such as praise, teacher approval and good grades. Lambirth (2016) provides some answers as to why the skills and compliance discourses may be the most prevalent and that is because in talking to teachers, Lambirth (2016) uncovered that teachers themselves believed they were using skills and compliance discourses when teaching, feeling 'constraints upon what they were expected to do in classrooms' (2016: 230). There is an important area here to consider and could relate to the rhetoric of evidence for effective teaching of writing and the reality of pervading classroom practice and children's views of writing. Research evidence for writing suggests effective teaching should be balanced between composition and transcription teaching (DfE 2012) yet the reality appears, from the research explored here, to be an overemphasis on the transcriptional aspects of writing (Lambirth 2016; Grainger, Goouch and Lambirth 2003; Wray 1993).

Ivanic (2004) and Lambirth (2016) have provided a useful framework, primary research and commentary to explore the implications of a product-based writing pedagogy on children's learning. Within this section I have used these pieces of work as lenses through which to explore what children's beliefs about writing are and how they respond to and view the writing pedagogies they are exposed to. The main discourses of writing that are prevalent from both Ivanic's work in 2004 and Lambirth's in 2016 are a skills discourse and a compliance discourse. These discourses both emphasise the technical aspects of writing over the content and style or composition elements. One reason for this emphasis in the research, as stated by Wray (1993) could be that children only really discuss the elements of

writing they struggle with and we have seen in my discussion of the transcriptional elements of writing (section 2.15, p.55) that these will be the aspects that children will struggle with most.

Both pieces of research, Ivanic (2004) and Lambirth (2016), took place where high-stakes testing was in place in primary schools and therefore, arguably, a product-based pedagogy was prevalent. This section has argued that the external constraints of high stakes testing has been a significant factor in contributing to a skills and compliance discourse, where children's beliefs about writing and the way they speak about writing is predominantly technical skills focused. This may have been one of the constraints that teachers in Lambirth's (2016: 230) work spoke of when discussing their pedagogy.

Having focused on a product-based pedagogy and a skills and compliance discourse as being prevalent arguably due to high-stakes testing and other external factors, I will now move on to exploring classroom environments for writing. On page 58 I have put forward the idea that pedagogy is about interaction between teacher, learner, resource and environment. It could be suggested that the learning environment is an essential component of writing pedagogy and it does have a significant role to play in the learning process. Within the next section I will examine literature on learning environments that enable writing and demonstrate how this literature has crossover with enabling environments for creative thinking.

2.23 Enabling environments for writing and creative thinking

Mceachron, Bracken and Baker (2003: 462) argue that a learning environment has a significant relationship to the pedagogic interactions between teachers and students. It could also be argued that the way an educator uses their learning environment is part of their pedagogic approach. This section seeks to explore literature regarding learning environments that enable effective writing and also that enable creative thinking. Taking the learning environment as an aspect of pedagogy makes exploring enabling environments important for my research. My first research question asks 'to what extent do opportunities to think creatively during the writing process influence children's work?' Opportunities to think creatively are all part of a cognitive learning environment linked to the purpose and motivation for learning (Parr and Limbrick 2010: 589). The reason I have chosen to explore

learning environments that enable effective writing creative thinking together is because the literature I have considered suggests significant crossover between them. Where Parr and Limbrick (2010) have used the term 'cognitive environment' to describe the interaction between learner, teacher and learning materials, Davies et al. (2012:85) use the term 'pedagogical environment'. Davies et al. (2010: 85), in their systematic literature review of creative learning environments in education, define this in terms of activity, task authenticity and ethos. The term 'pedagogical environment' is therefore a more effective one than 'cognitive' as it alludes more to teachers' values and beliefs through design whereas the term 'cognitive environment' seems, potentially, to leave a designed ethos out. This section will explore some key aspects of pedagogical learning environments that literature says enable both effective writing and creative thinking. Firstly, the social aspect of the pedagogical environment will be explored (Pantaleo 2016; Elisondo 2016). Following this, task design, authenticity and how that connects to motivation will be explored (Amabile 1996; Parr and Limbrick 2010). This section on enabling environments will then conclude by exploring the role of the teacher in developing an enabling pedagogical environment (Cremin 2006) including facilitating freedom and autonomy to explore ideas (Waitman and Plucker 2009) and writing with intent (Bereiter and Scardamalia 1993).

Pantaleo (2016: 84) argues that an effective pedagogical environment that enables writing is rooted in a sociocultural approach. Drawing on the work of Vygotsky (1978), Pantaleo defines a socio-cultural theoretical approach to teaching and learning in schools as one that 'recognises how human thought originates in and is shaped by the social world of the classroom' (2016:84). Pantaleo (2016) here posits that learners' thoughts do not arise from nowhere but are formed, developed and influenced by the social environment in which learning takes place. Smagorinsky develops this idea further by suggesting 'we learn not only words, but ways of thinking, through our engagement with people around us" (2013:197). This sense of engagement with people comes back to the idea of pedagogy as dynamic and interactive. Smagorinsky (2013) is therefore suggesting that thinking and learning come about not just from the influence of the learning environment but active engagement with it. It could therefore be surmised from these arguments that an effective pedagogical environment that enables writing and thinking is one where learners engage with other learners. Arguably, enabling pedagogical environments for writing is underrepresented in the literature and, I would argue, a little neglected. Much literature

concentrates on the physical environment, focusing on such elements as a print rich environment with a variety of materials and resources to promote writing (Bingham et al. 2017:37). Parr and Limbrick (2010:588) in their discussion of hallmarks of effective teachers of writing also focus on physical elements of the learning environment. They focus on displays of work, learning intentions displayed and word and sentence charts. In their work there is no mention of the pedagogical environment. Roskos and Neuman (2011) begin their work on an effective classroom environment by discussing social aspects of pedagogy but then devote the majority of their discussion to the physical space and physical resources. The theme of enabling environments is also developed by the Durham Commission's first and second reports into creativity (2017 and 2021). They emphasise the role of the environment in developing confidence and agency. The physical environment is important; resource choice and display can enable or constrain learning and table configuration is an important decision that can enable social aspects of learning (Kershner 2000:22). But I would argue that the pedagogical learning environment and how social learning is facilitated to enable writing is as important as the physical. The influence of both physical and social learning environments on creative thinking and writing are important for my research as during my writing workshops, the physical environment was adapted to suit the writing purpose and my child research participants were working together in groups to compose text.

Elisondo argues similarly for creativity and creative thinking. She states that 'creative ideas and products always depend, in a certain way, on interaction with other people and culturally constructed and reconstructed knowledge' (2016:195). Creative thinking, in her view does not happen in a solitary vacuum but happens in a socially constructed way through interaction with others. Sawyer (2006: 315) comments that creative thinking requires understanding how thought develops in relationship with individuals and contexts. This point suggests that creative thinking as a social practice is not just about thinking together with others but also how the learning context influences it. Gregory et al. (2013:45/46) link this idea to the creative thinking domain of problem solving. They explore the importance of collaboration for effective thinking but cite the task, or learning context, as being a factor in effectiveness.

A pedagogical environment which enables effective creative thinking and writing should therefore have a strong social element (Craft et al. 2013: 551, Berninger et al. 2002:293). A

pedagogy which encourages social engagement and learners engaging with other learners can enable creative thinking. The Durham Commission's second report into creativity (2021) also emphasises social engagement through collaborative learning as significant for creative thinking. As I have argued earlier in this review on page 50 that writing is a cognitive activity not merely a physical one, if a social environment aids thinking and cognition then a pedagogy encouraging social engagement should, arguably, enable more effective writing.

Parr and Limbrick (2010: 586) argue that effective task design is aligned to clear learning goals and that provides a clear purpose for writing which provides clarity for the learners. A pedagogical environment where the writing task is purposeful to the learner is developed by Rothwell (2016) whose work explores blogging to develop writing. Rothwell's main findings were that blogging increased children's motivation to write (2016:10). His research found that children publishing writing to a class blog available to be read on their school's website provided a strong purpose and motivation for quality writing. The blogs received feedback from parents and a wider audience and this also, according to Rothwell (2016:10) provided motivation to persist in updating the blogs as they enjoyed the feedback. This is corroborated by Block and Strachan (2019) in their work with second graders writing. They also found that writing for an external audience also provided motivation for better quality writing. Creating an enabling pedagogical environment which involves meaningful tasks for a wider audience is important for my research. Each of my writing workshops involves children writing for a wider audience, be it school governors or publishers. Wiggins (2009:30) connects purpose and audience to authentic tasks. Authentic writing, as Wiggins states, 'ensures that students have to write for real audiences and real purposes' (2009:30), not just the teacher. Tasks for authentic writing, Wiggins writes should be 'either real-world or replicas and analogous to the kinds of tasks faced by professionals in the field, adult citizens, and/or consumers.' (2009:30). Wiggins' point is that an enabling pedagogical environment is not one where writing tasks are mundane and serve no purpose other than filling time, but tasks that resemble real world writing tasks where children can see, understand and have a reason for doing. Wong and Moorhouse (2018), like Rothwell (2016) have also considered the real life context of blogging as a motivator for writing. They argue that an authentic writing task such as a blog means the writer establishes relationships with their audience (2018:1). As they establish these relationships with their audience, Wong and Moorhouse argue, the writer 'prioritises content and creativity rather than focusing on

accuracy and form alone' (2018:1). Wong and Moorhouse (2018) are making the point that authentic writing tasks force the writer into considering their reader and see their writing through the lens of the reader, considering whether the reader will want to read it. This argument views writing as a 'social and creative performance' (Ryan 2014:131) where emphasis is not only on getting the technical aspects of writing correct but also engaging creatively with the reader.

Task motivation, linked to authentic tasks, audience and purpose is a key component of an enabling pedagogical environment for writing. It is also a key component of an enabling pedagogical environment for creative thinking. In her research into purposeful problem solving through creative thinking, Lakey (2009), in her work on what makes for effective, creative problem solving reports across her ten research schools that effective problem-solving involved 'engaging pupils in developing ideas in a purposeful way' (2009: 63). Her findings were that the motivation of developing these skills for a future workforce inspired the pupils to engage in the real life problems that were presented for them to work through. Here again the importance of a pedagogical environment of authentic task linking to motivation is demonstrated. Lakey's (2009) work also makes connections between the task authenticity and social aspects of an enabling pedagogical environment. Her research concluded that as well as the pupils taking a lead in the tasks set, persevering with the problem solving and achieving deeper learning, these authentic problem-solving tasks led to great collaboration and exploratory talk between them (2009: 64). Exploratory talk is defined as 'reasoned discussion' and that which is linked to collaboration as leading to higher quality educational outcomes (Knight and Mercer 2015: 304). This aligns with Cremin and Chappell's (2021) systematic review of creative pedagogies who outline problem-solving and collaboration with risk taking as three key inter-related features.

All of the aspects discussed in this section on task motivation and authenticity are brought together by Kampylis and Berki (2014) in their paper on nurturing creative thinking. Their argument is that 'students are more likely to express their creative potential when they are involved in meaningful and authentic activities that … are also intellectually challenging' (2014: 14). They are expressing that an enabling pedagogical environment for creative thinking, includes authentic task design. They argue that children will also be motivated by real life tasks that will challenge their thinking. Kampylis and Berki (2014:16) go on to

discuss the importance of collaboration as increasing creative thinking. They argue that for children, being enabled to explore a wider range of perspectives through collaboration with others in their tasks increases their creative thinking.

Exploring an enabling pedagogical environment that incorporates collaborative authentic tasks for a real audience that motivate children is very important for my research. My writing workshops were all created from my own pedagogy developed through reading and experience. I sought to create a pedagogical learning environment that facilitated collaboration, provided authentic activity thus aiming to engage and motivate my child participants. Each workshop involved children working together in groups, each workshop involved some problem solving activity and each workshop had as its purpose writing for an audience beyond the teacher. However, the teacher does play an important role in the development of an enabling pedagogical environment, therefore this final section explores the role the teacher plays in developing and maintaining an enabling pedagogical environment.

Exploring the role of the teacher in creating an enabling pedagogical environment is of fundamental importance to my research. Pedagogy, I have previously suggested (section 2.16, p.58) involves in part how a learner interacts with their environment, which Stronge and Hindman (2003: 48) state a teacher creates. The role of the teacher is therefore crucial to the pedagogical environment, as they create it and play a significant role in enabling the learner to interact effectively with it. Within this section I will look at four key aspects of the role of the teacher in developing an enabling pedagogical environment that literature suggests are important for both writing and creative thinking. These aspects are: facilitating collaboration, developing autonomy and freedom in learning, promoting learner agency and positive relationships and dialogue. Following discussion of these four aspects I will finish the section by exploring the role of strategy instruction in effective writing pedagogy. Strategy instruction does not appear in creative thinking literature I have explored, it appears only in effective writing pedagogy, whereas facilitating application of knowledge is seen more in creative thinking literature.

In his chapter exploring research evidence for effective writing, Higgins (2015:9) reports on a large piece of meta-analysis by The Sutton Trust and Education Endowment Foundation called 'The Learning and Teaching Toolkit' (2011). This piece of work sets out a range of different approaches to learning and teaching within schools. Higgins states that 'it assesses the quality of the evidence and identifies how well each approach has worked from over 150 detailed summaries of the impact of educational research' (2015:9). Higgins (2015:1) states that two of the general messages from this research were that peer interaction and collaborative learning are of value to effective writing teaching. By peer interaction, Higgins (2015) is referring to peers working together, discussing approaches, perhaps working in writing partners, and collaboration. I interpret this to mean that Higgins (2015) is referring to writing groups, sharing ideas, building on one another's ideas and thinking. This connects to research by the DfE who state that effective teachers 'create an engaged community of writers' (2012: 13). This is extrapolated in the DfE's (2012) research as including encouraging collaborative writing.

Peer collaboration is also seen as a key aspect of an enabling pedagogical environment for creative thinking. Craft et al.'s (2013) work on creating an environment for possibility thinking, an aspect of creative thinking, has peer collaboration as the context for possibility thinking to occur. Craft et al.'s (2013: 553) work found that children, across a range of tasks, worked with ideas collaboratively regardless of the product and were able to share ideas effectively. Vass et al. (2008) develop the idea of peer collaboration as a context for thinking by applying it to the cognitive process of creative writing. Vass et al.'s (2008) work explored some of the differences between collaborative writing and solitary writing, looking at some of the discourse taking place when writing collaboratively. Their findings suggested that collaborative discussion, even interruption was a significant factor in more effective writing. Vass et al. state, 'One child participant in our current study … described this fuzzy, organic, non-linear type of collective thinking as 'ripple thinking'. When engaged in ripple thinking, ideas build on each other and get more and more rich and complex, expanding in all directions like ripples of water' (2008: 201). A pedagogical environment that has collaboration at its heart, Vass et al. (2008) argue, develops ideas in a non-linear way, but ideas that expand and become richer and increase in complexity that solitary thinking ad writing.

According to Grainger, Goouch and Lambirth (2003:10), children enjoyed the freedom of writing at home, where they could control what is going to happen in the story. This was also, according to Grainger, Goouch and Lambirth (2003:10) more motivating for children as they had more choice and control over how their writing developed. This develops the work of Myhill (2001:15) who found that young writers preferred writing tasks and an environment that allowed them a voice and freedom of expression. The same theme of autonomy, choice and freedom is also found in Lambirth's (2016) work on exploring discourses of writing where the teachers he engaged with responded to the children's writing preferences offering more choice, freedom and writing independence. Autonomy is also one of Cremin and Chappell's (2021) inter-related features of creative pedagogy found through their systematic review creative pedagogies literature. Providing a pedagogical environment that offers autonomy and choice is also a theme developed by Gadd and Parr (2016:96). They argue that the exceptional teachers within their study on task orientation in writing involved their learners in the construction of learning tasks, thus giving more autonomy and freedom in their work. An enabling pedagogical environment for writing, therefore, seems to be one that recognises individual difference and providing more autonomy as part of a pedagogical approach is therefore more effective.

An enabling pedagogical environment for creative thinking also has autonomy and freedom at its heart. Craft et al. (2013:540) speak of a playful environment as one that fosters creative thinking. Cremin and Chappell (2021) in their systematic review of literature also identify playfulness as a key feature of creative pedagogy. This involves questioning as a driving process leaving children freedom to explore, play, try out and develop self-determination and the teacher stands back from the child's engagement with the task. Craft et al. (2013:540) go on to discuss the important of an environment that facilitates imagination and risk-taking in responding to the questions and problems set. This gives children much more ownership of the tasks set and how to go about them. This theme of autonomy is developed by Falconer et al.'s (2018) exploration of creativity in primary school children. Falconer et al. (2018:9) suggest that for an enabling environment for creative thinking to occur teachers need to allow children to demonstrate initiative and involve them in the decision making process around learning tasks. Falconer et al. (2018:11) go on to state that this pedagogical environment should be positive, open, democratic and free. This does

provide an argument for a pedagogy that is interactive, where pupils have significant input into their learning and freedom of opportunity and choice.

An enabling pedagogical environment that promotes learner agency is connected to the previous aspect: developing learner autonomy and freedom. The reason for giving 'learner agency' a separate section is because the term suggests something more than 'autonomy and freedom'. The reason is based around learner identity as agents of their own learning Lantolf and Pavlenko define learner agency as 'Learners are viewed as agents who "actively engage in constructing the terms and conditions of their own learning" (2001:145). Autonomy implies personal choice within set parameters, whereas agency, as defined above, implies being involved in setting those parameters. Gadd and Parr (2016:96) discuss effective literacy teachers whose pedagogy involves learners in constructing tasks. One of the teachers involved in their research recognised the importance of their class 'writing on self-selected topics' (2016:98). They identified that the challenge was maintaining motivation whilst students were identifying their own learning goals and meeting prescribed learning outcomes.

An enabling pedagogical environment that promotes learner agency is also important for developing creative thinking. Craft et al. (2013: 540) suggests that a teacher placing high value on learner agency is a key enabler for creative thinking alongside standing back and allowing time and space. Figure 3, below is a model of pedagogy and possibility thinking (Craft et al. 2013:540) which illustrates this point.

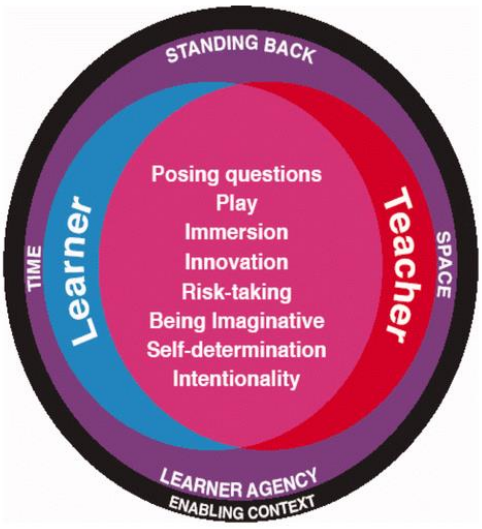


Figure 3: Stage 1 model of pedagogy and possibility thinking. (Craft et al. 2013: 540)

Figure 3 demonstrates, in my understanding that the pedagogical environment of learner agency, time, space and teacher standing back, sits underneath the enabling learning context. It then shows a level mutuality between teacher and learner, demonstrating that agency, where the teacher and learner together are involved in developing the learning.

A mutuality between teacher and learner where both are together developing learning, or learner agency, can only really occur when there is a positive relationship between teacher and learner and effective dialogue happens between them (Davies et al. 2013;86). Therefore, this suggests that an enabling pedagogical environment is categorised by positive relationships and clear and effective dialogue. The DfE's (2012) research into writing focuses significantly on practices teachers adopt which can only, arguably, be carried out effectively if there are positive relationships and dialogue between teacher and learner. For example, oral work and drama to improve writing (2012: 16) can only lead to writing improvement if the oral and drama work is purposeful and effective and that comes from positive relationships and dialogue.

In literature on enabling pedagogical environments for creative thinking, relationships and dialogue is more explicit. Davies et al. (2013:86) state that an effective enabling environment is categorised by the relationship between teachers and learners. This relationship, according to their work, should be one of mutual respect with dialogue being a key feature.[] Exploration of the teacher/learner relationship is developed by Falconer et al. (2018: 11) whose position is rooted in learning being an interactive process where teachers model the creative process. The relationship here therefore is crucial. The process of modelling a way of thinking and supporting learners to apply that modelling requires dialogue between teacher and learner, support of the learner by the teacher and mediation of task and learning. None of this, arguably can be done if the relationship between teacher and learner is not positive. Fisher (2005:3) describes the teacher here as an encouraging adult, not an inhibiting one, a teacher that provides an enabling pedagogic environment that encourages freedom of expression and security to try things out.

The previous four different aspects of an enabling pedagogic environment that I have discussed: facilitating collaboration, developing autonomy and freedom in learning, learner

agency and positive relationships and dialogue are all present in literature on both writing pedagogy and creative thinking. Explicit strategy instruction appears across a range of literature on the pedagogy of children's writing alone. However it does need to be addressed as part of an enabling pedagogic environment for developing writing as it is a theme that features in literature on writing pedagogy. Strategy instruction refers to the explicit instruction or direct teaching of elements of writing (Berninger et al. 2002: 291). Throughout the literature, research emphasises the explicit instruction of different elements of writing as effective pedagogy for improving writing. Berninger et al. (2002: 292-293) focus on instruction in spelling and alternations (exceptions to spelling rules) and also in composing text. Their findings were that explicit instruction resulted in greater learning than mere practice alone (2002:301). The importance of explicit instruction is developed by Graham et al. (2012:886) whose meta-analysis of 115 studies concluded that strategy instruction enhanced the quality of children's writing. However it is arguably the content of the strategy instruction that is important. Graham et al.'s (2012: 886-887) work includes explicit strategy instruction in learner self-regulation, how text structure works and creativity skills as well as transcriptional skills and grammar teaching. This variety of instruction and focus on the writing process was concluded to be important aspects of effective writing pedagogy. The variety of explicit instruction as part of an enabling pedagogical environment is developed by Higgins (2015:14) who is clear that the explicit teaching of strategies is important for success, but those include writing for a purpose, writing for a real audience and also explicitly teach writing as a process. This is aligned to the DfE's (2012:12-13) research evidence for writing which also focus on teaching explicitly purposes for writing, how to use features of good writing and how to apply knowledge gained from looking at quality texts as models. All of this, it is argued should be taught explicitly as part of an enabling pedagogic environment for effective writing.

This section on enabling environments for writing and creative thinking has brought together key points from a range of literature that are common to both areas. The purpose of it has been to establish what literature suggests categorises an enabling pedagogic environment for both writing and creative thinking. The first category is social. Arising from a sociocultural approach to learning, an enabling pedagogic environment should involve a social element, creative thinking, being arguably, a socially constructed mode of cognition linked to problem solving and writing, arguably being a social activity. The second category I have discussed in this section is an enabling pedagogic environment has authentic tasks and

real audiences which facilitate motivation. This is connected to the social aspect as the literature focuses on the collaborative nature of many authentic, real life learning experiences. Following this I have discussed the role of the teacher in setting and developing an enabling pedagogic environment. In this section I have explored the teacher's role in facilitating collaboration, another link to the social aspect of the enabling environment. I have explored the teacher's role in giving autonomy and freedom to the learner in terms of task design and then gone further into how an enabling pedagogic environment develops learner agency. I have concluded this section by exploring the importance of positive relationships and dialogue to facilitate autonomy and agency within an enabling pedagogic environment. Finally, I have considered the role of explicit strategy instruction. This element of an enabling pedagogic environment suggests a more hierarchical relationship between teacher and learner than the rest of this section has suggested is effective. However, I would argue that effective strategy instruction takes place within the context of positive relationships, dialogue and purposeful tasks.

2.24 Summary of part 2

The purpose of part 2 of this literature review has been to explore and extrapolate the second of the two key areas in my research question: the pedagogy of primary-aged children's writing. Part 2 began by setting out my position on what writing is. Writing, I have argued from literature is a complex set of cognitive processes not purely physical and mechanical. These processes, I have argued, are not linear but more akin to a juggling act (Myhill 2009:47 citing Hayes and Flower 1980), where simultaneous cognitive acts such as idea gathering, sentence structure, punctuation, spelling, intention have to be managed in order to achieve effective written communication. The complex set of cognitive processes, I have contended from literature can be categorised as composition, transcription and self-regulation. Composition being planning and translating ideas into the written word, transcription being the more mechanistic processes of spelling, grammar punctuation and self-regulation being the process of managing to stay focused on a task.

One theme that runs through part 2 of this literature review is that of struggling and skilled writers and how they are differentiated. I have drawn upon the work of Bereiter and Scardamalia (1993) who argue that struggling writers are 'knowledge tellers' who may just arrange knowledge whereas more skilled writers transform knowledge through intentional

writing and cognition. These more skilled writers can problem solve. Struggling writers have also not developed effective self-regulation and find the more mechanical transcriptional processes difficult, thus their work is not as well crafted (Graham and Harris 2000).

Having considered writing and writers, part 2 of this literature review moved on to explore pedagogy and pedagogic models of children's writing. I put forward the argument that pedagogy is more than just instruction or even facilitation of learning but more about interaction between teachers, learners, tasks and learning environment (Murphy 2008). Arising from the definition of pedagogy I have then explored skills, cognitive and product-based pedagogic approaches to writing under the umbrella of Graves' (1983) process approach. Skills, cognitive and product-based approaches arise from a process approach. The main argument here is that writing is a set of complex processes (Graves 1983, Kellogg 1999, Gillespie and Graham 2010, Graham and Sandmel 2011, Graham et al. 2012) that are flexible not systematic in order and can be simultaneous. Each of the different pedagogic approaches discussed in part 2 of this review connect to struggling and skilled writers. For example, instruction given within a more skills-based approach was found to support struggling writers (Graham et al. 2012) and a cognitive approach sees writing as problem-solving, supporting the more skilled writers in using writing to transform knowledge. Both of these approaches see writing as a process but have different emphases. The final pedagogic approach I discuss is one that I propose has been more prevalent in schools since the introduction of high-stakes testing: a product-based approach. This approach, I have suggested, places significant risk on children's learning through scripted curricula (Au 2011) and curriculum narrowing (Berliner 2011). These arguments are then developed through children's perspectives on a product-based pedagogy. Grainger, Gouch and Lambirth (2003) and Lambirth (2016) both found that discourses of writing from both children and teachers has been heavily influenced by a product-based pedagogy. Children and teachers discussed writing using the language of transcription: punctuation, grammar, spelling, handwriting and not really discussing content and creativity. This discussion reflected a general dislike of writing tasks where punctuation, spelling and grammar was the focus. Pedagogy, I have argued based on Murphy (2008), is about how a learner interacts with their teacher, tasks and environment. The pedagogic environment is therefore an essential part of a teacher's pedagogic approach. The interactions between learner and task in the case of transcription, skills-based writing tasks were not very positive (Grainger, Goouch and Lambirth 2003,

Lambirth 2016), which could be seen as the influence of a product-based approach on task design and environment.

In the last section of part 2 I explore the importance of an environment to enable effective writing, but also creative thinking as the literature suggests that what makes an effective enabling pedagogic environment for writing is very similar to what makes an effective enabling pedagogic environment for creative thinking. Exploring the pedagogic environment at the end of part 2 of my literature review also provides a helpful way to begin bringing part 1 of my literature review: creative thinking and part 2 together. I have put forward some key factors that contribute to an enabling pedagogic environment. The first is social, the second is that task design should be purposeful, meaningful, have relevance and be for a real audience (Wiggins 2009, Wong and Moorhouse 2018). The final factor is the role of the teacher in developing, maintaining and being a key figure in an enabling environment. This again connects to pedagogy being a learner's interaction with task, environment and teacher. It is therefore deemed effective practice from literature for the teacher to promote and provide autonomy and freedom in terms of task design. This connects to the findings of Grainger, Goouch and Lambirth 2003; Lambirth 2016) who found that children enjoyed tasks where they had more ownership, autonomy and freedom in how they went about a task and what the content was. Linked to this a teacher should provide learner agency – allowing learners to have more control over task design. Finally, a teacher needs to cultivate and maintain positive relationships with learners maintaining positive dialogue (Davies et al. 2013). This is an important factor and could arguable be at the centre of an enabling environment for both writing and creative thinking.

The section on 'enabling environments for thinking and writing' brings together the strand of creativity and creative thinking (part 1 of this literature review) and writing and writing pedagogy (part 2). Figure 4 below diagrammatises that structure. It shows the two strands coming together at 'enabling environments'.

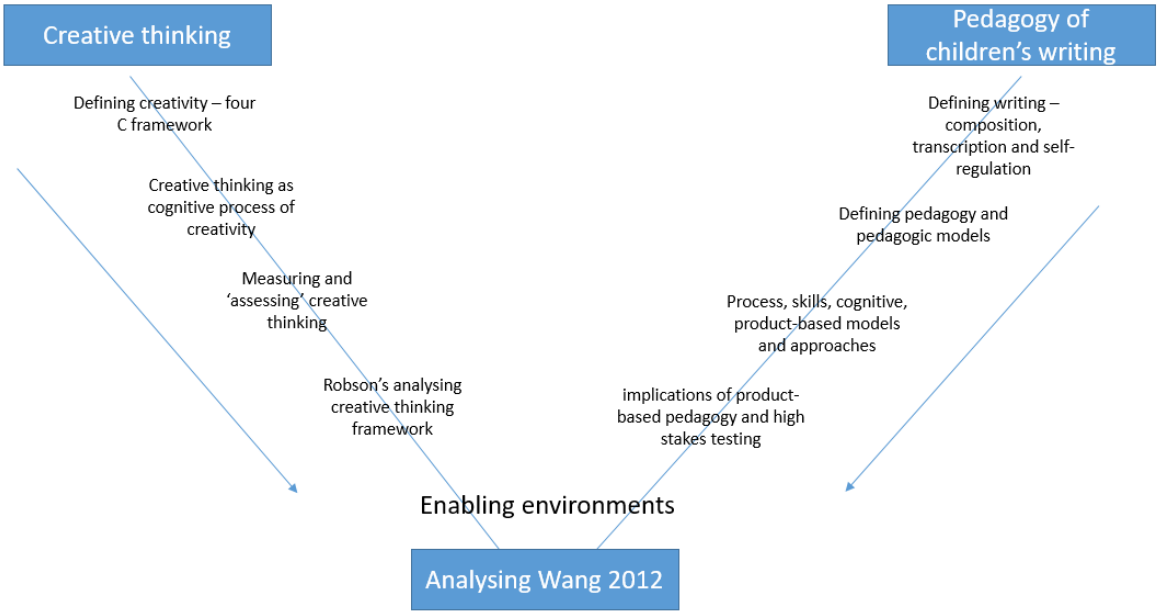


Figure 4: My diagram of Literature Review structure

Having begun the process of bring parts 1 and 2 of this literature review together by exploring enabling pedagogic environments, the final part of this literature review, part 3, analyses the methods and findings of one piece of empirical research I have found that brings together creative thinking and writing: Wang's (2012) exploration of the relationship between creative thinking and reading and writing. Whilst not focusing on writing pedagogy specifically, Wang's (2012) methodological approach and findings are particularly pertinent to my research. Analysing Wang's (2012) work will provide a useful bridge into my methodology chapter and her findings lead to two important correlations between creative thinking and writing to discuss my research findings against.

Part 3: Analysing Wang (2012): Exploring the relationship of creative thinking to writing.

2.25 Introduction

The purpose of part 3 of this literature review is twofold. The first is to analyse the work of Wang (2012) whose work is one piece of primary research I have found that explores the relationship between creative thinking and children's writing. In my review of available literature, there appears to be very little empirical work that explores this relationship but,

Wang's (2012) work, in my view is significant as her work does. Exploring this relationship is also in part what my research seeks to do. The second purpose flows out of this and that is to use my analysis of Wang's (2012) work to continue to bring together the two key areas of my research question: creative thinking and the pedagogy of children's writing. This I began to do in the last section of part 2 (2.23, p.73) by exploring enabling environments for creative thinking and writing. Wang (2012) suggests some correlations between creative thinking and writing arising from her research which could be viewed as evidence of creative thinking in children's writing. This is an important area to consider for my research as my first research question looks to explore how opportunities that children have to think creatively during the writing process influences their work. My third research question is linked to this and seeks to explore how creative thinking is evidenced in writing. Wang's (2012) work therefore is a key piece of published, empirical research that can provide some helpful benchmarking findings to inform my research. This part of the literature review will begin with a statement about the context of Wang's (2012) research and the implications for my research. It will then analyse Wang's (2012) definition of creativity and creative thinking and compare that with my position that forms the foundation of my research. Following that, Wang's (2012) findings and how they relate to my research will be considered.

This part of the literature review will conclude with a consideration of Wang's (2012) methodology including the creativity measurement tools she has chosen. These will be analysed alongside the more observational approach my research uses through my adaptation of Robson's (2014) Analysing Children's Creative Thinking Framework, (see figure 9, p.116).

2.26 Wang's research context and implications for my research

Although Wang's (2012) research takes place with Humanities and Science students in a university in Taiwan and my research participants are primary school children in the north west of England, Wang's (2012) research has much to offer in considering my research. The significance for my research is that Wang (2012) is exploring the relationship between creative thinking and writing and making correlations between them. Her work will therefore inform mine and her correlations and findings in one research context can provide a useful comparison tool for my findings.

Wang's (2012:39) position on creativity that is foundational for her research is that creativity is everyday thinking skills for everyone. This aligns very much with the position that my research takes. I have derived my position on creativity from Beghetto and Kaufmann's (2009) four C model, focusing on little c and mini c creativity (figure 1, p.21). These are defined as every day problem solving and personal learning and development. Wang (2012) has not utilised the four c model but has focused on Torrance (1988:57-58) who arrives at what he calls a survival definition of creativity and thinking, essentially problem-solving in the every-day situation. However, Wang (2012) develops this definition further by suggesting that creative thinking is about making connections but in problem solving, connecting the seemingly unconnected and so see the problem and possible solutions in new ways (Duffy 1998:19). The position that Wang takes here links to some earlier discussion in this literature review (section 2.11, p.35/6) regarding characteristics of creative thinking as making connections in new and innovative ways (Fink et al. 2007).

Wang's (2012) research focuses on creative thinking and its relationship to reading and writing. I will focus my discussion on her findings around creative thinking and writing and analyse those against what the literature throughout this review has revealed, writing being the most relevant, alongside creative thinking, for my research. The first finding of note is regarding attitude and motivation. Wang (2012) has made a correlation between lower creative thinking performance and those who in their questionnaires found writing boring or only wrote when required. Wang (2012) seems to be agreeing from her findings that creative thinking is an attitude that goes alongside motivation for writing. This finding supports her arguments from literature, drawing on McVey (2008), Scanlon (2006) and Sturgell (2008), Wang states that 'creativity is consistently associated with the abilities that are required for reading and writing' (2012:39). It could be interpreted from this finding that Wang (2012) is arguing that those who are less able writers and readers will also be less creative. Or perhaps Wang (2012) is suggesting that motivation to think creatively is linked with a motivation to write? This is interesting when literature I have explored (section 2.15) suggests that it is the transcriptional elements of writing children find more difficult and where children have more creative freedom in their choice and presentation of writing task they enjoy it more. Perhaps this is a case of where Wang's (2012) research context is an important factor?

Goff and Torrance's (2002) test uses categories that define creative thinking from a framework devised by Guilford (1967), cited by Paraskeva et al. (2015) and Deejring (2016). One of these categories is elaboration and this is arguably Wang's (2012) most significant correlation finding between creative thinking and writing. Within the questions on the ATTA (Abbreviated Torrance Test for Adults), adding additional detail, embellishing answers raises the elaboration level and students who scored most highly in this area on the ATTA test in Wang's (2012) research spent more time on writing and enjoyed it more. However, it is important to note that the majority of these students who scored highest on elaboration were university students studying humanities subjects as opposed to Science and Maths students, where perhaps motivation to write is stronger as students chose these subjects where more writing was likely and Wang does argue that 'the ability of elaboration, may naturally and more regularly develop from the humanities than other subject disciplines' (2012: 45). This contextual note that may influence Wang's (2012) findings will not necessarily be a factor in my research as my student participants are children doing humanities, science and maths in school. However, it will be interesting, in the light of Wang's (2012) conclusions to explore whether children who find writing difficult, or who use a skills or compliance discourse (Lambirth 2016) in my research, show less creative thinking attitude or display fewer creative thinking factors than those who enjoy writing.

Wang's (2012) research has provided a helpful insight into the relationship between creative thinking and writing. Her finding of elaboration being the most 'prominent and constant connection' (2012: 45) provides a helpful focus for my research and a useful starting point to explore my third research question 'How is creative thinking evidenced and how does this evidence influence writing process and product? Whilst elaboration is not an observation category in its own right on my observation framework for evidence gathering, elaboration is a part of analysing and communicating ideas, as through elaboration of ideas, adding more detail and embellishing, more understanding is communicated, flexibility in thinking demonstrated and resilience in the activity may well be maintained (Robson 2014: 129). Elaboration will also be noted during analysis of children's work and focus group discussion and appropriate correlation can be made if it exists in my research context. Wang's (2012) research provides a useful line of enquiry through which to analyse my research evidence. Although not explicitly exploring pedagogy for writing, Wang's (2012) research and findings around elaboration does raise some helpful pedagogic questions that feed into my first

research question which asks 'to what extent do opportunities to think creatively during the writing process influence children's work?'. Particular questions that arise here are linked to enabling environments for creative thinking and writing, such as, does task design allow for elaboration, through freedom of choice and expression? A second question could be around whether collaborative activity demands elaboration of argument, point of view and ideas to persuade and convince other group members? A third question may be linked to writing discourse: does the classroom discourse around writing focus as much on creativity, content and author's intent which children articulate as more motivating? (Wong and Moorhouse 2018:1). Wang has articulated that elaboration is a 'prominent… connection' (2012:45) between creative thinking and writing but I would suggest that if that is the case then it follows that elaboration is also a 'prominent… connection' (2012:45) between creative thinking and writing pedagogy through an enabling environment.

2.27 Wang's methods and 'assessment of creative thinking.

Whilst Wang's (2012) definition of creative thinking aligns with my position, her approach to 'assessing' creativity is very different to the approach I propose for my research. I have proposed an observational approach to evidencing children's thinking, having adapted Robson's (2014) Analysing Children's Creative Thinking Framework to use as an evidence gathering tool (Figure 9, p.116). I have chosen observation as an evidence gathering tool as opposed to, for example, a creativity test because it is more context embedded, children observed engaging in creative thinking in a problem solving context rather than a disembedded test situation. Wang (2012) however has utilised Goff and Torrance's (2002) ATTA creativity test as her method of gathering evidence of creative thinking. This test, according to Wang (2012: 39), assesses creative thinking ability in terms of what are often defined as key indicators of it: fluency of ideas, uniqueness of ideas or originality, details of an idea or elaboration and flexibility, the variety of ideas used in problem solving. These indicators, have formed the basis of the observable categories of Robson's (2014) Analysing Children's Creative Thinking Framework, but Goff and Torrance (2002) have used them to devise test questions. The ATTA test is a shortened version of the TTCT (Torrance Test of Creative thinking), a test devoid of context widely used in creativity research to measure divergent thinking. The challenge I have raised previously (2.12, p.79) in attempting to assess creativity in this way, is that a test relies on the person sitting the test's ability and

motivation under test conditions and to record responses in writing. What these tests do not do is evaluate a person's creative thinking within the context that it is required. Therefore Wang's (2012) use of a measurement tool such as a test is arguably not the most effective way of evaluating a person's creative thinking. Wang does however use a questionnaire with her participants enquiring of her participants their attitudes towards reading and writing, time spent on these type of activities and any background information about her participants. Wang's participants were young adults, not children unlike many of the participants in my research and so her choice of the ATTA test as opposed to the TTCT test designed for children was chosen. The questionnaire Wang (2012) chose to use did provide some additional contextual information to support her test findings.

Through the analysis of results arising from Wang's (2012) chosen methods: ATTA tests and questionnaires, two significant correlations between creative thinking and writing have been proposed. These are that elaboration of detail has been shown to be evident in the writing of those students who scored higher in the ATTA tests and that those who enjoy and spend more time writing also scored higher in the ATTA tests. Wang's (2012) chosen methods would appear to align with a post critical position (Savin-Baden and Howell Major 2013:64) as her chosen methods and analysis of results by deconstruction of test results and decoding of data would suggest this. This position is different to my own which is more social constructionist or even constructivist (Savin-Baden and Howell Major 2013:64). This will be explored in a lot more detail in chapter 3, following this section. Wang's (2012) research proposes some correlations between creative thinking and writing that do align with the literature I have reviewed. Her surmised researcher position and her chosen methods through which she has produced these results are different to mine, yet provide a useful tool to discuss my own methods and researcher position against and also analyse my own research findings in the light of those of Wang (2012).

Chapter 3: Methodology, Research Design and Data analysis

3.1 Introduction

Having concluded my review of literature (chapter 2) by analysing Wang's (2012) research methods, this chapter explores my research methods, underpinning methodology and approach to data analysis. Clough and Nutbrown (2012: 25) present a useful cooking metaphor to illustrate what a research methodology is. They suggest that in the creation of a particular dish (the research) a methodology would be the reasons for using a particular recipe, or in other words, the 'justification' for a particular research design (2012:36). Clough and Nutbrown go on to state that these justifications would include 'attempts to articulate assumptions that have been made, about what the world is, how it works and how we can claim to know things' (2012: 36). Using Savin-Baden and Howell-Major's (2013: 47) research lens analogy to structure this chapter, see figure 5 below, I will articulate, explore and analyse my assumptions to demonstrate how my choices of research methods arise from theoretical underpinnings. The paradigm, phenomenon, approach and data collection layers of the lens will structure this chapter and chapter 4 will present and discuss the data.

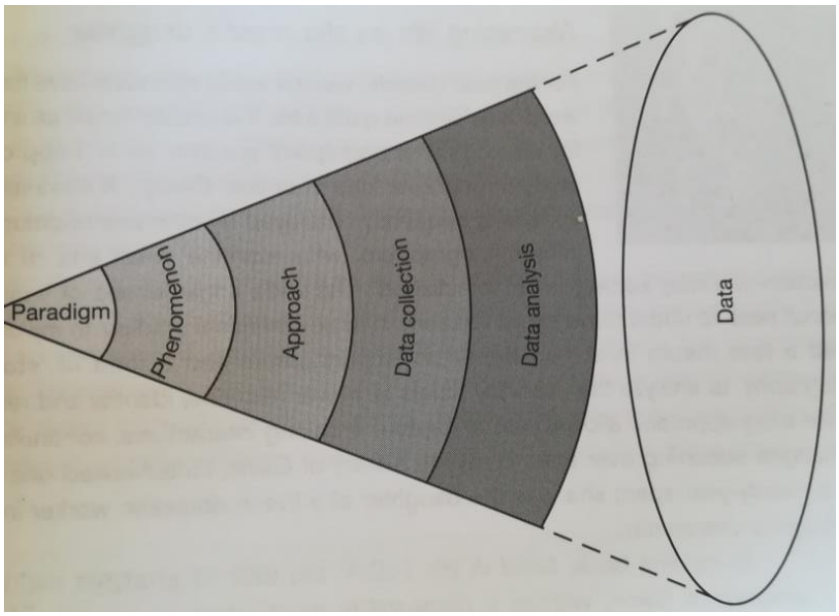


Figure 5: Set of Research lenses (Savin Baden and Howell-Major 2013:47).

Before providing a pathway through these lenses, the first assumption this chapter will explore is philosophical stance. This is a key 'building block' of research (Waring 2012:15) that 'informs perspectives, approaches and methods' (Savin-Baden and Howell-Major 2013: 54). Savin-Baden and Howell-Major (2013: 56) suggest that in the case of philosophical stances, or ontology that underpin research there exists a two way split between realism and idealism. Both of these stances will be explored in this chapter whilst emphasising my own stance, idealism. Following this, research paradigms will be examined. Paradigms are 'ways of looking at the world, different assumptions about what the world is like and how we can understand it' (Cohen, Manion and Morrison 2018:8). Different paradigms, also termed epistemologies (how social reality is understood, Cohen et al. 2018: 1) will be considered in this chapter including positivism and phenomenology, landing on the epistemology that best frames my research and aligns with my philosophical stance, social constructionism. Social constructionism can be defined as 'a focus on interpretation and negotiation of meaning of the world (Kvale 1996:41). The way I interpret figure 5 research lenses is that the paradigm lens is the first lens to be looked through and in order to see the data clearly, all the other lenses have to be aligned to that. The notion of the alignment of these lenses is an important thread running through this chapter.

Following discussion of paradigms, the approach I have chosen to take for this research, case study, will be explored. There is 'little consensus on what case studies are' (Blatter and Haverland 2014: 18), other than that they are empirical (Diefenbach 2008), aiming to see what is there (Stake 1995:44) and are more concerned with what is to be studied than a methodology choice (Flyvbjerg 2013:169/170). Justification for my choice of case study, its design and boundaries will be explored and discussed including how these choices align with my paradigmatic and philosophical assumptions. Limitations of my case study approach including generalisability (Nisbett and Watt 1984 in Cohen Manion and Morrison 2018:379) and also the potential for bias (Shaughnessy et al. 2003: 292) will also be discussed. Arising from this discussion, data collection choices will be justified. Each data collection approach I have used, interview, focus group, reflective journal and children's work will be explored and their use justified. Participant observation approaches including observation schedules such as my version of Robson's (2014) Analysing Children's Creative Thinking framework (figure 9, p.116) will be shared and discussed. Throughout discussion of data collection methods, issues of power relationships in my research will be considered.

This will lead into an exploration of my own position and the influence that I as a researcher, teacher and participant observer during the research can have on the case study with regard to bias. Savin-Baden and Howell-Major (2013:70) make the point that in qualitative research bias is often seen as negative and a problem with case study research (Diamond 1996:6) but Flyvbjerg argues that close proximity to reality as a participant observer is 'a prerequisite to advanced understanding' (2013: 190). My position, not just as a researcher and participant observer but also as a primary practitioner, school visitor, male and former tutor to some of the teachers who formed part of my research participants will also be discussed. Following this the ethical considerations of my research will be explored.

Using figure 5 research lens, chapter 3 will conclude with a brief consideration of how my approach to analysing my data, thematic analysis, aligns with my assumptions and research choices, discussion of the ethical considerations relating to my research, including informed consent, anonymity and confidentiality.

3.2 Choosing the framing lens: Paradigm (1): Philosophical Stance

By way of providing a justification for my research design, the first assumption to be explored and articulated is the nature of reality. Identifying a philosophical stance is part of the paradigm layer of Savin-Baden and Howell-Major's (2013: 47) research lens (figure 5). It is the first assumption to be explored as this 'determines how to undertake a given study' (Savin-Baden and Howell-Major's 2013: 53). In the introduction to this chapter I have used Savin-Baden and Howell-Major's (2013:56) assumption that there is a two way split between realism and idealism. Realism, they define as an objective reality that just exists and idealism, again defined by Savin-Baden and Howell-Major (2013:56) is that reality is deemed a fundamentally subjective mental construction. This split is also discussed by Cohen et al. (2018: 6) who emphasise 'subjective' and 'objective' to analyse the same assumptions as ways of interpreting social reality. Having identified a belief in how reality is interpreted, Cohen at al (2018: 7) go on to propose some significant implications for the researcher as a result of that belief. They argue that if a researcher interprets reality as something fixed and knowable as it really is, an objective or realist interpretation of reality, then the goal of their research is to discover what that reality is. However if a researcher interprets reality as something that is constructed in different ways by different people, an idealist or subjective interpretation of reality, then the goal of their research is more about

understanding how and why people interpret the world in which they live. Finding and articulating your assumption about the nature of reality therefore dictates the goal of your research and the approaches used to undertake it. The following paragraphs explore these two assumptions, realism (objectivity) and idealism (subjectivity) in more detail to better understand the primary assumptions I have made that underpins my research.

Arthur et al. (2012: 18) and Cohen et al. (2018: 14) firmly root realism within a positivist philosophy. Blatter and Haverland (2014: 9) state that positivism draws heavily on the rationality of formal logic and mathematics, assuming that an objective reality sits outside the subjective minds of researchers. This position is defined by Guba and Lincoln (2005: 196) as knowledge being verifiable hypotheses established as facts or laws and hypotheses generally verified through empirical scientific testing (Blatter and Haverland 2014: 9). A positivist stance is therefore seen as 'reductionist and deterministic' (Arthur et al. 2012: 18), where knowledge is reduced to 'context free generalisations, some of which take the form of cause and effect' (Arthur et al. 2012: 18). From a positivist view, the researcher's goal is to discover what this objective knowledge is through carefully controlled 'empirical observations and inductive reasoning' (Blatter and Haverland 2014: 10) so as to discover what is deemed by this belief to be objective truth. The establishment of cause-effect linkages as part of the positivist belief is also discussed by Guba and Lincoln (2005: 196) and Stake (1995: 38). Guba and Lincoln (2005: 196) define a positivist belief that knowledge accumulation includes the establishment of context free cause and effect linkages and this whole belief drives the types of questions a researcher may ask. Stake (1995: 38) provides an excellent example of this as he contrasts the positivist belief, research that seeks to establish cause and effect with a subjective belief, research that seeks to understand human experience. He suggests a positive cause and effect question: 'Is the fact that teaching loads have increased from four classes to five affecting the quality of the teaching?' (1995: 38). The search in this question is for a cause or explanation for the quality of teaching. His subjective question, as a contrast, is more concerned with human behaviour, 'Are the teachers residing outside the community doing less than a fair share of the work?' (1995: 38). It is a search for understanding rather than looking for a causal explanation. It is these types of questions, concerned with human experience where contextual factors play a part that are derived from a more idealist or subjective philosophical position.

Idealism is rooted within a subjective and interpretivist philosophy (Savin-Baden and Howell-Major 2013: 64; Arthur et al. 2012:18; Cohen et al. 2018:19). The central endeavour of the researcher making this assumption about reality is to understand the subjective world of human experience (Cohen et al. 2018:19). Unlike a realistic philosophy where reality is objective, a subjective or idealist philosophy suggests that reality is 'subjective and constructed by individuals and groups' (Savin-Baden and Howell-Major 2013: 57). It is created by a 'community narrative, itself subject to the temporal and historical conditions that gave rise to the community' (Guba and Lincoln 2005: 204). In other words, reality cannot be seen outside of the context within which it is observed. Cohen et al. (2018: 20) suggest that the interpretivist researcher begins with the individual, looking to understand their interpretation of the world, trying to see the social world through their eyes, uncovering and interpreting meanings. This is very different to the positivist researcher seeking causal explanation and proof of its truth. Stake develops this difference by suggesting that where 'quantitative researchers have pressed for explanation and control, qualitative researchers have pressed for understanding of the complex interrelationships among all that exists' (1995: 37). Stake, seems to be saying that the qualitative researcher, typically with an interpretivist philosophy, sees the process and goal of research as aiming to make sense of the interrelationships that exist between individuals and their social world from their perspective. The interpretivist researcher must therefore 'suspend or forgo their own assumptions about people and contexts' (Cohen et al. 2018: 20). Furthermore, a realist or objective view of knowledge would be too simple (Arthur et al. 2012: 18) whereas Stake (1995: 37) argues that for a subjective researcher, knowledge is much more complex as it is exploratory in nature and about investigating attitudes behaviours and interactions within situations (Cohen et al. 2018: 20). It is this interpretivist assumption that underpins my research.

In the introduction, I stated that Savin-Baden and Howell-Major (2013:56) suggest a two way split between an idealistic philosophical stance and a realist philosophical stance. This suggests that a researcher may hold one position or the other. However, Savin-Baden and Howell-Major (2013:64) place an objective (realist) and subjective (idealist) stance at either end of a continuum rather than as a binary choice. Along this continuum in between objective and subjective sits 'intersubjective' which Savin-Baden and Howell-Major (2013: 59) define as 'a mutual agreement, generally among a small group of people, about what is

real'. They go on to make further distinctions between realism and idealism along their continuum, offering pragmatism, phenomenology, post-critical and post-structuralism, social constructionism and constructivism. Rather than realist or idealist being a binary choice, Savin-Baden and Howell-Major (2013: 57) make the point that 'Qualitative researchers occupy different points along the continuum' that exists between realist and idealist. This concept of a continuum of philosophical position, in figure 6 below, is helpful to understand as I go on in the next paragraph to explore my own position.

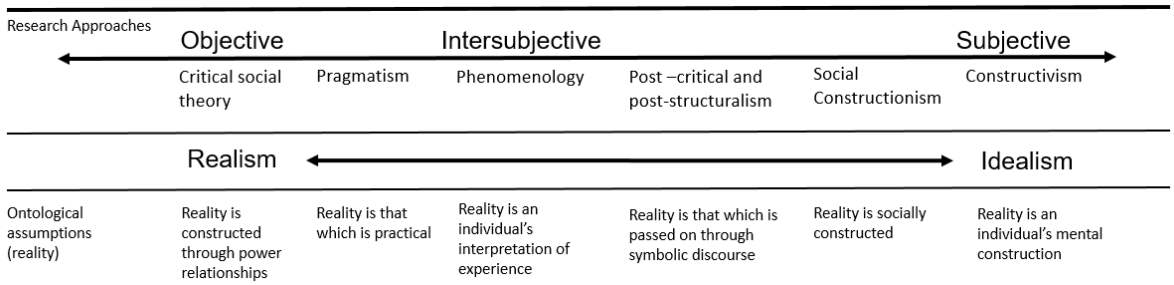


Figure 6: An extract from 'Comparison of perspectives in different paradigms'. (Savin-Baden and Howell Major 2013: 64)

Here I have outlined some of the key distinctions between a realist and idealist philosophical stance and introduced assumptions about reality along this continuum. O'Leary defines social constructionism as reality being constructed by 'human beings as they interact and engage in interpretation' (2017: 7) and this resonates with my own assumptions. This assumption sits towards the subjective end of Savin-Baden and Howell-Major's continuum and forms the lens that provides the filter for my research design. These 'assumptions form the starting point of all research' (Waring 2012: 16). It is this assumption about the nature of reality, termed ontology, which provides a foundation for three other related assumptions that frame research (Waring 2012: 16). These assumptions are firstly, epistemological, exploring the question of the 'relationship between the enquirer and the known' (Denzin and Lincoln 2005: 22). The second assumption 'what procedure or logic should be followed?' (Waring 2012: 16) and then, 'what techniques of data collection should be used (Waring 2012: 16). Savin-Baden and Howell-Major (2013: 46) in their discussion of research lenses, which is where I started the introduction to this chapter, discuss the need for alignment between these aforementioned assumptions. They argue that the research lens provides that alignment. The remainder of this chapter looks through my research lens,

founded upon a social constructionist, subjective philosophical position and explores the research design decisions I have made that arise out of this belief.

3.3 Lens choice continued: Paradigm (2): Epistemological assumptions underpinning research questions

The previous section has identified idealism as the lens that frames and underpins all of the research decisions that are made. However following this assumption about the nature of social reality, epistemological assumptions (Waring 2012:16) about how knowledge is gained should also be discussed. These assumptions form part of the paradigmatic filter that provide a foundation for decisions around methodology and methods. Savin-Baden and Howell-Major's (2013: 64) continuum of perspectives in different paradigms is used as a reference point to define my position. Throughout this section I will also demonstrate how there is congruence between the design of my research questions and my paradigmatic position.

My epistemological assumptions, arising from an idealism stance on social reality are defined by Savin-Baden and Howell-Major's (2013: 64) continuum as phenomenology and social constructionism. This is demonstrated earlier in figure 6. Phenomenological research is defined by Hammersley (2013: 27) Denscombe (2014: 94-5) and Marshall and Rossman (2016: 16-17) as research that aims to describe, interpret and explain a phenomenon, situation or experience by exploring the meaning of it as the participants / individuals understand it. In other words, making sense of the participants' understanding of the particular phenomenon. In the case of my research, my main focus is 'Exploring the influence of creative thinking on the pedagogy of primary-aged children's writing'. There are two phenomena here: creative thinking and the pedagogy of children's writing. My aim is exploratory: to interpret and make sense of how my participants understand these two phenomena and the complex interrelationships between them (Stake 1995:37). My research also involves many participants: approximately 180 children across six classes and three age groups and six teachers all of whom will have their own 'authentic meaning and interpretation, multiple realities and accounts' (Cohen et al. 2018: 300). As such from a

phenomenological position, I, the researcher will need to put aside any prior suppositions and seek to 'understand how everyday events and common-sense knowledge are as how they are perceived and sustained by the participants and what are the attitudes of the participants towards them' (Cohen et al. 2018: 300-301). In other words, interpreting how the children and teachers make sense of the approaches I have taken to develop the writing workshops which form the context for data collection. Furthermore how they understand creative thinking and the attitudes they have towards writing pedagogy. Therefore the research I am undertaking from a phenomenological assumption emphasises the 'fully described, subjective experiences, perceptions, interpretations, attitudes, beliefs… feelings and meanings' (Denscombe 2014: 94) of my participants. The key emphasis here is on the subjective experiences of my participants as the beating heart of the research, rather than what might be seen as an objective construction of reality. This emphasis is evidenced in my three research questions;

1) From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?
2) From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?
3) From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?

My phenomenological assumptions are evident in the language of the questions. Each question begins with an adverbial that emphasises my interest in the subjective experiences of my participants. Embedded within each question is the desire to make sense of how my participants are interpreting the context they are in: asking them to interpret the phenomena themselves in their context with their influences. The word 'influence' in my research focus title and in questions two and three has been carefully chosen and arises from a phenomenological assumption. It is a word that suggests subjectivity of interpretation, so by using it deliberately I am seeking perceptions and personal interpretations of, for example, the effect of external factors on writing pedagogy and the effect of creative thinking on writing process and product. I am not seeking an objective status of their experiences (Cohen et al. 2018:301) but subjective interpretation. O'Leary (2017: 149) defines this phenomenological assumption as understanding lived experience. In O'Leary's view, phenomena, 'sit at the intersection of people and objects and centre on

an individual's lived experience of these objects' (2017: 150). The object, a construct freed from its constructed meaning in this context is school. O'Leary is making the point, I would argue that it is the 'complex interrelationship' (Stake 1995:37) of phenomena, participants and object that is the focus of phenomenological research. In the context of my research, the emphasis, from a phenomenological assumption is how my participants make sense of the complex relationship between creative thinking, writing pedagogy and the school context within which they operate.

Phenomenology sits within the mid-point intersubjective period on Savin-Baden and Howell-Major's (2013: 64) continuum and so whilst not perfectly aligning to their definition of idealism it does sit within its direction. Alongside phenomenology sits, I would argue, the epistemological assumption of social construction. Savin-Baden and Howell-Major (2013: 64) suggest that this assumption is further along their continuum towards idealism, but I would argue that there are significant links between phenomenology and social constructionism. Whilst I do make the phenomenological assumption that reality is an individual's interpretation of experience (Savin-Baden and Howell-Major 2013: 64), I also make the assumption that knowledge is socially constructed. Therefore my research is founded upon the epistemological assumption that 'not only is there an individual construction of reality but a social construction of reality' (Berger and Luckmann 1966: 27 in Cohen et al. 2018: 301). An understanding of reality is shared rather than self-oriented with synergetic or even multiple realities. What this means in the context of my research is that any new reality will be constructed by the bringing together of individual interpretations to form shared or multiple realities. This is evidenced again in the language of my research questions, the pluralising of teachers and children in every question suggests that new realities will be constructed from the interpretations of the teachers and children from each class, a socially constructed reality rather than one sole interpretation of reality. My research design also encourages this social construction and will be explained later in discussion of data collection methods.

Losantos et al. (2016: 31) outline eight principles of a social constructionist epistemology. The remainder of this section will explore the more illuminating of those principles and demonstrate how each principle applies to my research. The purpose of this exploration is

to further demonstrate alignment between epistemology and research and my selection of what I see as the most relevant principles illustrates this. The first principle outlined is that a social constructionist position assumes that reality is based on the interactions of the participants with their context. Consequently 'findings depend on the moment when research is conducted; therefore, they may not be generalizable, absolute, or replicable' (Losantos et al. 2016: 31). From this perspective, the context for my research, time, place, curriculum, teacher pedagogy and participants have great significance for they frame the socially constructed reality. The second principle outlined by Losantos et al. (2016: 31) is that a social constructionist assumption implies that people are growing and developing. Through their construction of knowledge people are changing all the time, the implication being that research participants are not static. For my research, this principle is inextricably linked with the first one around the role of context. Any social reality constructed through my research belongs to the time when the data was collected as those participants are in the ongoing process of change, development and moving forward and this should be recognised in any conclusions made. The third principle outlined by Losantos et al. is that 'language constitutes reality' (2016: 31). Kham (2013: 33) states that language is a vital tool for understanding and viewing the world as it is the tool through which humans interact. Burr (2007:8) develops this by introducing a social constructionist perspective here. He states that the world gets constructed when people talk together. In the context of my research therefore the language used by my participants in their interpretation of the phenomena, captured through data collection, is important as a tool for thinking together (Mercer et al. 2004: 375). Language is the outward expression of thought in most interactions and so the language captured in my data will provide significant evidence of how my participants not only interpret their own social reality but also use the experience and interpretation of others to construct shared or multiple realities. The fourth of Losantos et al.'s (2016) principles connects to the previous focus on language. That being the assumption that reality is constructed through interactions and social processes rather than 'taking an X ray of the subjects under investigation' (Losantos et al. 2016: 31). The subjects, in this case, my research participants are not seen as static entities where under the scrutiny of an ultra violet research light reality can be discovered. Instead they are complex individuals whose essence cannot be statically photographed like an x-ray, rather, the interactions between them and the phenomena become part of the data to be collected. Furthermore, this epistemological assumption has influenced the way I have worked with the phenomena of creative thinking and writing pedagogy themselves. The final principle I

have selected is principle eight. Losantos et al. (2016: 31) argue here that a social constructionist assumption is one that promotes curiosity within the research process rather than seeking to 'know'. They also argue that a social constructionist researcher will not seek to apply an already known theoretical framework to their data but to see 'what is in the eyes of the participants, freed from researcher preconceptions' (Denscombe 2014: 99) and this is one of the aims of my research approach. In fact Losantos et al. (2016:31) add that the research from this perspective must acknowledge which data fits existing theory and which does not and the 'does not' data can help construct another reality. For my research, this means laying aside my own perspectives and bias (section 3.11, p.134) on how creative thinking influences the pedagogy of children's writing and embrace any data that 'doesn't fit' existing theoretical frameworks. The process of data analysis could therefore become messy, non-linear and complex. Having outlined my epistemological assumptions in this section and demonstrated how they arise from my philosophical stance, the upcoming section brings the next layer of the research lens (Savin-Baden and Howell-Major 2013: 47) into focus and that is, research approach.

3.4 The next layer of the lens: A case study approach to research design

Case study is a term that is not easily defined. It is not easily 'summarised as a single, coherent form of research' (Stark and Torrance 2005: 33). As a concept it causes debate, seen not so much as a methodological choice but more of a choice of subject to be studied (Flyvbjerg 2013: 169-170). However, Blatter and Haverland (2014:15) argue that it is a methodology used to study a single case or comparative cases. Case study has been used pragmatically with a clear and structured design (Yin 2014: 50) or a conceptual structure that has understanding the case at its centre (Stake 1995: 16). On the other hand, Van Wynsberghe and Khan (2007: 1) define case study as a heuristic, a tool to enable learning about a phenomenon. They also illustrate the plethora of definitions and approaches to case study by suggesting the term is 'used as a catch-all category for a variety of research methods, methodologies, and designs and as a result, loses its meaning' (2007: 1). Yazan addresses this plethora of approaches by stating that 'Research methodologists do not have a consensus on the design and implementation of case study, which makes it a contested terrain and hampers its full evolution' (2015: 1). Yazan (2015) illustrates this statement by exploring the perspectives of those who he argues are three seminal authors on case study research, Yin, Merriam and Stake. One of the reasons for their different perspectives could

arguably be their differing epistemological positions. Yazan (2015:136) argues that Yin leans towards positivist assumptions in his approach to case study, whereas Stake suggests that case study should be in the domain of the qualitative researcher because knowledge is constructed rather than discovered and case study demonstrates this (Stake, 1995: 99). Merriam's assumptions are more aligned with Stake's, following a qualitative paradigm with the 'view that reality is constructed by individuals interacting with their social worlds" (Merriam, 1998: 6). Merriam's perspective is that there are multiple versions of reality socially constructed by people and the goal of case study research is to explore this. Whilst it is not my aim through this section to argue for or against a specific definition of case study, I do align more to Merriam (1998) and Stake's (1995) perspectives. Their qualitative assumptions are more aligned to mine rather that Yin's (2014) more positivist approach.

As I have stated in the introduction to this chapter, philosophical stance 'informs perspectives, approaches and methods' (Savin-Baden and Howell-Major 2013: 54), therefore the primary aim of this section is to demonstrate how case study as a research approach provides congruence with my ontological and epistemological assumptions. As my research is concerned with how individuals interpret their reality and socially construct their interpretations to achieve a shared or multiple reality within their context then an appropriate research approach is needed to explore this. Following Merriam's (1998:6) assumptions, Stark and Torrance state that case study 'stresses social interaction and the social construction of meaning in situ' (Stark and Torrance 2005:33) thus it is epistemologically aligned to my perspective. It is an approach that focuses on process and as Stark and Torrance go on to add, 'Case study assumes that social reality is created through social interaction…seeking to identify and describe' (2005: 33) the reality within the context that it takes place. Therefore it is an approach very much within the social constructionist assumption about how knowledge is created. A case study approach to research is furthermore aligned to my epistemological assumptions because it does not aim to discover any objective reality or solve a problem, it can be the description or interpretation of a situation, looking in depth at a phenomenon and from a variety of angles (Thomas 2011: 13). Case study gives the researcher a vehicle to 'provide a highly detailed, contextualised analysis of an instance in action' (MacDonald & Walker, 1977: 182 in Van Wynsberghe and Khan 2007: 83). These arguments all suggest that through the approach of case study, my aim is not to discover objective reality or general cause and effect linkages

but to identify and interpret socially constructed knowledge relating to the chosen phenomena within my participants' context. It follows therefore, that the case study approach is also rooted in providing 'concrete case knowledge' (Flyvbjerg 2013: 173) or context-dependent knowledge (Flyvbjerg 2013: 172), such as the type of knowledge I aim to construct through my research. This is echoed by Stark and Torrance (2005: 33) who state the importance of context as it facilitates a rich description of the studied phenomena from the research participants' perspective.

Stark and Torrance (2005: 33) do identify the context-based nature of knowledge construction within case study as a weakness as they state that it is not possible to generalise from it. However, Flyvbjerg (2013:172) suggests a counter argument. He suggests that valuing general, theoretical knowledge over concrete case knowledge is a misunderstanding. Context-dependent knowledge, Flyvbjerg (2013:173) argues, is at the very heart of knowledge and expertise, suggesting that it is only through context case experience that knowledge can be transformed from a beginner level text book knowledge to an applied expert knowledge. He argues that context-embedded knowledge is higher applied knowledge than text book or rule-based knowledge. This is described as case knowledge, rooted in a context and is more valuable. With reference to my epistemological and ontological assumptions, one reason for the choice of case study is because it does emphasise contextual knowledge focusing on the case itself. Stake comments that case study research is 'done by people who have intrinsic interest in the case' (2005: 450). My research focuses on understanding what is important about the case and phenomena in the world of the participants not in the general world. The focus is on what Stake (2005: 450) calls a 'thick description' of the issues, contexts and interpretations particular to the case rather than to seek universal truths or realities. For my research the context of the school, the curriculum, the children and teachers are fundamental to the construction of any new knowledge. Whilst the DFE (2013)'s National Curriculum is followed by the school, their application of it to their school situation and children's learning needs is an important context which influences the teachers' pedagogy. This alongside the social and economic contexts of the children and how they as individuals interact with that curriculum also forms an important contextual factor. This will be expanded upon further, later in this section where the boundaries of the case will be explored.

Case study also 'offers a means of investigating complex social units consisting of multiple variables of potential importance in understanding the phenomenon' (Merriam 1998: 41). Classrooms, within which my research takes place, are complex social units with a huge variety of interactions, power relationships, influences and dynamics between teachers and children and involve many variables that cannot be quantified or always accounted for and predicted. Within a case study frame, these multiple factors and relationships can be directly observed (Fidel 1984: 12). Because the case study is anchored in a real life situation, in the case of my research, teaching and learning within primary classrooms within a school environment, the case study research results in rich in-depth description and holistic interpretation of how the phenomena (creative thinking and writing pedagogy) are understood within the context (Merriam 1998: 41). The context therefore provides the boundaries of the case within which exploration of the phenomena can take place. Merriam (1998:42) also articulates some limitations to case study as a result of the research focusing on complex social units. She cites Guba and Lincoln (1981: 377) who suggest that the focus on social units can lead to either an exaggeration or oversimplification of how a phenomenon relates to the context and can lead to erroneous conclusions. This concern is developed by Flyvbjerg (2013: 187) who suggests that case study does allow more room for the researcher's subjective and arguably arbitrary judgement, often seen as less rigorous than more deductive methods.

To summarise this section, case study has been chosen as an approach to my research because it aligns with my epistemological and ontological position. Case study aligns with my social constructionist assumptions in that it stresses 'the social construction of meaning' (Stark and Torrance 2005: 33). Stake (2005: 450) describes the case study worker as phenomenological, again connecting to my epistemological assumptions, as they are interpreting the phenomena, in the case of my research, creative thinking and writing pedagogy is interacted with in relation to the research participants from their perspective in their context. Whilst there are arguably some limitations, outlined above and discussed later in section 3.6 (p.112-114), case study as an approach makes sense in terms of coherence. Although I have used the term 'approach' to describe case study in this section, case study in my research context could also be described as a heuristic (Stark and Torrance 2005: 33; Van Wynsberghe and Khan 2007: 80; Ellinger and McWhorter 2016: 3). The term 'heuristic' is attributed here because case study research also has the aim of illuminating

'the researcher's understanding of the phenomenon under study" (Merriam 1998: 30). One of my aims through exploring my research questions is to understand better the phenomena of creative thinking and writing pedagogy.

Flyvbjerg (2013: 170) provides three main factors that define whether a case study is a case study or not. The first I have alluded to through this section so far: the case study provides rich detail. For the second it is more suitable to return to later. The third of his three has informed specifically how my approach to case study has developed and that is that 'case studies stress developmental factors, meaning that a case typically evolves in time often as a string of concrete events that occur at such a time in such a place' (2013:170). My research has involved a series of six concrete events (writing workshops) that have taken place over a two year period in the same school with different year groups and classes and so the research has evolved in time, the findings from data collected during each event informing the design of the subsequent events. The way I have designed this case study is diagrammatised in figure 7 below;

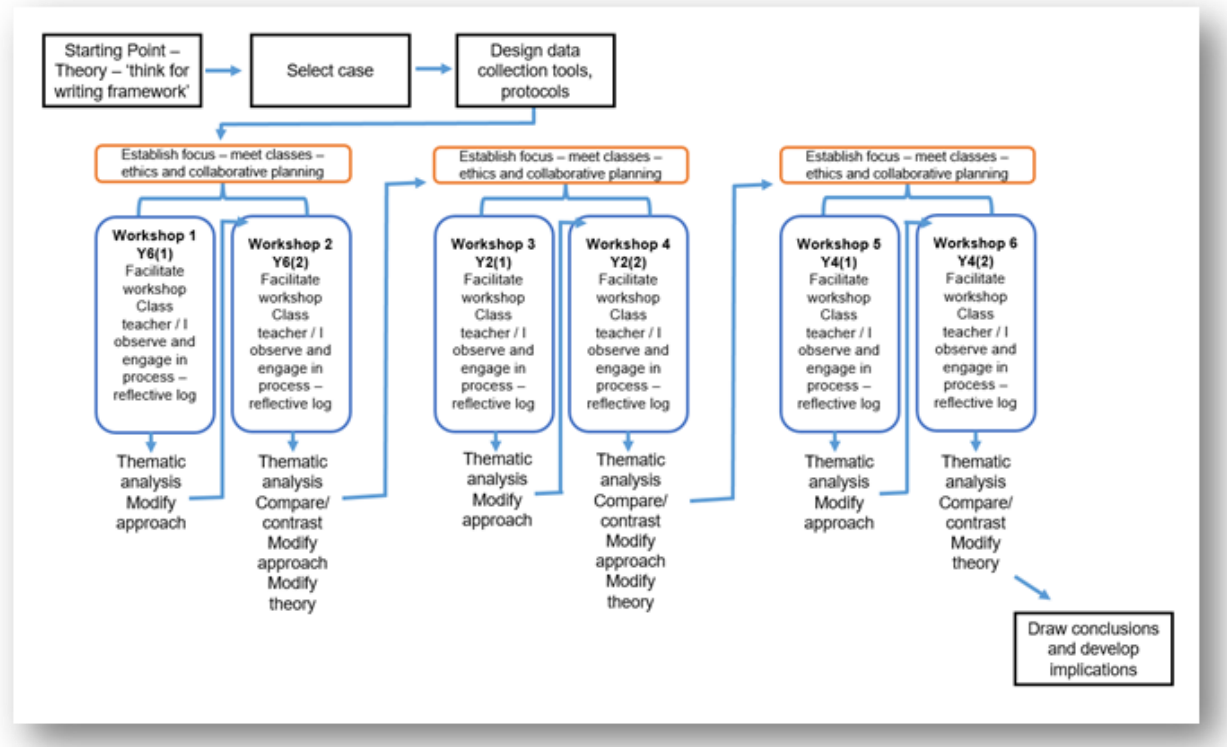


Figure 7: The developmental design for my case study.

The starting point theory for my research was developed in a prior research project, exploring connections between creative thinking and higher attaining writing in one class in a primary school (Copping 2016b). The four main findings from this piece of research were, the importance of creating an environment for thinking, valuing the writing

process, giving a tangible purpose for writing and the importance of high expectations. These findings were developed into a starting point framework through which to develop the first two of the six writing workshop events. This framework, titled 'Think for Writing' is presented below in figure 8.

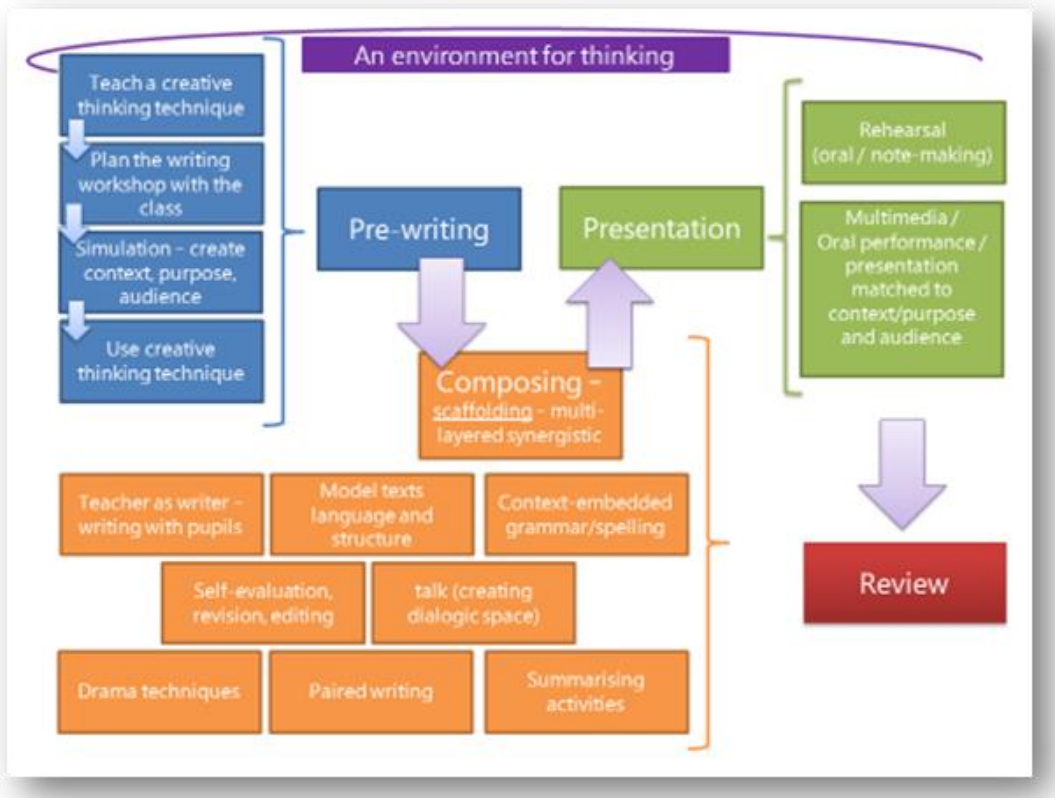


Figure 8: 'Think for Writing' starting point framework

One of the aims of this research, through exploring the research questions is to develop this framework as a result of findings from analysing data from the writing workshop events. Each framework development will be presented in chapter four as the data is analysed and presented.

During this section I have discussed how case study is the most appropriate approach for my research arising from my ontological and epistemological assumptions. I have also articulated how I am using a case study approach for my research with a focus on its developmental nature. The following section returns to Flyvbjerg's (2013) second factor for determining case study, seeing it not in terms of a methodological choice but because of the choice I have made of what is to be studied (Flyvbjerg 2013: 170). What Flyvbjerg (2013: 170) is referring to here are the choices made around the case such as the case site, the number of participants and the time frame, the boundaries of the case. In addition, Savin-Baden and Howell-Major state that a case study 'tends to be bounded, which means that it

is focused and intensive as well as narrow in scope' (2013:154). Flyvbjerg (2013: 170) adds that the demarcation of the case's boundaries is decisive for the case study and it is the boundaries of my case that will be discussed in the following section.

3.5 The boundaries of my case: Introducing Parklands Primary School *(Pseudonym)*

The context case for my research is bounded by a particular primary school in the North West of England. Savin-Baden and Howell-Major (2013: 153) citing Creswell (2003) and Stake (1978) provides some suggestions for how a case could be bound: by time and place, time and activity and definition and context. In the context of my research, most of these suggestions can be applied. One school was chosen to provide the first boundary for the case because my aim is not to compare and contrast practices across schools and contexts more to interpret meaning within a context with the aim of developing theory (Savin-Baden and Howell-Major 2013: 156). As stated in the previous section, one of my aims in exploring the research questions is to continue to develop a theoretical framework starting with the above figure 8, developed from previous research.

The school that was chosen, Parklands Primary school, to be the bounded system was because it is a school that is of interest to me as the researcher (Gomm et al. 2011:23, Crowe et al. 2011:). Firstly, over a period of several years, I had been asked by teaching staff members, in my capacity as senior lecturer in primary education, to support them in their newly qualified and recently qualified teaching years. These staff members had previously been students on the teacher education course on which I teach and lead. I had also, in my capacity as a historical re-enactor been invited to provide experiential 'English Civil War' days of learning and activities for two of the classes. I was therefore known to the school and had an existing professional relationship with them. This is an important contextual note that could be an influencing factor in my research, examined further in discussion of reflexivity later in this chapter. Secondly, Parklands Primary school was chosen because of the socio-economic demographic it has. Parklands Primary School serves the community of Manor Park estate (pseudonym). An analysis of the challenges facing the estate was completed in 1998 by the county's police division who reported that Manor Park, 'is a socially deprived area. It is the largest council populated area per head of local population in

England. It was suffering high rates of crime and disorder. A hard core of tenants were involved in crime, drugs and disorder…' (1998: 1). At the time of my research, crime had been significantly reduced but the police were regular visitors to Parklands Primary. Hanscombe et al. (2011: 1212) posit that this chaos in the lives of children living on the estate, most attending Parklands, has a direct correlation to poor performance in school. Shared environmental factors, such as those affecting Manor Park estate, according to Hanscombe et al.'s (2011: 1213) study accounts for (63%) of the correlation. This chaos and trauma as a result of these environmental factors could arguably expose the children living there to Adverse Childhood Experiences (ACEs) (Bethell et al. 2014) which include crime, social discrimination and deprivation. Dahlitz (2017) discusses the nature of the impact of these ACEs on brain development, especially the pre-frontal cortex part of the brain, responsible for creative thinking, reasoning and concentration amongst other functions. Dahlitz (2017) assigns reduced interconnections between lobes within the pre-frontal cortex to early trauma. Therefore the choice of Parklands Primary for my case is very important. Exploring the influence of creative thinking on writing pedagogy with children who, due to early trauma experienced because of where they live, have impaired creative thinking as part of their brain architecture could certainly develop my understanding of that phenomenon and its influence upon writing and the teachers' writing pedagogy.

As well as the choice of Parklands Primary School as a boundary for my case, another boundary that frames my exploration is time. At the time my research began in 2017, the school had received an Ofsted grading of 'requires improvement' (Ofsted 2015), largely due to poor pupil performance and just as a new leadership team took charge. Ofsted's findings at this time influenced my exploration of the phenomenon of writing pedagogy as they stated that not enough pupils were making expected progress in writing. This report identified a lack of consistency in English teaching across the school. In order to facilitate levels of consistency required across the whole school, the senior leadership alongside the English subject leader bought in and later developed a whole school systematic, skill-based pedagogy approach scheme for staff to utilise. This whole school system standardised the approach to writing pedagogy across the school. It is based on educational trainer and author Pie Corbett's talk for writing approach and used his language of cold task and hot task (Corbett 2020). Each week followed a structure of introducing a genre, children then having a go at writing in that genre (a cold task), deconstructing a text, then reconstructing

it through scaffolded support leading to an individual written piece (hot task). Therefore as I began my writing workshop events in the autumn of 2017, this system had been embedded for a full academic year and children and teachers were used to this approach. Ofsted had returned in May 2017 rating the school as 'good' reporting on the success of the new English approach in raising performance and attainment. 'Teachers have developed pupils' writing skills carefully and as a result writing has improved across all groups of pupils' (Ofsted 2017: 1). Against the measure that Ofsted use to evaluate effectiveness, which includes attainment test results and data, this approach was clearly bearing fruit in terms of attainment for these children in this context. It was therefore within this context that I undertook my research into creative thinking and its influence on writing pedagogy, with writing workshops planned that were very different to the pedagogy with which the children were familiar. My writing workshops would take place over the whole day as opposed to one hour per day over a week. The design of my workshops included some creative elements, which were not part of the school's approach. The focus of my workshops, particularly the first two workshops, as a result of my earlier research (Copping 2016b) would focus more on the process of thinking and writing as opposed to the focus on the children's final product at the end of each week.). Please note that actual references from Ofsted are not used here for ethical reasons to safeguard the anonymity of the school.

I have discussed two of my case's boundaries: one school, Parklands Primary and the significance of the time period when my research was conducted. The final boundary to demarcate my case is the particular classes and teachers with whom I worked. Mills et al. (2012: 3) discuss some practical constraints for bounding the case and the boundary of classes and teachers in my research is primarily practical. Parklands Primary school had a roll of 415 and a teaching staff 22 at the time my research took place so the time and manageability of the research played a factor here. Each year group at Parklands comprises two classes, so with 'negotiation of access' (Mills et al. 2012: 30) it was decided my research would be undertaken with three different year groups and both classes in each year group. The year groups chosen in negotiation were year 2 (children aged 6 and 7), year 4 (children aged 8 and 9) and year 6 (children aged 10 and 11). Due to preparing year 6 children for end of primary school standardised assessment tests in the spring term it was decided my first research workshops would take place with year 6 in autumn 2017. These year groups were chosen to give a range of primary school ages for my research, but also practical

considerations such as senior leaders making decisions based on their knowledge of the teachers and children in these classes and how they believed they would manage with the work I was proposing.

3.6 The limitations of a case study approach

Having explained my approach to data analysis, the following section considers some of the limitations of a case study approach. Flyvbjerg (2013: 171- 195) presents a strong defence for case study research against five limitations or misunderstandings commonly levelled against it as a research approach. These centre on theory, reliability and validity Flyvbjerg (2013: 172) and the aim of this section is to show how these have been considered in my research. These five misunderstandings are stated below and the key points they make will be discussed following this;

1. *General theoretical knowledge is more valuable than concrete case knowledge;*
2. *One cannot generalise on the basis of an individual case; therefore, the case study cannot contribute to scientific development;*
3. *The case is most useful for generating hypotheses…while other methods are more suitable for hypothesis testing and theory building*
4. *The case study contains bias towards verification, that is a tendency to confirm the researcher's preconceived notions;*
5. *It is often difficult to summarise and develop general propositions and theories on the bases if specific case studies.*

Flyvbjerg (2013: 171-172)

The first of these misunderstandings has already been discussed in the section on case study approach (3.4, p.104/5). Therefore here I will address misunderstandings 2-5 considered by Flyvbjerg (2013: 171-195), concerning generalisability and validity including bias. Cohen et al. (2018: 380) consider the concept of generalisability in case studies highlighting, through citing Robson (2002: 183) and Yin (2009: 15) that case studies use analytic rather than statistical generalisation. Yin (2009: 15) states that in analytic generalisation the case study has the ability to contribute to the generalisation of theory, helping a researcher to gain a wider understanding of a particular phenomenon. The strength of the case study is that it

represents the case and does not claim to represent anything wider. Statistical generalisation, however, is about moving from a representative sample to a population focusing on particular sampling strategies (Cohen et al. 2018: 380). Stake (1995: 85) supports this view, suggesting that although single cases may not provide a strong base for generalising one can learn much that is general and transferable from single cases. Savin-Baden and Howell-Major (2013: 164) are in agreement as they suggest that dependence on a single case is good for theory building. Generalisation is lauded, certainly from a more positivist perspective as a feature of effective research, as Mintzberg, seeing generalisation as purely statistical remarks 'If there is no generalizing beyond the data, no theory. No theory, no insight. And if no insight, why do research?' (2005: 10). However, Flyvbjerg (2013: 177) suggests that generalisation, and here, considering his earlier writing, could well be referring to statistical generalisation, is overrated as the main source of scientific progress. Knowledge, Flyvbjerg (2013: 177) argues, may be transferable even if it cannot be formally generalised, he goes on to add that a descriptive phenomenological case study such as mine, without any attempt to generalise can be of value and provide valuable evidence towards wider understanding of the phenomena under scrutiny.

Another limitation often levelled as case study research is validity Flyvbjerg (2013: 172). Yin (2014: 45) and Cohen et al. (2018: 381-2) discuss a set of 'tests' that social scientists can apply to their research to mitigate against this danger. These are concurrent validity (using multiple sources of evidence), internal validity (using pattern matching), external validity (using theory) and construct validity (using accepted definitions and constructs of concepts and terms). Whilst the notion of applying tests has its roots in positivism and my research is interpretive, many of these 'tests' have been applied. For example, I have multiple sources of evidence to develop themes from, pattern matching across those data sets and accepted definitions of writing pedagogy and creative thinking also root my research in established theoretical frameworks. However, other elements such as Yin's (2014: 45) reliability test are harder to reconcile. Within this test Yin suggests using case study protocol, however Stake, rooted in a more interpretivist paradigm, suggests that whilst protocols can be helpful, there is still 'much art and much intuitive processing to the search for meaning' (1995: 72). This coheres with my thematic approach to analysis which acknowledges that analysis happens at the intuitive level (Savin-Baden and Howell-Major 2013: 440). The application of some of these 'tests' may satisfy some traditional concerns about validity in case study research, but another validity accusation levelled at the case study researcher is bias

towards verification. Flyvbjerg (2013: 186) states that this is understood as a tendency for the research to 'confirm the researcher's preconceived notions' Flyvbjerg (2013: 187) states that case study allows more room for a researcher's preconceived, subjective and even arbitrary judgement and that it is a method seen as less rigorous than other approaches. However, Norris (1997: 174) comments that completely eradicating bias from research is almost impossible. He cites a list of potential opportunities for bias that are easily identified. These include: selection bias around participants and site of the case; the affinity of the researcher with the participants; and in fact the part the researcher plays in the process. Norris's (1997: 174) suggestion is that the researcher should consider ways to make the social process of research as honest and fair as possible so as to enhance quality.

Having defined the boundaries of my case, presented limitations of case study research and how I deal with this, the following section brings the next layer of the research lens (Savin-Baden and Howell-Major 2013: 47) into focus and that is, data collection methods. Through this next section, data collection methods will be explored and justified, demonstrating alignment with my chosen research approach of case study and therefore my epistemological assumptions.

3.7 The next layer of the lens: A focus on data collection methods

Yin (2014: 106) cites six sources of evidence that case study researchers typically use. These are documentation, archival records, interviews, direct and participant observation and physical artefacts. Stake focuses significantly on observation as it 'works the researcher toward greater understanding of the case' (1995: 60). Observation is the first of my data collection methods to be explored in this section.

3.8 Using participant observation as a source of evidence

Using the metaphor of researcher as traveller (Kvale 1996: 4), participant observation was chosen as an approach to walk alongside the children and teachers' and listen to their interpretations. As a traveller walking the journey with the teacher and children participants in my research allowed me to see them making sense of the phenomena, creative thinking and writing pedagogy within their context. It could be argued, that as the leader of the

writing workshop events that formed the context for my data collection, I could not truly be a participant, however Savin-Baden and Howell-Major (2013: 394) posit that if one is engaged in 'fieldwork' then one has to be participating. They suggest a continuum of participation from peripheral participation or least involved to complete participation (most involved). In the context of my study, as facilitator, engaged and interacting in the learning with the class teacher and children I would rate my participation level as active. I was facilitating and leading the workshops, but I was also actively discussing observations with the class teacher and engaging with the children to discuss their experiences and support them during the process. In this role, I was better positioned to interpret the learning and understand the subjective experiences that the children and teachers (participants) were constructing. This was more effective than being a peripheral participant as in line with my socio-constructionist and phenomenological assumptions, my research was not about maintaining a detached point of view, rather functioning within the case study site as well as observing it (Savin-Baden and Howell-Major 2013: 396). Based on Robson 2014's Analysing Children's Creative Thinking Framework, (section 2.13, p.42-8), figure 9 below was used as an observational tool to provide prompts for observing evidence of creative thinking. This framework was used by each class teacher and myself during each writing workshop.

Record of observations

Please use initials so I can use this data verbatim where appropriate

Class: **Observer:**

Observing what they do	
Exploration *Exploring* *Engaging in a new activity* *Knowing what you want to do*	
Involvement and Enjoyment *Trying out new ideas* *Analysing ideas* *Speculating* *Involving others*	
Persistence *Persisting* *Risk taking* *Completing challenges*	
Observing the attitude within which they do it	
Embrace complexity *Embrace uncertainty and ambiguity* *Embrace pretence*	

Observation sheet based on Robson's 'Analysing Children's Creative Thinking framework' (2014) and includes concepts from Sternberg (2003) and Meadows (2006)

Figure 9: Teacher Participant Observational Framework (developed from Robson 2014; Sternberg 2003 and Meadows 2006).

Savin-Baden and Howell-Major (2013: 398), citing Merriam (1998), state that the observation must fit with the purpose of the study and the research questions. Focusing the observation on the phenomenon of creative thinking throughout the writing workshop sought to gather information on my third research question 'From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence

influence writing process and product'. It also facilitated information gathering on research question one which focuses on how opportunities to think creatively during the writing process influence children's work. Opportunities were also there to gather information exploring question two around how the children engaged with and managed the creative thinking approaches in the context of the usual pedagogical approach the school employed.

The class teachers during each writing workshop also used figure 9 as an observational tool and partnered with me in observation. Each teacher was briefed beforehand regarding the purpose of each observation. Kleinmann et al. (2011: 253) in the field of health describe a similar approach where professionals learned more about the studied phenomenon through partnered observation and discussion than by observing alone. Gaining multiple perspectives and more eyes on the complex social units involved did provide greater understanding due to the teacher's knowledge of the children and their achievement and engagement during more regular English and writing activities. Savin-Baden and Howell-Major (2013: 399) raise the question of the influence of the observers on the research. More will be said about my influence on the research later in this chapter discussing reflexivity, but here the presence of the class teacher as a partner observer was important and influential on the process. The class teachers' presence and their role in administering context specific elements of the school day such as break, lunchtimes and transitions was a big factor. It provided security for the children and allowed me as researcher and visitor to focus on the writing workshops and phenomena, rather than doing the range of context-specific managerial roles a teacher undertakes. Yin (2014: 115) also suggests that an additional observer, not only provides multiple perspectives but also increases the reliability of observational evidence. However participant observation does provide challenges. Yin (2014: 117) asks the question whether a researcher can really perceive reality from the viewpoint of a participant inside the case. However, the partnered observation alongside the class teacher somewhat mitigates against this as they are inside the case and my researcher observations can be compared with theirs and can add helpful contextual information. Other challenges Yin (2014: 117) raises involve bias and time. This is also discussed by De Walt and De Walt (2011: 93) who argue that the theoretical position taken by the researcher provides bias and could lead to selective encoding. De Walt and De Walt (2011: 93) also argue that the place from where the observation takes place is vital as it determines researcher perspective on the situation. Yin (2014: 117) puts it as simply as the participant observer may find it difficult to be at the right place at the right time and have

sufficient time to take notes across the whole class as the group is physically dispersed around the classroom. To attempt to avoid this, both observers (myself and each class teacher) spent time with every group of children in a systematic way across the workshops.

3.9 Using semi-structured interviews and focus groups as a source of evidence

Alongside social constructionist assumptions about how knowledge is created, my research questions also arise from phenomenological assumptions and so as Seidman (1998: 4) suggests a phenomenological interview is an appropriate method. This type of interview provides insight into the context for the behaviour of my participants and provides a way to understand that the 'meaning people make of their experience affects the way they carry out their experience' (Seidman 1998: 4). Yin (2014: 110) also states that interviews are one of the most important sources of case study evidence. However, Yin goes on to define the most appropriate type of interview as being in depth or unstructured (2014:110) as these allow for a fluidity of enquiry and a non-threatening open style of discussion that leads to arguably richer and fuller data and permits the participant to expand upon answers in a less leading way. However, semi-structured was the format chosen for the interviews I conducted, there was only one opportunity to carry out the interview , and a semi-structured approach kept the interaction focused, used limited time wisely and kept questions open-ended to allow participants to express themselves whilst staying focused on the research questions (Savin-Baden and Howell-Major 2013: 359).

Another justification for using semi-structured interviews was that it facilitated comparable data, comparable across all six teacher participants. The overarching purpose for the interviews is best summarised by Spradley, who states 'I want to know, what you know, in the way you know it' (1979: 34). My aim, in exploring the research questions was to gain an understanding of how the teacher participants related to the phenomena of creative thinking and writing pedagogy in the context of their classrooms based on their knowledge, expertise and experience, not to validate my understanding. Each interview was deliberately planned to take place at the end of each writing workshop, the intention being to discuss the teachers' observations throughout each day, gather their insights and responses to my three research questions. The first research question had particular focus, gaining the teacher's perspectives on whether the creative thinking activities had influenced the

children's writing positively and the evidence they had gained through partnered observation to support this. This included the children's thinking to support planning for each workshop and the usefulness of the evolving 'think for writing' framework as a planning tool. Alongside this, linking to my second question, the purpose was to gain an insight into their biographies as teachers, values and external constraints to help consider some of the factors that may impact upon the two phenomena of creative thinking and writing pedagogy. The interviews also allowed the teachers opportunity to explore the nature of the work the children engaged in and articulate their perspectives openly and honestly.

The format, structure and design of the interview was informed by Kvale's (2007) structure. This structure began with a briefing (Kvale 2007: 6) to establish protocols, explain the purpose, recording and data storage and allow the teacher participants to describe their perspectives on their context and experience. This pre-interview briefing also allowed the teacher participants to have a grasp of the interview style and allow me to establish an open and honest environment through body language, holding the interview in their environment and genuinely seeking their perspectives. I had begun this process of building professional relationships with my teacher participants during the planning phase meeting with them and their classes a week prior to the workshops and also during the writing workshop itself through ongoing dialogue during the day. The next stage, the development of questions and follow up probes, is an important and central component of the interview process (Rabionet 2011: 564). Kvale (2007: 7-8) suggests that when an interview is being scripted a researcher should consider the interview thematically He suggests beginning with 'what?' and 'how?' questions before moving onto 'why?' questions, the aim being to elicit more spontaneous descriptions of the phenomena before asking for their explicit interpretations of how something took place. Kvale (2007: 7) suggests one should also consider the interview dynamically, referring to how the interview is conducted, keeping the flow of conversation going, allowing pauses, ensuring as a researcher questions are not leading and allowing for clarification, so that meaning can be established and agreed, especially when considering coding of data afterwards. This, I did which was confirmed through positive participant feedback from the interview process and questions. Throughout these thematic and dynamic processes, Kvale (1996: 30, cited by Cohen et al. 2018: 511) sets out some important characteristics of interviews that should be considered. For the purposes of my

research context, several were important to consider during interview. Firstly is that as researcher I need to ensure that I 'elicit descriptions of specific situations and actions rather than generalities' (2018: 511). In other words, how the phenomena are understood by my participants in their specific context, not a general understanding of the concept. The second is a willingness to accept untidiness and responses that do not sit within the neat boxes of my current understanding of the phenomena. Instead, underpinned by socio-constructionist assumptions, alternative responses to questions, new realities can be created. Having explored my approach to interview and justified the design through literature, figure 10 below is my plan for semi-structured interview. This demonstrates the flow of the structure and flow of the interviews and the particular questions that were asked to each teacher participant. The semi-structured nature of the interview also allows follow-up probes building on elicited responses. Figure 10 also demonstrates avoidance of ambiguity for clarity of concept in terms of language. Figure 10 also demonstrates how in my interview design, questions that make assumptions and hypothetical questions have been avoided (Arksey and Knight 1999: 93) by focusing on the participants perspectives on the workshop contexts that they were directly engaged with. Each interview took place in the participant's classroom so they felt comfortable and was audio-recorded using a USB voice recorder so as to avoid being selective in recording data. This process was implemented to also avoid the potential of massive data loss, data distortion and possible reduction of complexity (Cohen et al.: 523). Recording was also implemented to enable me as researcher to listen more effectively (Savin-Baden and Howell Major 2013: 361) and to be able to fully engage with the participant rather than writing notes.

Protocols

- Audio-recording – only myself and maybe a transcriber will listen to it
- Confidentiality – when written up any extracts from the recording will be anonymised.
- You can stop the interview at any point, tell me if you want any extracts removed from the research

Briefing - focus of the interview

Your honest thoughts, perspectives and observations on the process that we and the children engaged in. Your perspectives on whether the creative thinking activities influenced the children's writing. To continue to discuss our observations and the evidence we have for creative thinking and how they are demonstrated in the writing process. To discuss your approach as a teacher and any constraints or factors that influence your writing pedagogy.

Indicative introductory questions around their biographies as teachers *(research question 2)*
Can you tell me a little bit about yourself as a teacher, your experience and subject areas of preference?
What's distinctive about you as a teacher? If I was to put a picture of you in the middle of the table and said this is a teacher, what would the children write as annotations?
Indicative questions based on further research focus *(research question 1)*
What do you think about the 'think for writing' phase model as a planning framework? I it helpful? Anything missing? Could it be conceptualised more effectively?
How did you think the children engaged with the creative thinking activities including planning and (insert other activities here) and did you see evidence of these in the writing process and product?
Indicative follow-up questions linking to partnered observations *(research question 3) to include specifying questions e.g. 'Have you experienced this yourself?' and interpreting questions – 'did you mean?'*
(Use examples of writing to discuss and journal notes)
What evidence did you have for creative thinking? Any children you noticed particularly? Was this tracked through into writing? Any particular phases of the process?
What did you think of their writing? How did it compare to what they would normally produce? Did anything surprise you?
Debrief.
So here are some of the things you said – shares. Do you want to add anything else?
How did you feel throughout the process? Did you gain anything through the observations?

Figure 10: Semi-structured Interview plan

The interview however 'is not simply a data collection situation but a social and frequently political situation' (Cohen et al. 2018: 274). An interview is between people with their own preconceived ideas of their relationship. Power or perception of power is therefore significant in an interview context. Whilst power sits with both interviewer and participant, Scheurich (1995: 246) argues that more power 'resides with the interviewer' (Cohen et al. (2018: 274) as they are the one who sets the questions and puts the participant under scrutiny (Kvale 1996: 126). In my research, power is an important concept to be examined in

the interview situation, in fact throughout the whole project, this will be discussed further in a later section focusing on reflexivity in my research. Power, or perceived power, is important in my research context. I was already known to the school context in my capacity as Senior Lecturer in Education as I had been involved in the teacher education of some of my teacher research participants. This pre-existing professional relationship, did put me in a perceived position of power in the interview situation. As such, significant time was spent prior to the interview and during its opening, working to 'democratise the power relations' (Karnieli-Miller et al. 2009: 280), by increasing the power of the participants. My aim was, as Karnieli-Miller et al. suggest, to create 'a welcoming, nonthreatening environment in which the interviewees are willing to share personal experiences and beliefs' (2009: 280). This was done through the open nature of the interview. I opened each interview with some shared, humorous and encouraging anecdotes from the children's progress and engagement during the day to set an informal tone. Reason makes the point that in more traditional research 'the roles of researcher and subject are mutually exclusive: the researcher alone contributes the thinking that goes into the project, and the subjects contribute the action or contents to be studied' (1994: 42) However, aligned to an interpretivist paradigm and socio-constructionist assumptions, my research provides an 'opportunity for the rebalancing of power in the researcher– participant relationship' Karnieli-Miller et al. (2009: 280). The rebalancing of power is found in the idea that the research participants contribute thinking that goes into the research. In other words, new realities are constructed in a mutual way between researcher and participant. In section 3.4, p.104/5, I have stated that one of the aims for my research is to explore what is important about the case and phenomena of creative thinking and writing pedagogy in the world of the participants not in the general world, so therefore logically to follow this aim the research participants contribute their understanding of the phenomena which informs subsequent workshop and research planning. Cohen et al. (2018: 274) highlight this power that the interview participant has as they have the data the interviewer wants and has the power to withhold that data and idea if desired, this would influence the richness and depth of data gathered and new knowledge constructed.

The semi-structured interviews took place individually with each teacher participant, the aim being to gain their perspectives of the phenomena under scrutiny. However research questions one and three begin with the adverbial 'from teachers' and children's perspectives', so, to complement the participant observation method, focus group

interviews were selected as a tool to gain my children participants' perspectives of the phenomena in their context. Focus group was selected as a data gathering approach because 'reliance is placed on the interaction within the group' (Morgan 1988: 9) in discussing the topic selected by the facilitator 'yielding a collective rather than individual view' (Cohen et al. 2018: 532). The purpose is about finding out how a 'group thinks about a topic' (Cresswell 1998: 124) so as to document the range of perceptions, perspectives and responses held by different members of that group. As well as seeking to understand group consensus, the focus group helps to explore difference within the same context and situation. Aligned to my phenomenological assumptions, the type of focus group I developed was a 'phenomenological focus group' (Savin-Baden and Howell-Major 2013: 377). This type of focus group is rooted in understanding the respondent groups' experiences of the particular phenomena under discussion, in my research creative thinking and writing pedagogy. This is different to other purposes of focus groups which may seek to explore reactions to controversial issues, examining behaviours and factors affecting them or more general open-ended issues-based discussion (Savin-Baden and Howell-Major 2013: 377). One of the main reasons for selecting a focus group, notwithstanding its alignment to my social constructionist assumptions, is that the 'participants interact with each other rather than with the interviewer' (Cohen et al. 2018: 532) so that their views can emerge rather than the researcher's agenda and perspective dominating. Denscombe (2014: 189) posits that as a result the dynamics of the group are important. An influencing factor in group dynamics is the make-up of the group. Savin-Baden and Howell-Major (2013: 388) suggest that participants who share common characteristics will talk more openly, but too much familiarity with one another has a limiting effect on discussion. They also call for a common sense approach in the selection process (2013: 388). My selection of focus group participants was certainly informed by these aforementioned considerations. Each focus group had a common characteristic: they were from the same class, so had the same class teacher, had participated in their class's writing workshop and had been subject to the same writing pedagogy. However, children were selected, following observation, in discussion with the class teachers with one main criterion: Do we think this child would have something interesting to say about their writing workshop experience? Children who we perceived had not engaged well, had engaged well and surprised the class teacher by their engagement were invited to take part in the focus group. Each focus group took place in school immediately following the relevant writing workshop so as the learning undertaken would be fresh in the children's minds.

The focus groups followed a plan with ground rules (Krueger 2002: 3; Morgan et al. 2002: 9), clear protocols around environment, eliciting truth with the aim of hearing the children's experiences (Rabionet 2011: 563). Questions were structured and piloted for cultural sensitivity and respect (Rabionet 2011: 564) and relationships had already been established through planning sessions and the workshops. They were also audio-recorded with anonymity protected in transcription. The structure of each focus group was based on Ritchie and Lewis's (2003: 176-179) stages. Firstly, opening questions and reflections arising out of partnered observation and discussions with the class teacher. These were focused on the children's perspectives on what had helped them during the writing process. The final stage: Deeper probing questions (Ritchie and Lewis's (2003: 181) involved drawing out specific responses to evidencing creative thinking and how they believed the creative thinking elements, during each workshop helped their writing. I also focused on particular scaffolding tools used in the process of composition and how this helped writing. Figure 11 below shows my focus group plan.

Scene setting

Ground rules - written on a flipchart and left on display:

everyone gets a chance to speak;
speak one at a time;
you don't have to put up your hand to talk;
ask if you want to go to the loo.

Ask children were asked if they want to suggest any others

Protocols

No right or wrong answers, only differing points of view
You don't need to agree with others, but you must listen respectfully as others share their views

You were invited because as we have worked together over the last days I thought you might have some really interesting things to contribute to our discussion and help me with my learning.

You've probably noticed the microphone. I'm recording the session because I don't want to miss any of your comments. People often say very helpful things in these discussions and I can't write fast enough to get them all down. So if you could speak one at a time, not talking over each other that would be very helpful. I won't be using any of your names when I am writing this up, so you may be assured of complete confidentiality.

First names – call me Adrian

Indicative Opening Questions / Reflections (to be elaborated on and contextualised)

- What did you think of our work in the last couple of days?
- On a scale of 1-5 (1 being not at all, 5 being really enjoyed it) what rating would you give it? What helped you enjoy it? What stopped you enjoying it?
- Choose one of these cards (selection of cards asking them to reflect on their performance, engagement, achievement, focus, attitude, thinking, writing) and share why you chose it *(Have their work available to discuss as a group)*

Deeper probing questions (to be elaborated on and contextualised)

- How did the simulation help support your writing?
- Did any of the activities really help you achieve great writing? If so which and how? if not why not?
- What about the (insert creative thinking activity)? How did that support?

Figure 11: Focus group plan

Focus groups as a data gathering method do present some challenges. There is potential for participants to influence each other rather than each be comfortable sharing their own views exists, sharing only what is deemed to be socially acceptable in that context (Savin-Baden and Howell-Major (2013: 389). The group dynamics may lead to non-participation by some children and dominance by others and managing this requires skilful facilitation (Cohen et al. 2018: 533). My reason for the choice of focus groups as a method was so children could interact together and socially construct responses to questions asked regarding their workshop experiences. The dynamic was such that in all six focus groups, children did not respond to one another, just to me and waited for me as facilitator to initiate and elicit responses. Possible reasons were myself as facilitator not giving enough

clarity as to how a focus group operates, ineffective facilitation or that having taught the children for the day, the power imbalance of me as 'teacher' influenced how they responded in the group. Data from the focus groups was still used however as participants could still speak out, in their own words (Cohen et al. 2018: 532) and give their perspective on the phenomena under scrutiny.

Power relations are another factor to consider with the focus group. As facilitator, I had been in role as teacher throughout the writing workshop. I had also been introduced as a visitor by the class teacher and had to an extent been accorded deference. Immediately, therefore, before even beginning the focus group discussions, a power asymmetry had been created. Elton-Chalcraft (2011: 189) discusses the role and relationship between child participants and researchers, seeking to democratise the power relationship. She discusses the importance of treating children with respect and seeing them as research participants, rather than seeing them as passive objects. Elton-Chalcraft (2011: 190) cites Jenks who states 'Because children lack adulthood this is seen as deficiency, disadvantage…' (2000: 75). However, I would argue that children's perspective on the phenomena, notwithstanding their presence in my research questions, is essential to developing a fuller picture of the phenomena within the case. Elton-Chalcraft (2011: 192) also discusses the importance and integrity of children's voices in research. Children are capable of deep, intellectual discussion (Ipgrave 2001: 16) and presenting their views, their words, rather than 'adultising' them keeps the authenticity of the data and respects them as participants in the research. At the beginning of the section on data collection methods I used Kvale's (1996: 4) image of the researcher as traveller to describe my intention as a researcher, walking alongside the participants, listening to the narratives and perspectives told by them, rather than 'mining' (Kvale 1996: 4) for specific information. This is an important image to reintroduce here as the concept of researcher as traveller, walking alongside is one that seeks to bring equilibrium to the balance of power between researcher and participant. As such I attempted to adopt what Mandell (1991 cited in Randall 2012: 40) terms 'least adult role'. This was significantly challenging, firstly for the reasons I have already alluded to: I was introduced as a visitor, I created and facilitated each writing workshop. I had made attempts to remove myself from the teacher role by asking the teacher to undertake key managerial duties such as managing behaviour and organising key transitions during each day. Randall suggests three helpful aims of taking on a 'least adult role'. These are to 'minimise the social

difference between adults and children; value children's social worlds as being as important as those of adults and trying to find shared meaning with children through social activities' (2012: 40). This participatory method seeks to empower children by strengthening their voices, allowing them to be heard alongside the adults (Randall 2012: 41). My role with the children has already been discussed in this section and so it could be argued, given my role in the workshops, that adopting a least adult role was not feasible. However, Elton-Chalcraft (2011: 195) provides three key issues to consider as a researcher, all of which I ensured. Firstly, the importance of access. Each child was invited to participate in the focus group and invited to withdraw at any time, reassured it would not affect anything, this will be discussed further in an ethical considerations section (3.12, p.135). Secondly, each child was assured they would be anonymous and unidentifiable in my research and the recording would be erased once my study was complete. Finally, teacher status. The children knew their teacher would not be listening to the focus group recording and was not present during each focus group discussion. However, despite significant consideration of children as equal participant researchers and taking on a least adult role, reflections suggest that during the focus group discussion, there was still an evident power asymmetry. The children needed significant prompting and clarification and despite open questions and openness and free-flowing dialogue for the duration of each writing workshop, in many of the focus group discussions, longer responses were limited, interaction between the children in each group was limited and, where the participants should do most of the talking (Cohen et al. 2018: 532) in each focus group, there was not even spread of talk from myself as researcher as from participants. Reasons for this could have been: the focus group was a new situation and the participants may not have had something to say or felt comfortable enough to say it; the sampling (or choice of participants) may have not been effective; or my chairing may not have had the right balance between direction and free-flow (Cohen et al. 2018: 533). Another reason could be that in the focus group, as the adult facilitator, the power balance tipped back to me and this hampered interaction and freedom.

3.10 Using documentation as a source of evidence: reflective journal and children's work

At the beginning of this section on data collection methods, I cited Yin's (2014: 106) sources of evidence that are typical in case study research. Having already discussed how direct observations and interviews were used, this section focuses on another of those sources, documentation. Amongst the list of documentation, Yin (2014: 106) suggests using diaries and other personal documents as an evidence source. During my research process I chose to keep a reflective diary, partly to make my research design transparent and available for anyone to see. Also to document choices made during the process with the goal of providing a research "trail" of developing theories, methods and the ongoing reshaping of data analysis' (Ortlipp 2008: 696).

Janesick (1998: 2) suggests four purposes for the use of a reflective journal in the research process and the first two are relevant for my research. Janesick (1998:2) suggests that the journal helps the researcher understand and refine their role throughout the process. With a reflective journal being developmental, I was able to reflect on and consider my multiple roles within the writing workshops: guest, facilitator and researcher and their influence on the research itself. Janesick (1998: 2) also suggests that the journal helps refine the understanding of the participants in the study. Although a teacher, and familiar with schools and teaching, I was positioned outside the case of Parklands primary school, outside the socio-economic area and outside the classroom and writing pedagogy the children experienced. The journal provided opportunity to reflect on the specific context, what motivated learning, how the different children operated and their differing learning and emotional needs. The journaling process helped me to understand any contextual factors and how they influenced my research. The opportunity to reflect through a journal, Coghlan and Brydon-Miller (2014: 3) suggest, generates a new understanding of any phenomena under scrutiny and of any previous assumptions made. However, I also chose a reflective journal to note more informal observations, thoughts and reflections on the teaching and learning during the writing workshops. Coghlan and Brydon-Miller suggest that journaling is invaluable through the research process. They posit that 'the value of journaling in action research lies in the reflective process that encourages a deeper self-awareness and

confidence in oneself through extending personal and professional insights' (2014: 4). Reflection itself is a vital component of the research process. It seeks to illuminate and bring into focus insights and observations in the midst of the enquiry process (Mortari 2015: 1). Mortari (2015:1) goes on to suggest, and I agree, that the reflective process brings a level of reality and authenticity to what is being studied as it adds greater depth to insights and interpretations. My reflective journal also acted as an additional source of evidence to compare alongside the observational frameworks, interviews and focus groups. Yin (2014: 107) comments that documents, such as a reflective journal, can corroborate information from other sources. The journal provides an additional source of evidence to delve deeper into the topic (Yin 2014: 107) or to provide some additional perspective when other sources appear contradictory.

Another form of documentary evidence to use as a source as part of my case study is children's work. My first research question explores how opportunities to think creatively influence children's work and my third question considers how creative thinking is evidenced in the product of the writing process. Therefore, to help answer my research questions, the work the children produced during each workshop needs to be considered. Bowen (2009: 30) suggests that through the analysis of documents (children's work in my research), issues can be raised for further probing through additional questions as part of the interview or focus group. Therefore, as part of my research design process, work the children produced provided a concrete launch pad for some of the focus group and interview questions. Research design where one data source informs another is confirmed by Goldstein and Reiboldt (2004: 246) who in reporting on their research, share how their document analysis aided in the generation of further interview questions, a more dynamic research design that whilst maintaining some structure also facilitates freedom to respond to unexpected data that emerges from for example, observations. Whilst building on this design concept of additional data that corroborates and informs other data sources, Greig et al. suggest that this approach, known as triangulation, can also add robustness to the data as a whole. They argue that 'triangulating the findings from several different perspectives, such as using multiple data sources for the same finding, can strengthen data that would be weak if presented singly but are robust if reinforced from different strands of enquiry' (2007: 6). Denzin (1970: 291) refers specifically to the role of documentation in triangulation of data as part of the multiple sources of evidence researcher must draw upon.

And children's work in my research was thus utilised in this way. The evidence gathered, both creative planning prior and written work during each workshop, provided additional information that could be used alongside other methods. In order to analyse document data in research, traditionally, a method termed 'document analysis' (Bowen 2009: 27) is used. Bowen defines this method as 'a systematic procedure for reviewing or evaluating documents(2009: 27) in order to elicit meaning and develop understanding of the phenomena under scrutiny. The documents undergoing analysis for my research are pieces of children's writing and therefore need a type of analysis that aligns to that document type. Dunsmuir et al.'s (2015) Writing Assessment Measure (WAM) was selected as a tool that could be drawn upon to analyse the quality of the children's writing. This was selected because their concept of what writing is aligns with the one that underpins my beliefs about writing pedagogy, (section 2.16, p.58) and therefore what underpins the design of my writing workshops. Within their definition, they also connect the writing process with thinking, making the connection that my research seeks to explore. Writing, Dunsmuir et al. posit, is a 'complex process that is essential for extending learning, thinking and communicating with others' (2015:2). The WAM is a useful tool for elements: handwriting, spelling, punctuation, sentence structure, vocabulary, organisation and grammar. However, an aspect of the WAM that is unhelpful and not used for analysis of the children's writing for my research is the scoring system attributed to each criterion statement. A numerical score for each written piece is not helpful for my research as the purpose of using these written documents is to provide evidence of the influence of creative thinking, not judging the children's writing skill level. My adaptation of Dunsmuir et al.'s WAM used as an analytic tool for writing product is shown below in figure 12.

Adaptation of Dunsmuir et al's 2015 Writing Assessment Measure	
Element of writing	Criteria
HANDWRITING	Writing is consistent and fluent Writing is clear, neat and legible Handwriting may vary in shape and size Handwriting is difficult to read
SPELLING	Correct spelling of complex and irregular words Polysyllabic words are usually spelt phonetically Spells the majority of high frequency words correctly Monosyllabic words spelt correctly
PUNCTUATION	Range of punctuation used for structure and effect Secure use of full stops and capital letters Largely accurate use of capital letters and full stops Shows an awareness of full stops used in writing
SENTENCE STRUCTURE AND GRAMMAR	Complex sentences and clauses manipulated for effect Extending sentences using some subordination Conjunctions used to create compound sentences Simple sentences used
VOCABULARY	Well chosen, vivid and powerful vocabulary used Varied use of adjectives, verbs and specific nouns Selects interesting and varied verbs Uses simple vocabulary appropriate to content
ORGANISATION AND OVERALL STRUCTURE	Paragraphs well-organised based on themes, cohesive. Identifiable structure using cohesive ties Themes are expanded upon and logic is apparent Communicates meaning but flits from idea to idea
IDEAS	Creative and interesting and engages reader Imaginative with varied and descriptive detail Ideas developed and elaborated upon by adding detail Short sections of repetitive and limited text

Figure 12: My adaptation of Dunsmuir's (2015: 15) Writing Assessment Measure

My first and third research questions not only seek to explore the evidence of creative thinking on the writing product but also on the writing process. Whilst participant observation sought to explore creative thinking during the writing workshops, the observations also explored the writing process and notes made regarding this process contributed to evidence of creative thinking.

3.11 Reflexive position and bias

Norris comments that 'A consideration of self as a researcher and self in relation to the topic of research is a precondition for coping with bias' (1997: 174). This section will consider my role, clarify my bias and position with regard to the phenomena of creative thinking and writing pedagogy and attempts to mitigate against this during the research process. Reflexivity, as defined by Savin-Baden and Howell-Major is the consideration 'that it is not

possible to remain outside the subject or process of the research and look in, rather the researcher is both integral and integrated into the research' (2013: 76). Savin-Baden and Howell-Major (2013: 77) provide definitions of nine different types of reflexivity but rather than risk this section becoming theoretical and procedural, these will not be defined, instead this section will focus on the conscious and deliberate acknowledgement and interrogation of myself as an influence on my research (Cohen et al. 2018: 303). These influences include;

1. My background as a teacher, my prior knowledge and pre-existing history with Parklands Primary and the possible power relationships conducting research with teachers with whose teacher education I had been involved;
2. My role as designer and facilitator of the writing workshops and participant observer during the data collection process;
3. The representativeness of the classes chosen for the workshops and their teachers and also the representativeness of children participants chosen for each focus group;
4. My own bias relating to the phenomena under scrutiny and whether this influenced data collection.

Each of these issues is explored further below.

Firstly, the influence of my twenty four years involved in primary teaching and teacher education. The issue with my experience as a teacher, and English specialist who has published in the field was that I could not commence the research with a 'clean sheet' (Denscombe 2014: 88). I would arguably have brought my understanding of teaching, and my values that underpin it, so everything I would see through the research process would be interpreted through these (Cohen et al. 2018: 302). Underpinned by a social constructionist epistemology, I believe teaching and learning to be an active process where knowledge is constructed together, the teacher is facilitator and meddler in the middle of learning (McWilliam 2009: 281). These are my assumptions about teaching and learning. As previously mentioned in section 3.5, p.109, I had a pre-existing relationship with Parklands primary, knowledge of the demographic and hypotheses regarding the children's responses to the workshops. The school was selected because of this pre-existing relationship, it was a school I knew would welcome my research and were keen to develop different ways of

working to improve achievement. Within this pre-existing relationship also comes issues of power and status. An influencing factor was my previous involvement in the teacher education of some of my teacher participants. As their former tutor, how would they respond to me teaching their class? What would the power dynamic be? To help reduce the influence and create a greater power equilibrium, open meetings were held with teacher participants prior to the research to re-establish our professional relationships, reassure them of my role as researcher and discuss the most effective ways of working. As such it was agreed that I would be introduced to the children as a visitor, using my first name so as to separate my role from that of a teacher and the teachers would undertake the managerial and behavioural aspects of their role during each workshop. Despite these very positive and open discussions, there was some apprehension from those teacher participants whom I had taught. Another influencing factor within this dynamic was my own desire to facilitate the workshops effectively and teach well to almost prove my worth as a teacher. Power and status were also issues to consider during each focus group. As researcher I led each focus group and as I had been teaching the children throughout the day, despite efforts to rebalance my role, this influenced the research. Would the children respond to me as a teacher in a position of power and as a visitor, so display a tendency to be positive and ingratiate or would there be honesty?

A significant influence on the research process was the fact that I, as researcher had also designed and facilitated the writing workshops. Despite the topics for the workshops being given to me by the teachers and the children engaged in initial planning, the influence of my own stance on the research was possible here. Savin-Baden and Howell-Major (2013: 80-81) articulate the relationship between stance and reflexivity and in the context of my research, my own stance on the teaching of English and creative thinking informed the design and facilitation of each writing workshop. However, there were processes that I put in place to ensure that 'my stance was not detrimental to the research' (Savin-Baden and Howell-Major 2013: 81). The first process was through discussion with class teachers, ensuring my workshop plan would be appropriate for the children and approaches they felt the children could engage in. The second was that the teachers would also be participant observers during the process. This also provided a safeguard against the accusation of observations merely verifying my own biases (Flyvbjerg 2013: 186) and provided another data set so that in my dual role as teacher and participant observer if I missed something, other data was

collected. Using an observation framework, (figure 9, p.116) provided a systematic plan for observation (O'Leary 2017: 253) which also served as a thinking frame so as to help focus my observations whilst undertaking my dual role.

Sampling is also a significant influencing factor. Cohen et al. (2018: 213) state that access to participants is a key issue in research. As stated in section 3.5, p.111, the participants were chosen for me by 'gatekeepers' (Cohen et al. 2018: 214), the leadership of Parklands Primary, based on their knowledge of the classes, teachers and other constraints on the school's planning. The question here is whether the six classes chosen would be a representative sample of the fourteen classes that make up Parklands Primary? Sampling strategies such as random sampling (O'Leary 2017: 207; Cohen et al. 2018: 215) could not be applied due to access and so any case specific conclusions drawn do need to be treated with care due to questions around representativeness. The children participants for each focus group were chosen using purposive sampling, a process where the researcher handpicks the participants on the basis of judgement of their possession of the characteristic being sought (Cohen et al. 2018: 219). For my research, on mine and their teacher's judgement, children were chosen who it was judged would have something positive, negative or surprising to say based on their engagement during the workshops. There are also questions here around generalisability and representativeness but Cohen et al. (2018: 219) state that generalisability is not the primary goal in sampling, the purpose is to gain in depth information from those in a position to give it.

The final influence to discuss here is my own bias relating to the phenomena of creative thinking and the pedagogy of writing and how one influences the other. I undertook this research with the bias that facilitating children's creative thinking will positively influence their writing and therefore should feature in writing pedagogy. This was my position and could act as my 'positional statement' (Savin-Baden and Howell-Major 2013: 82). The challenge therefore for my research was to ensure that my research did not simply verify this bias. As stated earlier in this chapter on pages 112-114, discussing limitations of case study, I applied several of Yin's (2014: 45) validity tests to reduce bias where possible. However as Mehra (2002: 3) states 'researcher bias and subjectivity are commonly understood as inevitable' so recognising, acknowledging and articulating my bias and how it may have influenced the research process and findings has been considered openly and honestly.

3.12 Ethical considerations

Within this section ethics will be considered in terms of informed consent, confidentiality and anonymity, identification and non-traceability (Cohen et al. 2018: 111) as these are the pertinent areas for my research. Whilst informed consent (BERA 2018: 3) was built into the research planning, it is important to consider whether during my research, this could be truly given. The teachers and classes had been selected by the leadership of the school and the writing workshops took place as part of normal school days, so in some ways there was little choice for the participants. However, informed consent is primarily about respect for people (Savin-Baden and Howell-Major 2013: 323). Therefore, out of respect, participant information sheets (BERA 2018: 9) were prepared for the class teachers taking part and informal meetings in school were held, prior to the research taking place to discuss my position, approach, research questions and workshop proposals as well as responding to any questions they had. They were told that they could choose to participate as observers and interview subjects as they saw fit without any reprisal from the school's senior leadership (BERA 2018: 10). They could also withdraw at any point in the process. A similar participation sheet was written in appropriate language (Savin-Baden and Howell-Major 2013: 323) for children from the classes taking part that the school would send to relevant parents/carers to be returned if they were content for their child to be chosen for a focus group. Two weeks prior to each workshop, I spent time with each class in their own classrooms, introducing myself, the research and explaining their role in the process. There is a danger that children and teachers could be identified through the data, but initials used for the class teachers and children and pseudonyms for the school and its immediate catchment area should alleviate this (BERA 2018: 16/17. Please note that the Ofsted reports referenced in section 3.5, p.110 and the police report referenced on page 109 have not been added to the Reference List for ethical reasons to safeguard the anonymity of the school.

Cohen et al. (2018: 111) suggest that ethical considerations are contextual in nature and it is in considering the data collection methods used that their situated nature comes into focus. The ethical considerations of each method are discussed here. The first of these is participant observation. In my research, the children were informed they were being

observed and the class teacher and I would be making notes throughout the workshop. However they were not informed what would be observed so as to minimise any chance of skewing data through displaying heightened observed behaviours. These notes were not secret and children were given permission to ask to see what was being written at any point in the process.

Next, the use of semi-structured interviews and focus groups. I have discussed previously how informed consent was used in this process. The teachers were given permission to withdraw at any time and also to be able to remove their data from the study. The children who were selected were also given permission not to take part without fear of favour. Each interview and focus group was audio-recorded and it was explained that as researcher I had sole access to the data and the electronic data was stored on a password protected computer and kept for ten years, in line with requirements of the granting ethics panel. It was also explained that transcription would be completed by myself as part of familiarisation with the data.

Finally, the ethical considerations regarding my reflective journal and children's work are based around anonymity and confidentiality. Through both of these sets of documents, children's initials were used and in my journal, only observations and reflections on the process were recorded, no judgements on children's progress, attainment or behaviour. The journal was available for class teachers and children to access if they required, this was about maintaining transparency of decision-making in the research process (Ortlipp 2008: 697). Permission was sought and received from the class teacher and all the children in each class to use their work as data. Children were given permission to withdraw their work any time during the process.

Approval was granted by my institution's ethics committee to undertake this research.

3.13 The final layer of the lens to bring the data into focus: data analysis

Having concluded the previous section with a focus on tools used to analyse document data, this section discusses thematic analysis, which is my chosen method for analysing all of my research data. This section also aims to demonstrate how my data analysis will be

structured iteratively and how the diachronic (developing over time) nature of my case study necessitates a developmental approach.

Thematic analysis is a method 'for identifying, analysing and interpreting patterns of meaning (themes) within qualitative data' (Clarke and Braun 2017: 298). Clarke and Braun (2017: 298) go on to offer some reasons for using thematic analysis that informed my choice of this method. They argue that it offers flexibility to identify patterns in data across data types and in relation to research participants' experiences of reality within their contexts. As such the method of thematic analysis recognises that analysis happens at an intuitive level. Savin-Baden and Howell-Major (2013: 440) go on to describe the 'aha' moment as happening following the process of data immersion, coding the data, establishing themes and then considering connections between them. Thematic analysis is also inductive (Braun and Clarke 2012: 58). An inductive approach to analysis means that it is driven by the data, the codes and themes arise from the data itself. As my approach to research is focused epistemologically on understanding phenomena from my participants' perspective in their context, an inductive approach has been selected (Braun and Clarke 2012: 59). This approach gives voice to the research participants. Braun and Clarke (2006: 87) provide a systematic, step by step approach to the different phases of thematic analysis. The steps, however, as Braun and Clarke (2006:86) state are not linear but recursive, so movement through the phases may require some back and forth travel and development over time. Figure 13 below represents my data analysis process alongside Braun and Clarke's (2006: 87) phases. The remainder of this section explores each phase.

		Thematic Analysis Phase *(Braun and Clarke 2006: 87)*	My data analysis work
First stage analysis	1	Familiarisation with data Generate initial codes Search for themes Review themes Define and name themes *(Begun during data collection)*	Inductive and open initial coding and analysis, themes developed to inform workshop and theoretical framework development from workshops 1 and 2 Theory modified –analysis informed workshop 3 and 4 design
	2	Familiarisation with data Generate initial codes Search for themes Review themes Define and name themes *(Begun during data collection)*	Inductive and open initial coding and analysis, themes developed to inform workshop and theoretical framework development – from workshop 3 and 4 Theory modified –analysis informed workshop 5 and 6 design
Second stage analysis	3	Familiarisation with data	All data read in hard copy and chronological order to get a holistic picture
	4	Generate initial codes	Coding developed from first stage building on emerging codes. This was undertaken chronologically for each workshop. – ongoing thinking taking place using memos to track thinking
	5	Search for themes	Amalgamation of codes into themes
	6	Define and name themes (1)	Data comparison across data from each workshop – identifying recurring themes and consideration of anomalies
	7	Define and name themes (2)	Tested themes out and selected data to illustrate themes
	8	Produce the report	Reported findings

Figure 13: My phased approach to data analysis aligned to Braun and Clarke (2006: 87)

My data analysis took place in two stages. The purpose of analysis at the first stage was intended to develop themes to inform modification of my 'think for writing' framework (figure 8) and to inform each subsequent workshop. This stage is what Savin-Baden and Howell-Major (2013: 419) term 'data handling', an initial characterisation of the data reflecting what I believed to be important, the first step of data analysis. This first stage, data handling, took place during the duration of the study. Fidel (1984: 274) reflects on the importance of early data analysis during the study and data collection process, constantly analysing data as it is collected and using this to direct future investigation. This process was very important for my research. My approach to case study involves an evolving response to the phenomena over a two year period of data collection. Therefore handling the data and performing some initial analysis after each pair of workshops was essential to make sense of it (Stake 1995: 72) in order to develop the next pair of workshops. Figure 13 above demonstrates how each of Braun and Clarke's (2006: 87) phases were used systematically after each pair of workshops. An extrapolation of each phase and how it was used for my

research follows this section whilst detailed discussion of data from the first stage analysis takes place in chapter four of this thesis. Extrapolation of second stage analysis, bringing together, comparing and contrasting themes and introducing the evolved 'think for writing' framework will form chapter five of this thesis.

Using Braun and Clarke's (2006: 87) systematic approach to identify, organise and offer insights into patterns of meaning across my data sets (Braun and Clarke 2012: 57) provided a framework to intuitively gain a general sense of the information through repeated handling of the data (Savin-Baden and Howell-Major 2013: 440). Each phase of this approach involved getting to know the data well and therefore understand it both at a gut level and as a whole (Savin-Baden and Howell-Major 2013: 420).

3.14 Familiarisation and CAQDAS: To use or not to use?

I have chosen to analyse my data manually rather than use a Computer Aided Qualitative Data Analysis Software (CAQDAS) package for handling the data. This section sets out my justification for this choice.

This first phase of Braun and Clarke's (2006: 87) method I found particularly important to gain understanding of my data. Familiarisation, as defined by Braun and Clarke (2012: 60) is immersing yourself in the data by reading, and re-reading textual data and listening to recorded audio data more than once. This allows the researcher to read data as data (Braun and Clarke 2012: 60), not stopping at the surface level of the words but analysing them and thinking about what this data may mean. Reading the data in this critical way facilitates a deeper questioning of the data in relation to the research question. Throughout familiarisation, observational notes were made to assist with the process of analysis. O'Leary (2017: 326) implies that using CAQDAS as a way of systematically familiarising one-self with the data is helpful as it supports efficiency later on in the analysis process. This argument is supported by Rodik and Primorac (2015) who also suggest that CAQDAS can contribute to processes of generalisability, reliability and validity in qualitative research. However, they do raise the issue of the cost benefits in time and effort in using CAQDAS. As Roberts and Wilson state 'computers do not and cannot analyse qualitative data' (2002: 21). The process of qualitative analysis is completed by the researcher not by the software package and so for my research I chose to undertake the process manually and this process is made transparent in chapters four and five of this thesis. O'Leary (2017: 327) suggests

that CAQDAS is useful to analyse a large data set, I, however have a relatively small data set, during the first stage, each workshop provided two observation forms, two semi-structured interviews, two focus group discussions, two sets of children's work and my reflective journal. This data, I deemed manageable manually and felt the time spent in learning to use a CAQDAS package would be better spent immersing myself in and working with the data. CAQDAS cannot mechanically work out categories, make coding decisions or interpretation of the outcomes of the analysis (Garcia-Horta and Guerra-Ramos 2009: 153). Admittedly CAQDAS does help alleviate some of the deficiencies of the human analyst such as unconscious bias and the possibility of first impressions of the data colouring further interpretation (Robson 2002: 460) but its role in the task of immersion in data and analysing is still facilitation rather than actually doing it (Garcia-Horta and Guerra-Ramos 2009: 163). There are also further limitations that led to my decision to work with my data and analyse it manually. The first is that using computer software can lead to less reflexive working with the data as there can be a tendency to code everything, the second is that using computer software can lead to a possible belief that analysis is a mechanistic process rather than intuitive (Garcia-Horta and Guerra-Ramos 2009: 163). A third limitation is that computer software can sometimes be seen as a superior tool and so as MacMillan and Koenig (2004: 80) state, can lead to a kind of uncritical allegiance to CAQDAS.

3.15 Generating initial codes

Braun and Clarke's (2006: 87) phases of thematic analysis are not linear but recurrent and as such immersion in the data is an ongoing process that arguably takes place with every phase. However, once some familiarity with data had been achieved then the analytic process of coding began. Braun and Clarke (2012: 61) define codes as the building blocks of analysis that provide a label for a piece of data which, when cemented together with other similarly labelled units of data, form themes which, following the building image, make walls. Prior to coding the data, I undertook a process of what Savin-Baden and Howell-Major (2013: 421) term 'data cutting'. This process, they define as breaking apart the data and reducing it for closer examination. Pieces of cut data, relevant to my research questions were then coded. Open coding was used in the first stage of data analysis, defined by Maguire and Delahunt (2017: 3355) as a type of coding where no pre-set codes are used, instead coding was devised and developed as the data was worked through in relation to my

research questions. For the second stage of my data analysis, where data from all of the workshops were synthesised to form wider case study themes, axial coding was used. Savin-Baden and Howell-Major (2013: 424) define axial coding as a process whereby data units are put back together after open coding by making new connections between themes. This type of coding facilitated making connections between data and themes across each of the workshop pairs, making causal relationships and seeking to categorise those relationships into a wider frame that structured more generic relationships between data and themes (Savin-Baden and Howell-Major 2013: 424). The coding process and the codes developed in first stage analysis will be extrapolated in chapter 4 and the axial coding process used to develop the wider more generic relationships will be shared in chapter 5 of this thesis.

3.16 Searching for themes

Searching for themes is at the heart of the analysis process (Savin-Baden and Howell-Major 2013: 427). It is also an active process where the researcher constructs or generates themes rather than themes simply emerging form the data (Braun and Clarke 2012: 63). This phase begins once all the data is coded and relevant data collated. However, this is not static. During my analysis process material had to be revisited and recoded as some of the codes created in the early part of analysis and during the first stage needed to be revisited during the second stage as development of thinking and coding had occurred throughout the process. For my research the process of generating themes involved pulling together coded data that shared some unifying feature so they reflected a meaningful pattern in the data (Braun and Clarke 2012: 63). I used an inductive approach to identifying themes. Ryan and Bernard (2003: 88) define this as an approach that comes from the data. Identifying themes from the data made sense logically to follow open- coding. This is in contrast to a deductive approach, where pre-set codes are used, often developed from literature and applied to the data. Using an inductive approach to coding and then theme creation has an advantage. Researchers using an inductive approach, as Linneberg and Korsgaard (2019: 12) suggest, develop codes from the data by using phrases or terms used by the participants themselves, rather than using the words of the researcher. In this way the themes and codes stay close to the data, rather than the ideas and prior understandings of the researcher who is trying not to layer any bias onto the literature. Within each part of the first stage of analysis themes were generated from codes and these themes were then used to inform the design

of my subsequent writing workshops. However, as Braun and Clarke (2012: 65) posit, another important element of this phase is exploring the relationships between themes and recognising how themes will work together to tell an overall story of the data. This process took place more in stage two of my analysis as I brought together themes from the first stage and sought comparisons between them.

3.17 Defining and naming themes

Within this thematic analysis phase (Braun and Clarke 2006: 87) my approach to defining themes from the data through first and second stages will be shared. Defining themes is again a recursive, not linear process (Braun and Clarke 2012: 65) as themes are regularly reviewed. Throughout my data analysis process, themes were reviewed regularly and checked against data sets to ensure each theme worked effectively with the data. Throughout the first stage of my data analysis, themes were generated inductively from the coded data that directly addressed my research questions (Braun and Clarke 2012: 66) and could be acted upon to develop the subsequent writing workshop. Within the second stage of analysis, themes were compared across those from stage 1 and reviewed with the entire data set. This process was essentially a full re-read of all the data chronologically, note taking whilst doing it and then reviewing the chosen themes. Any of the already established themes that needed renaming was done here. This phase of data analysis also involved the attribution of selected data extracts to best exemplify each theme. Data chosen to illustrate the themes was chosen from different data sources to demonstrate the themes' coverage as Braun and Clarke (2012: 67) suggest. These data extracts formed the structure for the analysis which is presented in chapter 4, for the first stage data analysis and chapter 5 for stage two's analysis looking at how themes work together to tell the overall story of the data and present the evolved 'think for writing' framework.

Chapter 4: Presentation of data, analysis and discussion

4.1 Introduction

The purpose of this chapter is to present, analyse and discuss data from the first stage of my data analysis, (figure 13, p.138). This chapter is structured in three sections, each addressing a pair of writing workshops. The sections follow the chronological order of workshops facilitated, reflecting the developmental nature of my case study. Each section contains an overview of the writing workshop including justification for the approach epistemologically, from previous empirical research and other literature. This is followed by discussion of my coding process and theme generation. Following this, those themes will be explored, data presented and analysed drawing upon literature reviewed in chapter 2 of this thesis. The first two sections conclude with how data has informed modification of design for the subsequent pair of workshops and how my evolving planning framework 'think for writing' has been modified as a result. The third section concludes with modification to the planning framework as these are the final two workshops, providing a bridge into chapter five which will present stage two of data analysis (see figure 13).

Having outlined the structure for this chapter, the following section focuses on the first two writing workshops which took place with the two year six classes in November 2017.

4.2 Workshops 1 and 2: Galactic Defence.

The science fiction theme for these workshops was chosen by the two year six teachers as this fitted their yearly plan following October half term. It was felt that my whole day writing workshop would provide a good introduction to the genre for the children and engage them with it. The reason for a whole day workshop was firstly practical, to make the best use of researcher time and minimise disruption to a school week. However, a whole day was also chosen, rather than a more traditional one hour English lesson per day over a week as less time would elapse between each phase of the writing process and facilitate connection-making between phase elements (Fink et al. 2007:69), an important characteristic of creative thinking. 'Galactic Defence' was designed to provide a context within which to facilitate the cognitive attitude of problem-solving (Meadows 2006: 194). The workshop

design was also informed by a piece of my own empirical research (Copping 2016b) and figure 8, p.108 in this thesis. This research emphasised the importance of creating an environment for thinking, placing value on the writing process not just product, providing a clear purpose for writing and setting high expectations for writing and thinking. The problem-solving context began with a simulation, to engage the participants and as Cremin states 'the lived experience of drama becomes a natural writing frame that is charged with the emotions and experiences of the imagined world' (2009: 98). A simulation therefore can allow children to become fully immersed in the context and enrich their work through a deeper experiential engagement with the problem to solve. The 'Galactic Defence' simulation was that Parklands Primary had been infiltrated by Dax, an evil robot master force. Dax had already possessed the senior staff and the classroom was the only safe place. Both classrooms were decorated to simulate a space laboratory. Employing 'teacher-in-role' Prendiville (2000: 8), I facilitated the workshops as a Professor for 'Galactic Defence', engaged the children as junior researchers and used writing in role (Cremin et al. 2006: 274) for the children to bring themselves to the writing process. This involved developing group scenarios, aligned with my social constructionist epistemology and belief in writing as a social practice (Pantaleo 2016: 84) in the form of stories to present to the school's governing body regarding the potential risks of an evil robot infestation. Within this simulation, the workshops were structured around Alves and Limpo's (2015: 374) writing process of planning, translation (composition – translating ideas into text) and transcription (including editing). This process included a 'what would happen if' possibility thinking activity to generate ideas (Craft et al. 2013: 538) and shared reading, using a mentor text (Culham 2014: 31), given the acronym WAGOLL (What A Good One Looks Like) in the data, planning, composing, editing and revising in groups.

The data set consisted of two observation sheets per class, a semi-structured interview with each class teacher, two focus groups, reflective journal and thirty eight pieces of writing. This data was coded inductively, employing a descriptive approach using language from the data and conceptualised through an open method (Savin-Baden and Howell-Major 2013: 422). An inductive approach, generating codes from the raw data was chosen for several reasons. Firstly it aligns to the phenomenological underpinning to my research. A phenomenological approach starts with a 'first person perspective… attempting to describe the essential features and elements of a given experience' (Savin-Baden and Howell-Major 2013: 61), drawing codes directly from data does this. Whereas a deductive approach

applies codes from literature to the data so starts with literature, not participants and therefore does not align with my philosophical stance. Thomas (2006: 237) states that an inductive approach helps summarise the data and helps establish links between research objectives (or questions) and the raw data, both of which I aimed to do. Throughout this process, a coding chart was developed, an extract of which is presented in figure 14 below. The full coding chart is appended to this thesis in appendix A. This chart shows how the codes were generated from language in the data, where they were evident in the data, corresponding quotes and where the code connects to each of my three research questions.

Coding Chart – First Stage Analysis – Workshops 1 and 2 – Yr6			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ1/3	Deep thinking ideas	6D Ref Diary, 6DObservation 6D interview 6H interview 6H focus group	'some really deep thinking ideas' 'interesting and creative ideas' 'came up with some fantastic ideas' 'I think they will struggle but they had loads of good ideas' 'I know they all have lots of narrative ideas' 'It's really interesting you get your mind going'

Figure 14: Extract from my coding chart – workshops one and two.

Each piece of children's writing was then analysed using my adaptation of Dunsmuir's (2015: 15) Writing Assessment Measure (figure 12, p.131 in this thesis).

Following thematic analysis, this data set generated twenty six descriptive and conceptual codes which were then categorised into themes (Braun and Clarke 2006: 87), a way of organising repeating ideas (Vaismoradi et al. 2016: 101). These themes were categorised intuitively through making connections between codes and concepts aligned to my research questions. This process was not straightforward as codes were categorised and re-categorised many times, due to some concepts overlapping but eventually assigned to the category that was the best fit (Vaismoradi et al. 2016: 105). As a result of this process, four themes and one sub theme were created, presented in the larger boxes in the middle of the

theme map below (figure 15). This map illustrates codes categorised into the themes and how the sub theme 'beliefs about writing' stems from the achievement and engagement, children's perspectives theme. Each colour represents a theme and the codes therein.

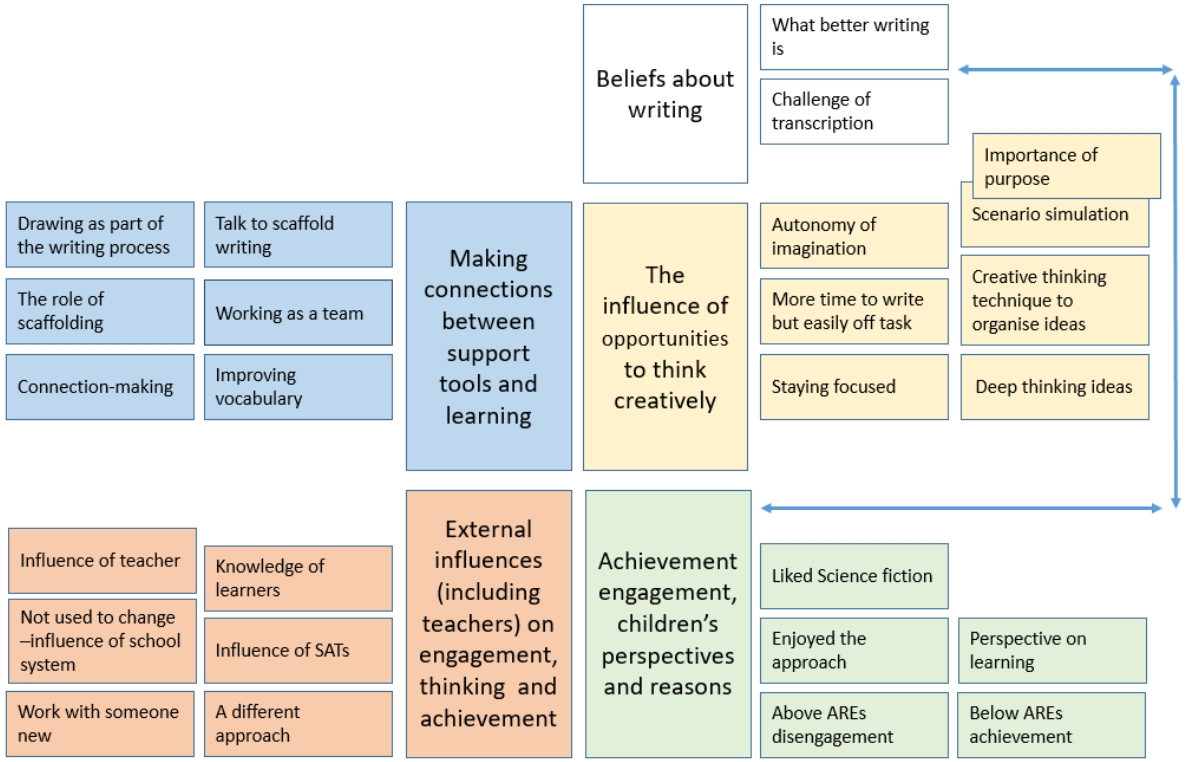


Figure 15: Year 6 theme map: Workshops one and two.

The remainder of this section will take each theme in turn, analysing the data and conclude with discussion of how findings informed the design of workshops three and four and present a modified think for writing framework.

4.3 Theme 1: Making connections between support tools and learning

This theme connects ostensibly with two of my three research questions. The first question 'From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?' It also focuses on the third question 'From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?'

Examining the six codes that were allocated to form this theme, four of them: talk to scaffold writing, the role of scaffolding, improving vocabulary and connection-making

appear to be interlinked. The reason I suggest this is because Ionescu (2011: 190) discusses the role that thinking plays in adapting ideas and finding novel solutions and Robson's (2014: 127) Analysing Children's Creative Thinking Framework emphasises creative thinking as analysing ideas. In order to engage in creative thinking in this way, connections between strands of existing knowledge need to be created. This concept underpins the recursive process of writing pedagogy: planning, drafting, editing and revising, as stated by Seow (2002: 315). The implication is that learners can connect their thinking and ideas, using working memory to develop their writing through the process. This process, following a social constructionist epistemology, is supported by a range of scaffolds to help make those connections. One such scaffold that the classes had been using regularly prior to my workshops was mentor texts (Culham 2014: 31). This is often termed a WAGOLL (What A Good One Looks Like) in a school context. A mentor text is defined by Culham as any text that can be 'read with a writer's eye' (2014: 31). In other words it is a model rooted in the idea that reading can be used to teach writing. Writers would therefore examine and analyse a piece of text, engage with its features and 'magpie', or steal any that may develop their own writing. In my workshops, a mentor text was used to help develop descriptive writing. A large copy of the text was read with the class, displayed, highlighted and discussed together then analysed for key features to magpie. Despite the regular use of this tool in the class, in my reflective diary, whilst working with class 6H I observed

> 'There was very little ability to pick out language'
>
> 'The children seemed to really flounder with the WAGOLL, just because it was in a different format to what they are used to'
>
> (My Reflective Diary p.3)

These reflections were corroborated by observations of 6H during the workshop;

> 'Children didn't connect what I was doing with the WAGOLL to how they could use it and magpie ideas, they didn't know what to do with it and seemed to see it as a separate activity to the writing'
>
> (6H Observation extract)

In interview with the class teacher, this observation was followed up. The reason suggested for the children's lack of application of the mentor text was that I had used it differently to how they are used to and had not given them copies. However, during focus group

interview with 6H, children could clearly articulate how a mentor text should be used and one participant's perspective was that she had used it to develop the opening of her story;

> 'When we all did the openers first… I put about where they were coming from… 'the moon and every day they get closer', from the Iron Man'
>
> (Child B 6H focus group)

However, when analysing her writing, there was no evidence of this line in her work, demonstrating a lack of connection between the purpose of the mentor text and her writing.

A similar lack of connection was apparent when working with 6D. Whilst some children in 6D worked effectively with the mentor text, an extract from observation noted;

> 'I made more of reminding them to use the WAGOLL but still many didn't have it in front of them'
>
> (6D Observation extract)

6D's class teacher however rated the use of the mentor text highly, recognised my use of it as being helpful to the children and also understood that its purpose is to emulate elements of it. She however stopped short of articulating how the children's writing had developed from it and again there was limited evidence in the children's writing of the mentor text's use.

Graham and Perin, in their work on improving writing, state that mentor texts should be studied and children should be encouraged to 'analyse these examples and to emulate the critical elements… embodied in the models in their own writing' (2007: 20). Evidence from my findings suggests that whilst a mentor text is a recognised support tool to aid writing, the challenge is helping learners make the connection between a mentor text and their own composition. There is however a paradox within this issue of a mentor text. It was seen by some of the children as a useful support tool;

> '…having all the support, WAGOLLs, success criteria and big masses of paper to write all the things… could have edited it and built it up to make it much better'
>
> (Child D 6D focus group)

> 'WAGOLL helps you so you don't forget'

(Child E 6H focus group)

Observations and reflective notes from the workshop with 6D made it clear that when I was directly working with the mentor text, emphasising language that could be emulated and modelling application to their own thinking and writing, the children were able to see those connections. However, when later structuring ideas on paper it was almost as if this was a completely different activity. As discussed in sections 2.15/2.16, writing is in itself a complex process. Myhill, citing Hayes and Flower (1980) state: 'the act of juggling simultaneous constraints' (2009: 47), akin to the skills of problem solving, a key aspect of creative thinking (Kellogg 1999: 13). There is a lot to think about for the writer in the process of creating written text, lots of things to juggle and perhaps adding in the requirement or support of a mentor text, instead of being a helpful support is in fact another constraint to juggle or another layer of the problem to try and solve.

The mentor text was not the only support tool designed to aid learning that had not been connected with. As part of the writing process, drawing a comic strip and using speech bubbles to help structure the action in their stories was used. In focus group discussion, 6H commented on their enjoyment of this. This response was indicative of others from all six children;

> 'I liked doing the drawings and the comic, I don't really like doing much writing'

(Child C 6H focus group)

On further probing, none of the children spoken to were able to articulate any understanding that the drawing task was part of the writing process. Neither was their indication during observation that comic strip content appeared in any of their finished stories. Reflection from my journal, when working with 6H, emphasised this;

> 'I was disappointed that the comic strip process had not provided more content for their writing. Many children I noted were not even using theirs as an aide-memoire when writing and when I ask one child why not he told me because he had finished it and was moving on to the writing now'

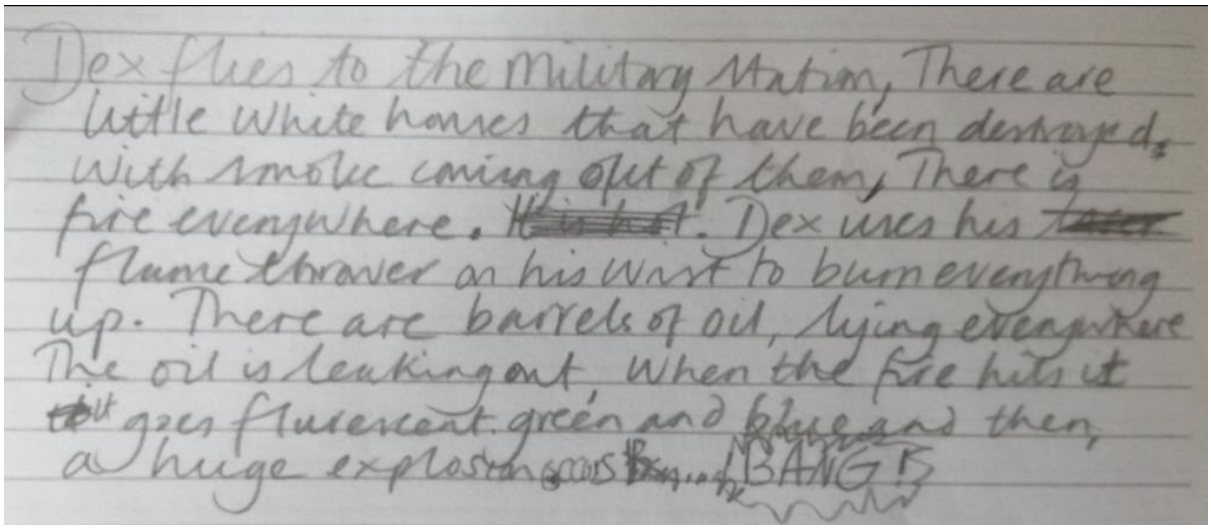
(My Reflective Diary page 7)

Despite the school's usual approach involving building up a piece of writing over a week, this entry demonstrates a lack of the children's understanding of writing as a process, one possible reason for this could be the product-based pedagogy and testing that schools have been forced to adopt (West 2010: 25).

It was however evident that the support tool of talk did influence the writing process, especially supporting those children who found the complex process of transcription too challenging. It was noted in my reflective diary and corroborated by 6D's class teacher that;

> 'A child with ADHD (Attention Deficit Hyperactive Disorder) usually frustrated with writing, spoke excellent ideas for a scribe'
>
> (My Reflective Diary page 9)

Verbally, this child, assessed by his teacher as working below age-related expectations, showed an ability to edit and restructure sentences and how to manipulate sentence structure for effect far beyond his written product. The example below, Year 6 Writing Sample 1, is my scribing verbatim and in situ of this child's verbal story construction. Analysing this using my adaptation of Dunsmuir's (2015: 15) Writing Assessment Measure, verbally this child's ideas, organisation and vocabulary use was more effective than many of the children assessed by their teacher as exceeding age-related expectations.


Dex flies to the Military Nation, There are little White houses that have been destroyed, With smoke coming out of them, There is fire everywhere. ~~It is hot~~. Dex uses his ~~laser~~ flame thrower on his wrist to burn everything up. There are barrels of oil, lying everywhere The oil is leaking out, When the fire hits it ~~it~~ goes fluorescent green and blue and then, a huge explosion BANG!!

Year 6 Writing Sample 1

This example brings into focus the importance of talk supporting the writing process and composition being valued as well as transcription. It is also indicative across all thirty eight pieces of writing analysed from both classes. Out of thirty eight scripts, thirteen were written by children assessed at working below age-related expectations in writing. The

transcriptional elements (handwriting, spelling, punctuation, sentence structure and grammar) of all of those children's writing were assessed as lower than those children working above age-related expectations. However, all except one of these pieces of writing were assessed as similar or higher for composition (vocabulary, ideas and organisation).

Talk as a support tool for writing was integral to the design of these galactic defence workshops through writing in groups. Team work therefore was intended to provide a scaffold for writing, underpinned by writing as a social process (Graves 1983: 97) and a social constructionist stance on how knowledge is created. Working as a team however did not always provide the support that my design intended. There was however a noticeable difference in perspectives on team work as a support tool across the different data sets. Observations of class 6D working in groups noted that;

> 'Children finding working together almost impossible, arguing and … for most groups, or one person taking over'
>
> (6D Observation extract)

It was evident that working in a team for the children in 6D was a barrier to learning rather than a support tool. 6D's class teacher surmised that this behaviour could be due to stress caused by chaotic home lives. Rybski Beaver (1997: 131) in her work on the role that emotion plays in how children cope with life's stresses cites anger as an outward sign of life stress and so the class teacher's surmise could be valid. In section 3.5, p.110 I discussed the concept of the influencing factors of stress and chaos on some of these children's early lives. These adverse experiences affect cognitive function, cognitive flexibility, creative thinking and anger responses to situations (Ji and Wang 2018: 2; Dahlitz 2017). 6D's emotive response to team work as a support was certainly not helpful for them, although different, neither was 6H's. For 6H, observation corroborated by interview data, team work was an opportunity to allow someone else to do the work. Their class teacher noted;

> 'I mean they were engaged but when it was their turn not to write... If they were all doing their own task it would mean… they couldn't skive'
>
> (6H semi-structured interview)

Team work therefore became a cooperative activity, each doing their own bit, rather than collaborative where they all support one another to develop their writing. The connection between using each other's ideas and their written pieces was not made. Writing was not seen as a social process, new knowledge constructed together, and more a chance to not have to write. However, the children's perspective from both classes on how they worked as teams and their understanding of the role that team work can have in developing writing belied what was observed. 6D's focus group, seemed to understand how working together can support the writing process. One after the other, children shared their views

> '…work hard with my table… We have to have teamwork to work altogether and that's really important'
>
> 'Helps us work with… the people around us'
>
> 'I like having more people around me with more minds and more knowledge so we can add it all up and make something good out of it'
>
> 'I could give my ideas to other people so that can get better than they are now'
>
> (Child B, C, D, E 6D focus group)

6H focus group also demonstrated understanding that was not seen in observation.

> 'It was really fun writing the stories... like to share my group… share your own opinions and share ideas together'
>
> (Child F 6H focus group)

This is another example of children not making connections between support tools provided to develop writing and actually using them for that purpose. Reflecting on the data surrounding the mentor text and support tools led me to return to my 'think for writing starting point framework' (figure 8, p.108). In this framework, the scaffolding processes are conceptualised within composing text as building blocks constructed in a wall like structure. However, data from this theme suggests that the learners know what the building blocks are (e.g. mentor text, talk, drawing comic strip, modelling writing, team work) and how to use them on their own, what they cannot do is make connections

between them to develop writing. The problem therefore is not the blocks but the gaps in between. Reflection and analysis has therefore led me to consider whether the time and effort in the processes of teaching writing should be going into developing the filling of the gaps between the blocks (the connections) as much as providing the blocks themselves.

4.4 Theme 2: External influences on engagement, thinking and achievement

This second theme arises from the first because I would suggest that external influences affected the children's ability to make connections. In the previous section, I concluded that the approach I took to mentor text's use was different to the way the children usually use it and this contributed to a seeming inability to connect their use to developing writing. The influence of the school's approach on thinking, engagement and achievement was found to be prevalent in the data, alongside other external influences such as SATs (Standard Assessment Tests), working in a different way and working with someone new (me). The influence of the teacher on thinking, engagement and achievement was also prevalent and their knowledge and perception of their learners are the final two codes that have been assimilated into this theme (figure 15).

The school's approach to teaching English comprised of a structured, systematic series of lessons each week based on Pie Corbett's Talk for Writing approach (Corbett 2020). The data demonstrated that this repetition did have an impact on creative thinking. The interview with 6D's class teacher emphasised the safety of the approach;

> 'They're used to the same structure and they're quite systematic,
> you do a cold write then the next time we pull apart a WAGOLL –
> so it's safe for them… it's just the journey the school have adopted
> is rigid'
>
> (6D semi-structured interview)

This was developed in interview with 6H's class teacher, who connected the safety of the system to the learners being passive recipients.

> 'They are just sat there going Ahha, we are so spoon-fed'
>
> (6H semi-structured interview)

Meadows (2006: 194) suggests some cognitive attitudes that creative thinkers display. One relevant here is 'choosing challenges rather than avoiding them' (2006: 194) and this attitude is taken into my observation framework (figure 9, p.116) drawing on Robson 2014: 127 as 'risk taking'. Data here suggests that the school's system adopted to successfully address Ofsted action points around writing has allowed the children to become passive recipients without opportunity to take risks in terms of writing. The writing they produced could arguably come under the heading of 'knowledge-telling' (Bereiter and Scardamalia 1987: 10). This is essentially retrieving content from the mentor text and then write your version. More an outworking of creative thinking is writing as knowledge transforming (Bereiter and Scardamalia 1987: 10) where the writer takes existing knowledge (mentor text) then develops and adapts it to create something new. Observations made whilst working with 6D evidenced this reliance on the school's approach, a reliance on procedure rather than the application of skills;

> 'The more able groups did struggle … – they couldn't transfer the skills they have developed over the last year'
>
> (6D Observation extract)

The school's structured system has been developed and adopted successfully to raise attainment in standardised assessment tests, so their pedagogy is being driven by the external tools used to assess the school's effectiveness (West 2010: 23). In section 2.21, p.67, in my discussion of the implications of a product-based pedagogy, I have cited Wyse and Torrance (2009: 221) who argue that the existence of high-stakes testing carries considerable risk to children's learning. Data from these workshops, pertaining to safety and spoon-feeding seems to provide evidence of that. The influence of SATs was also a factor when discussing the workshops with 6D focus group. Two of the children in the group (one assessed as working above age-related expectations and the other below) felt the work they had engaged in had been too easy. They commented;

> 'In year 6 we concentrate on getting into high school'
>
> 'Year 6 is like really, really high writing'
>
> (Child F and child A 6D focus group)

SATs were also uppermost on the class teachers' minds. 6H's class teacher, highly experienced, had clearly adopted a system that she felt worked in attaining results.

> ‘It’s all the SATs I’ve done, I know what I need the kids to get…follow a strict routine of lessons
>
> (6H semi-structured interview)

The influence of the school’s system and the influence of SATs are really under the umbrella of a product-based pedagogy with attainment judged by high stakes testing. Berliner (2011: 287) states that a risk of high stakes testing is excessive test preparation and Au (2011: 25) suggests that the biggest risk is curriculum narrowing. Data from my research suggests that the English curriculum has been narrowed by the school to a pragmatic, systematic approach that helps their children succeed against the measure that is imposed upon them. The risk for the school, however of doing anything else is too great as their context at the time of my data collection was they had just achieved an Ofsted ‘good’ grading. West (2010: 25) makes the point that success in these tests determine the futures of teachers, children and schools, hence the term ‘high stakes’ is applied.

Another big influence on the children’s engagement, thinking and achievement evidenced in the data was the class teachers. Each class teacher had a profound influence on their classes in very different ways. This was particularly noticeable in 6H where the class teacher has a powerful personality. This teacher, very experienced and skilful, exerted significant control over her class. In response to asking her what her children would say about her, she responded with

> ‘What my kids put depends on what I would put’
>
> (6H semi-structured interview)

She described herself as someone who expects the best behaviour and this was clearly evident in my working with the class. However, this powerful presence did, I would argue, have an impact on the children’s thinking and independence of thought. This was evident as my reflective diary, noted during 6H’s workshop;

> ‘The teacher was controlling things, working with a group but doing it for them… they stopped thinking and relied on her… but when given permission, they did develop their ideas’
>
> (My Reflective diary page 5)

This was corroborated by the class teacher's observations, where she noted frustration that the children seemed dependent on her to extend their ideas.

The influence of 6D's class teacher was very different. This teacher was in her 'Recently Qualified' Year (RQT), her second year of teaching having had this class from year five. She described this knowledge of her class from year 5 as being significant but also decisive in the way she described herself

> 'I know all about them, I care about them, I know where they're going at weekends, which parent they are spending it with... knowing why they are upset, knowing how to deal with them'
>
> (6D semi-structured interview)

Evidence from observations suggested that 6D were noisier, freer with their ideas, less constrained by the school's system and more willing to embrace the different approach I was facilitating. However, having assessed it, 6D's writing did not demonstrate any significant higher level of achievement when applying my adaptation of Dunsmuir's (2015: 15) Writing Assessment Measure than 6H's work. It could therefore be argued that the quality of the process did not necessarily influence the quality of the product and thus links to the previous theme's conclusions around making connections. However, the cognitive processes involved in writing, following Graves (1983) (section 2.17, p.59) are significant and the environment to facilitate those processes is evidenced here in the different influences of the class teachers. In my discussion of enabling environments for creative thinking (section 2.23, p.73) I have cited McEachron, Bracken and Baker (2003: 462) who argue that the environment significantly influences pedagogic interactions between teachers and students. With class 6H the environment was controlled, structured and highly managed, an outworking of the teacher's approach and ethos (Davies et al. 2010: 85) and this arguably led to a cognitive environment where learners were recipients. However Waitman and Plucker (2009) describe an effective pedagogical environment for creative thinking as one that facilitates freedom and autonomy to explore ideas, more evident in 6D's classroom. Both teachers brought their knowledge of the learners, 6H's teacher's perspective of learners needing routine, structure and control to do well in their SATs and 6D's perspective of care and understanding. These different perspectives and personalities did influence, as evidence shows, engagement and thinking, but linking to findings emerging from theme 1, during writing, more teacher effort and energy is needed

in developing the connections between the processes involved in composition and the outworked product.

4.5 Theme 3: Achievement, engagement, children's perspectives and beliefs about writing

This theme focuses more on the children's perspectives of the Galactic Defence workshops. Data from both focus groups provides evidence that the classes enjoyed the workshops in terms of the different approach;

> 'It was fun and creative and different to what we usually do'
>
> (Child B 6D focus group)

This was indicative of a range of comments from both 6D and 6H focus groups all referring to the workshops being fun. In interview, class teachers agreed that the children had enjoyed it. Robson's (2014: 127) Analysing Children's Creative Thinking framework has 'enjoyment' as part of engagement, a category she has determined is significant in creative thinking. Robson (2014: 127) goes on to suggest curiosity comes out of enjoyment, another aspect of creative thinking and part of a pedagogical environment for creative thinking, children enjoying their learning is important. Evidence from the data shows the enjoyment related to the genre and that led to motivation to engage.

> 'I got more into science fiction now because of you'
>
> 'After that lesson I've got more into space and want to watch more films'
>
> (Child D and Child F 6D focus group)
>
> 'It persuaded me to try because I really liked that thing about robots and the scientist, yeah'
>
> (Child A 6H focus group)

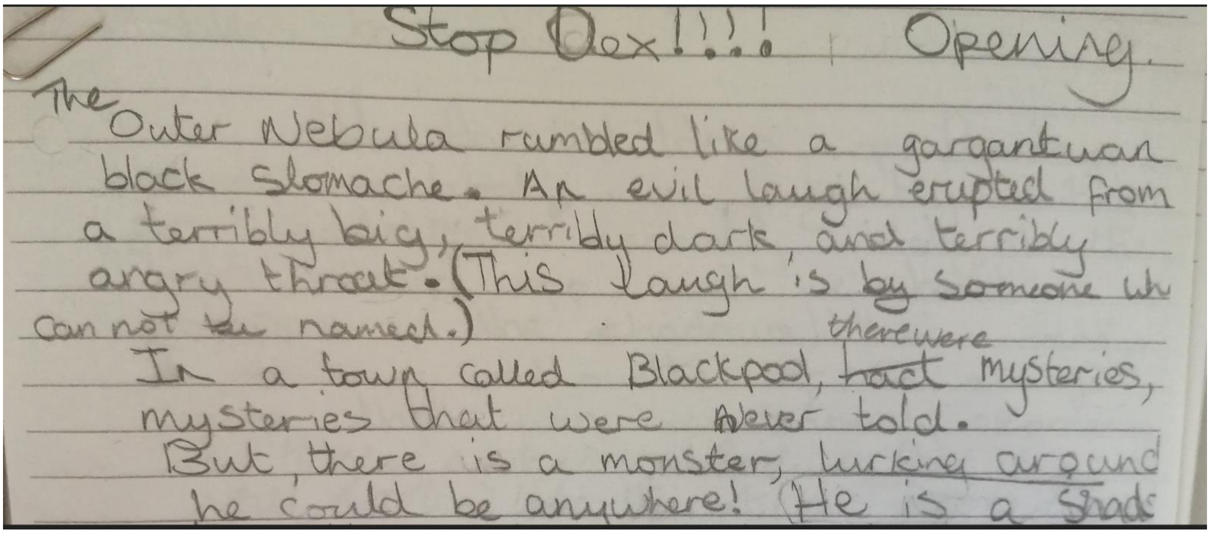
However, this enjoyment and engagement did not influence creative thinking and writing for all of the children in the classes. Evidence from observations whilst working with 6D showed that some of the children found the different approach challenging.

'It was clear that the different structure and approach was challenging for the back two tables'

(6D Observation extract)

The back two tables in the classroom were occupied by children assessed as working above age –related expectations. Data analysed from the previous theme suggested that these children from both classes found the school system safe and predictable. Change for them was challenging, perhaps because of their own confidence in their success with the traditional school system. My workshop design was more open-ended, emphasising possibility thinking and was perhaps less formulaic than the school's approach. Looking again at Robson's (2014: 127) Analysing Children's Creative Thinking framework, a tolerance of ambiguity is seen as part of persistence and self-efficacy. McWilliam and Haukka (2008: 656) connect this attitude of a tolerance of ambiguity to flexibility and adaptability which coheres with Meadows' (2006: 194) cognitive attitude of choosing challenges. However, evidence here suggests that these children identified as working above age-related expectations arguably did not demonstrate this attitude associated with creative thinking. It is possible that the structured approach developed by the school, a necessity to meet the demands of high stakes testing has facilitated comfort and safety for those working above age-related expectations at the expense of providing challenge and opportunity to apply skills and ideas flexibly.

This confidence in safety was also evident in the writing of those children working above-age-related expectations. In section 2.15, p.55, I have cited the work of MacArthur (1999: 169) who suggests that those who struggle with writing struggle with the transcriptional elements such as handwriting, spelling, sentence structure, punctuation. By implication therefore those who do not struggle with writing, or arguably those assessed as working at or above age-related expectations (AREs), can juggle the transcriptional elements more successfully. Through analysis of the writing of the eight children working above AREs and the sixteen working at AREs, again applying my assessment measure (figure 12, p.131) the transcriptional elements of their writing were assessed as consistently higher than those working below AREs. Whereas their composition was assessed at similar or even occasionally lower. The example below, Year 6 writing sample 2 is an extract from the opening of a story by a group working above AREs. In this example, transcriptional elements were assessed at a high level, whereas the compositional elements, vocabulary, ideas and structure and organisation were assessed as lower in comparison.



Stop Dex!!!! Opening.

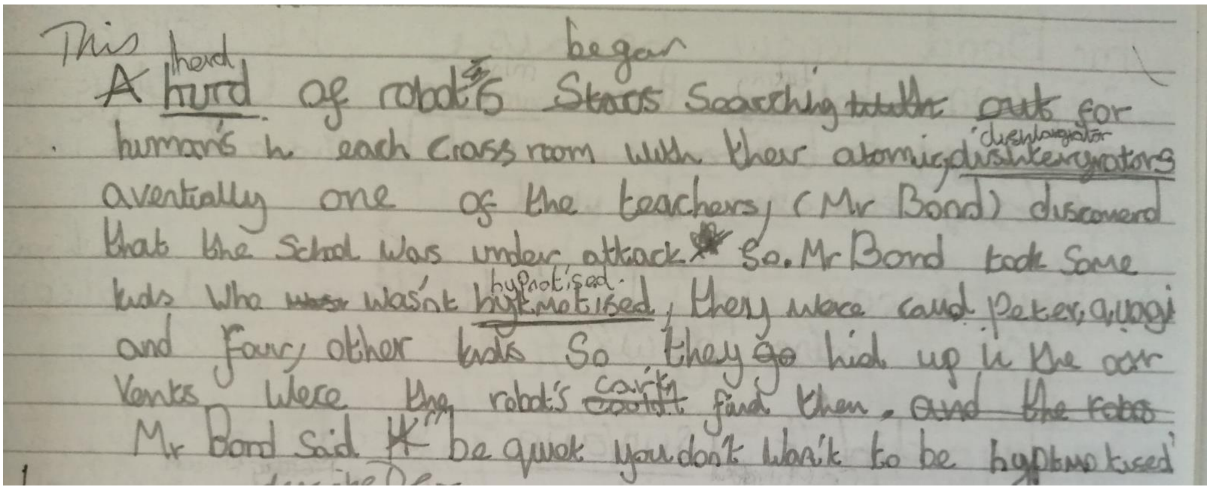
The Outer Nebula rumbled like a gargantuan black stomache. An evil laugh erupted from a terribly big, terribly dark, and terribly angry throat. (This laugh is by someone wh can not be named.)

In a town called Blackpool, there were ~~had~~ mysteries, mysteries that were never told.

But, there is a monster, lurking around he could be anywhere! (He is a shad

Year 6 Writing sample 2

Year 6 Writing sample 3 below, written by a group working below AREs, is comparable in terms of assessment of compositional elements, vocabulary and ideas are arguably more innovative and risky. The transcriptional elements, particularly spelling, punctuation and sentence structure however were assessed at a much lower level.



This herd began A hurd of robots Stars Searching out for humans in each class room with their atomic disintegrators aventually one of the teachers, (Mr Bond) discoverd that the School was under attack so. Mr Bond took Some kids Who wasn't hypnotised, they were caud Peter, [illegible] and four other kids So, they go hid up in the air Vents Were the robot's can't find then. ~~and the robots~~ Mr Bond said 'be quick you don't want to be hyptnotised'

Year 6 Writing sample 3

Evidence showing an apparent lack of achievement by those children working above AREs was corroborated by 6D's class teacher who during interview stated with regard to her most proficient writers;

> 'I don't think his ideas were as innovative as they usually are…I
> was disappointed by the back table to be honest'
>
> (6D semi-structured interview)

The challenges of transcription were also evidenced in this data set. Interview data from 6D's class teacher emphasised the difficulty for those working below AREs in writing;

> 'It has a big impact on the structure of their sentences because they struggle… quite a lot of the time it goes brain dump on the page'
>
> (6D semi- structured interview)

However, those children assessed by their teachers at working below AREs or having particular learning or behavioural needs seemed to achieve as highly as the rest of their classes and surprised their teachers with their thinking; 6D's class teacher noted that

> 'The vocabulary they used was impressive – xx and xx wouldn't usually stretch themselves to such advanced vocabulary'
>
> (6D semi-structured interview)

6H's class teacher was similarly impressed with her children assessed at working below AREs in writing;

> 'They wanted to keep writing, especially xx with SEBD (Social and Emotional Behavioural Difficulties), wouldn't normally have done that…my normal low achievers have done some really good work'
>
> (6H semi-structured interview)

Evidence from writing analysis certainly corroborates this, as demonstrated above with the writing examples. Ten of the twelve pieces of writing from children working below AREs were assessed at the same or higher in composition elements than their above AREs counterparts.

However, across the data, the processes of composition were rarely mentioned when discussing writing. Perspectives on writing from both children and teacher participants very much aligned to Lambirth's 2016 findings from his work on discourses of writing (section 2.22). As Lambirth (2016) suggests, children are more likely to talk about aspects of writing they find most difficult and my data bears this out.

During focus group discussion, what the children equated to 'better writing' was handwriting and spelling;

> ‘I don’t usually do cursive writing and it got really neat, I thought my handwriting got better… I thought I’m gonna do cursive from now on... Yeah the work helped me do better writing’
>
> (Child D 6H focus group)

> ‘I tried hard to figure out the spellings you underlined’
>
> (Child E 6D focus group)

This evidence highlights a skills discourse prevalent in the classes’ more general writing discourse where the focus is on the mechanics of the writing produced (Lambirth 2016: 226). A creative discourse, with its emphasis on style, content and presentation is notable by its absence in the data. This is hardly surprising given that high stakes testing which drives Parklands Primary’s approach to teaching writing assesses these skills, to the point where as Lambirth 2016: 226 concludes, children can name parts of speech but don’t know how to use them to improve their writing

4.6 Theme 4: The influence of opportunities to think creatively

This fourth and final theme is related specifically to my first research question, exploring the influence of creative thinking opportunities during the process on children’s work. Galactic Defence was designed with opportunities to engage in creative thinking and three of these: autonomy of imagination, the scenario simulation and the possibility thinking ‘what would happen if’ activity are three of the codes assimilated into this theme. The simulation was designed to engage the children and develop curiosity (Robson 2014: 129) but also to facilitate another attitude of creative thinking, embracing pretence. Robson (2014: 130) discovered through her work that socio-dramatic play, such as a simulation like Galactic Defence was the most likely of any activity to lead to high levels of creative thinking. How both classes engaged with the simulation certainly influenced their creative thinking in terms of trying out ideas (Robson 2014: 129). Observation of 6D noted;

> ‘Children were buzzing and asking questions – the simulation had really piqued their interest’
>
> (6D Observation extract)

This was corroborated by 6D's class teacher in interview who agreed that the children had been hooked straightaway and the stimulus had been so vivid. She noted that one of the boys was;

> 'So into it and he genuinely thought he was a robot'
>
> (6D semi-structured interview)

This enjoyment and engagement was reflected by children in 6D's focus group, one boy, assessed as working above AREs commented on me being in role really engaged him. He also identified the decorating of the classroom and wearing identification lanyards that made him think it was real.

The simulation certainly stimulated their curiosity and led to a vast range of ideas. Comments prevalent cross the data set, from interviews with both class teachers, observations and notes, such as the example below illustrate this;

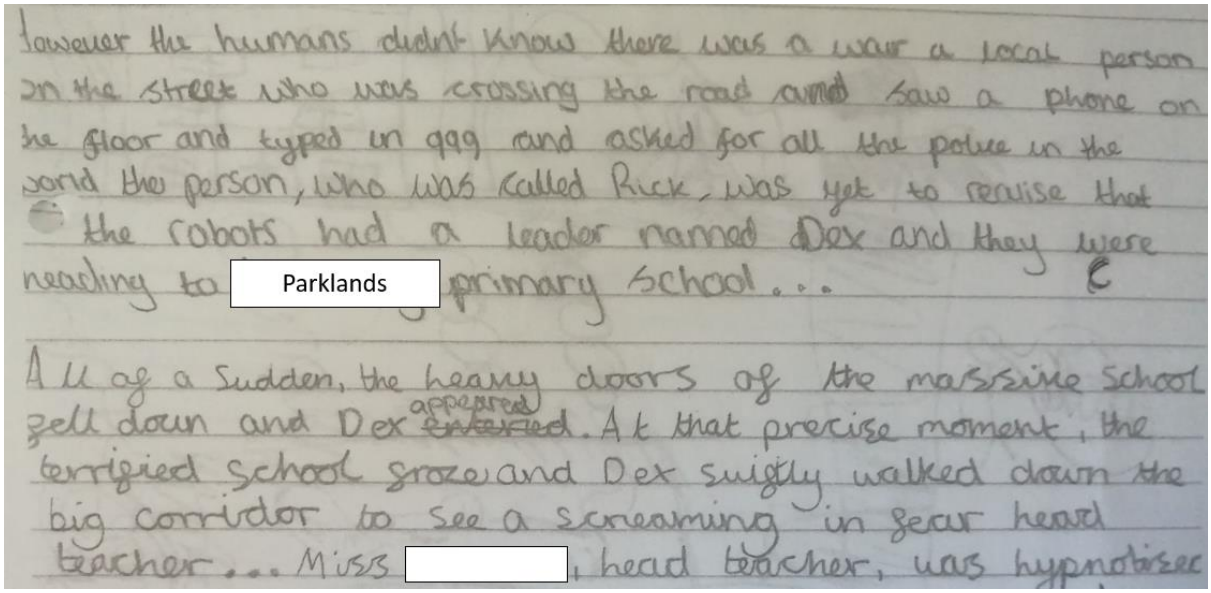
> 'They came up with fantastic ideas…some really deep thinking ideas'
>
> (6D semi-structured interview)

The responses from 6H varied. Some children, one of the boys assessed at working above AREs commented in focus group discussion that he enjoyed pretending it was real, clearly embracing the pretence, however others in the group were not able to and suspend their disbelief. One child commented

> 'It weren't daft or anything like that… it's just a bit of fun…cos robots can't take over your body, that's just stupid'
>
> (Child F 6H focus group)

Evidence from the data shows that a greater majority of those children working above AREs were willing to embrace the pretence of the simulation. For these children who engaged, their ideas went deeper and were more thoughtful, demonstrating a greater ability to analyse those ideas (Robson 2014: 130). Cremin et al. (2006: 274) argue that this kind of dramatic work provides an effective pre-cursor to writing and that writing in role, in this case junior researchers, reveals a better understanding of the issues and gives a clearer voice. Year 6 Writing sample 4 below is from the work produced by one of the boys working above

AREs who embraced the simulation. There is clear evidence of a strong writer's voice and deep connection to the simulation in his ideas and structure.


however the humans didnt know there was a war a local person on the street who was crossing the road and saw a phone on the floor and typed in 999 and asked for all the police in the land the person, who was called Rick, was yet to realise that the robots had a leader named Dex and they were heading to Parklands primary school...

All of a Sudden, the heavy doors of the massive school fell down and Dex appeared ~~entered~~. At that precise moment, the terrified school froze and Dex swiftly walked down the big corridor to see a screaming in fear head teacher... Miss [redacted], head teacher, was hypnotised

Year 6 Writing sample 4

The simulation clearly had an influence on the ideas and writing of those able to embrace it. Evidence from observations shows that those who, it was noted, were unable to embrace the simulation, their ideas and thinking was not at such a high level.

Arising from the simulation, having the opportunity to use their imagination was prevalent across the data set. The children found this motivating and refreshing.

> 'I liked using creativity to write new things like your imagination'
>
> (Child B 6H focus group)

In fact this had an influence on the children's creative thinking. Observation data from 6D showed that there was;

> 'lots of vibrant discussion and creative ideas from all groups about how Robot Dax came to infiltrate the senior leaders – liked open-endedness, freedom and flexibility at this point in the process'
>
> (6D Observation extract)

At the beginning of the composition process, the opportunities for creative thinking did appear to influence the children's verbal and ideas-based work. However, where creative thinking became less influential was as the writing process developed from a variety to an

agreed idea, confidence to speculate and analyse ideas seemed to disappear. One reason for this could be that with writing comes Hayes and Flower's (1980) 'act of juggling simultaneous constraints' (Myhill 2009: 47). Trying to keep the balls of spelling, handwriting, sentence structure, punctuation in the air is just too much when the ideas ball is added. This was evidenced during the latter stages of the writing process where children in both classes struggled to maintain focus, yet wanted more time to write. 6D's class teacher in interview stated

> 'They go off task easily and it's fair enough to say they want more time… but if they're not doing it then...'

In section 2.15, p.56 I have cited the work of Graham and Harris (2000) who argue that the main difference between skilled and novice writers is self-regulation. Zimmerman and Riseburg (1997: 73) say that writing is often self-initiated and self-sustained. Evidence from my data shows that there was a lack of self-sustaining from many of the children in both classes. Robson (2014: 129) terms this persistence, maintaining involvement in the task. 6D's class teacher commented that the children are used to working 'pacily', doing short, sharp activities through their structured school system. Therefore, it could be that this attitude has not been allowed to be developed?

Another of the opportunities to think creatively was the 'What would happen if?' activity, where children had to consider a range of possibilities for what would happen if an evil robot force did take over the school. Whilst the class teachers saw it as a useful technique to organise ideas and thinking, the children could once again not connect it to their writing. In focus group discussion it was evident that the activity had not really helped develop their ideas, speculate or analyse their ideas (Robson 2014: 129) as intended.

> 'I found it a bit hard, I didn't really understand it.'
>
> (Child D 6H focus group)

It seemed that this activity was seen as something different, not connected to the composition process but something separate.

4.7 Summary and implications for design of workshop's three and four and the 'think for writing framework'

Having analysed the data set from these two workshops, one key implication emerges for the design of workshops 3 and 4 and modification of my 'think for writing framework'. This implication is 'connection making'. On its own, making connections is a key theme but as a concept it also permeates the other three themes that I have created. Many of the children who participated in my research demonstrated an inability to make connections between the series of cognitive activities that made up the writing process. Evidence from the data suggests that whilst some creative thinking opportunities, such as the simulation, bore fruit in terms of idea generation and speculation (Robson 2014: 129), others such as the possibility thinking activity, were seen as not part of the writing process. Evidence from the data also suggests that support tools chosen to help the writing process and develop more effective writing were not fully utilised by the children. I would claim that in their discourse of writing, process was hardly discussed. Instead a more skills-based discourse (Lambirth 2016: 217) was prevalent. The prevalence of this discourse could be as a result of the influence of the high stakes testing the school is subject to. It could therefore be argued that a focus on writing as product rather than writing as process was inevitable.

Connection-making is not the only conclusion to be drawn from this data set and others have been presented through exploration of each theme. The purpose of this first stage data analysis was two-fold: firstly, to develop design implications for the subsequent workshops and secondly to modify my theoretical framework. The other conclusions will be considered in chapter 5 which aims to synthesise data from all six workshops in order to draw final case study conclusions. With the implication of connection-making considered, figure 16 below, shows my modified 'think for writing framework'. Here the separate building blocks of composition process from the starting point framework are removed and replaced with something more connected. Evident in figure 16 are also modifications to the thinking environment, role of writing discourse and composing text arising from data. The arrows attempt to illustrate the simultaneous nature of the whole writing process (Hiatt and Rooke 2002: 1).

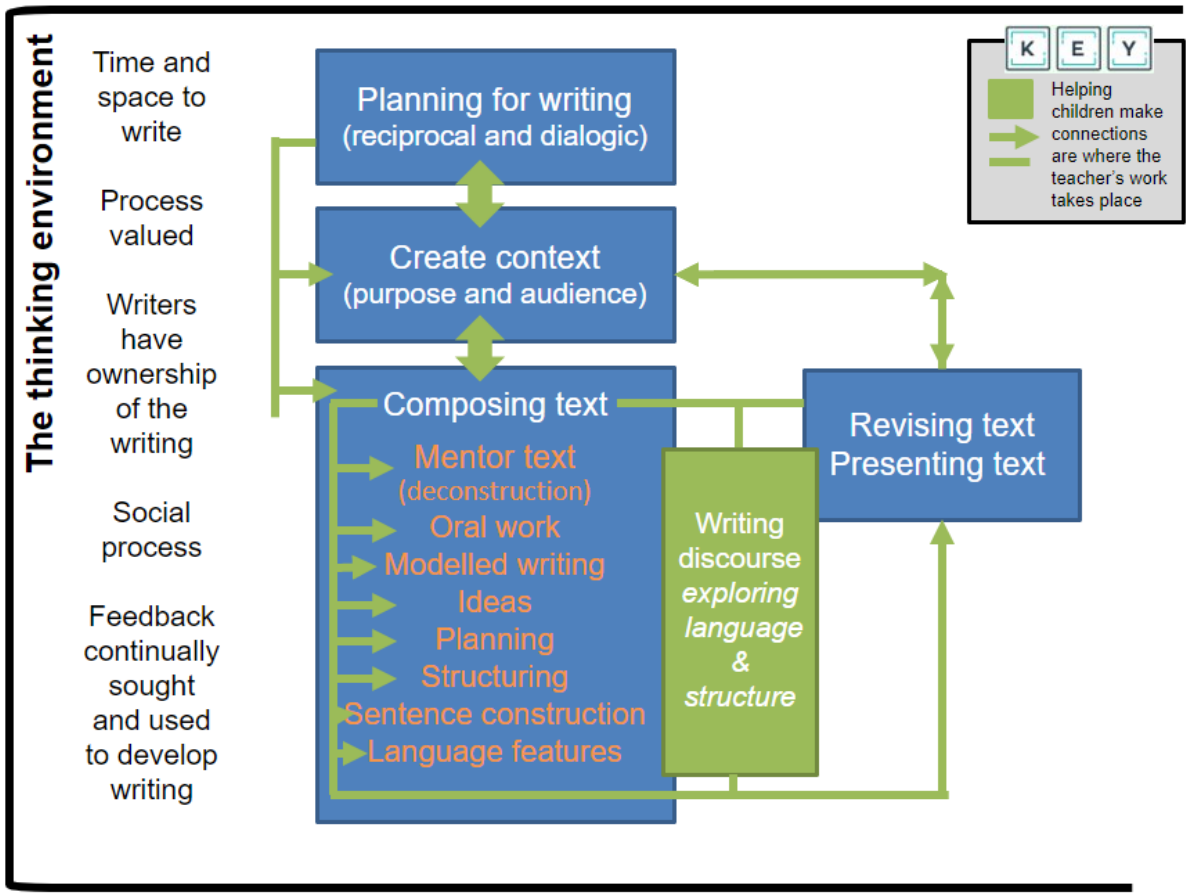
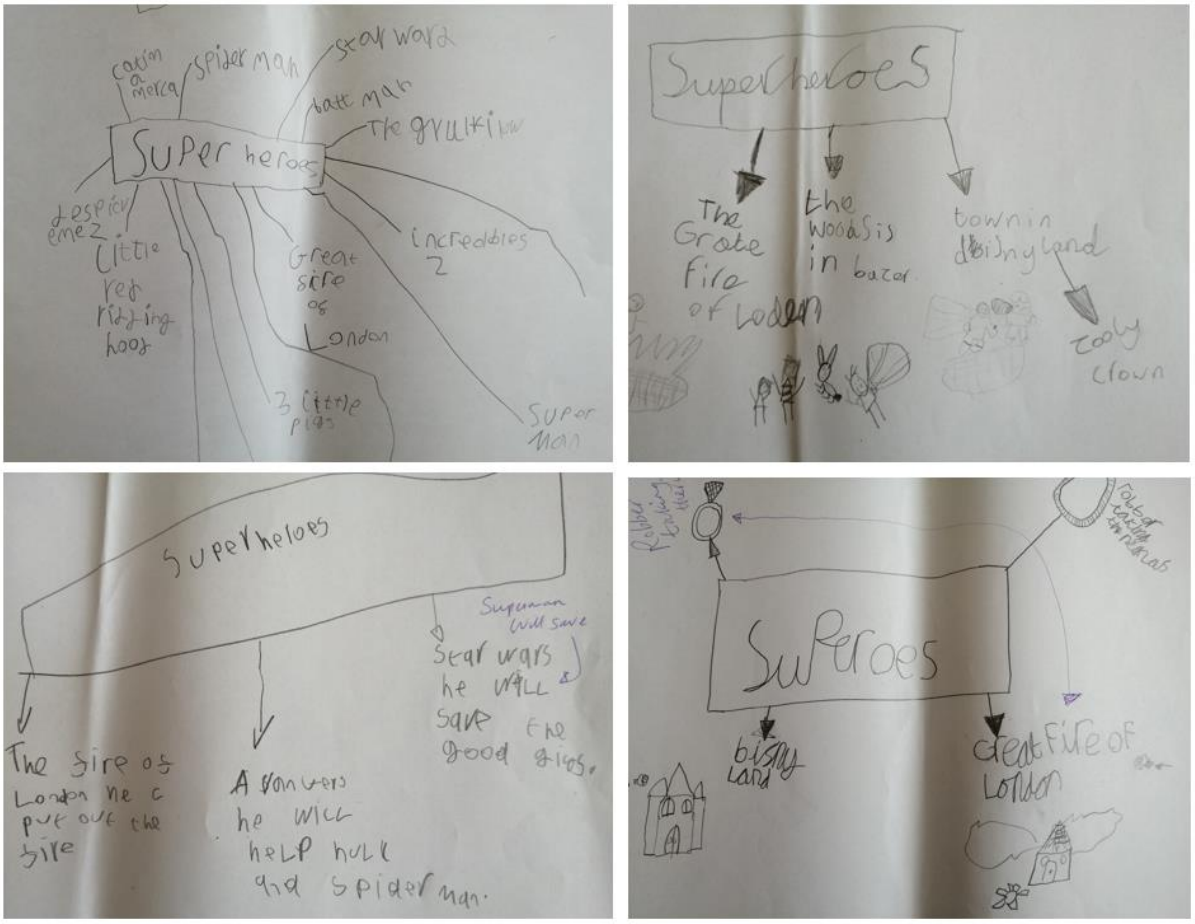


Figure 16: My modified 'Think for Writing' framework

The design of workshops 3 and 4 was informed by figure 16. This involved the setting and maintaining of a thinking climate through deployment of the factors that make up an effective thinking environment. It also involved making more explicit links for the children between elements of composing text, the planning, context and presenting text. These two workshops took place in both year 2 classes, known in the school as Elm and Birch class, a calendar year after workshops 1 and 2, in November 2018, due to my own PhD transfer process and school context factors. The school's system for teaching English therefore had been successfully embedded for a further year and so teachers and children were more confident and comfortable with it.

4.8 Workshops 3 and 4: Superheroes at the Great Fire of London

The theme of superheroes was chosen by both year 2 class teachers as a school - wide 'superhero writers' award had just begun to motivate children to improve their writing. This was the school's invention and targeted what they saw as key attributes of superhero writing, linked to what is assessed in SATs. These included correct use of commas, nouns, adjectives, conjunctions and other attributes more associated with transcription. Analysis of all forty four pieces of writing from this workshop shows transcription was an area of development for all thirty six writing samples from children working at or below AREs (Age Related Expectations). However, as is evident from figure 16 and the previous paragraph, transcription was not my planned sole focus for these workshops. The context of the Great Fire of London came out of a planning session with the classes a week prior to the workshops. This involved children working in pairs creating mind maps (Buzan 2003) focused on superheroes writing ideas, one of the pairs, drawing on their previous term's topic, remarked 'I wonder what would happen if superheroes landed when the Great Fire of London started?'. This unlikely connection certainly demonstrated novel thinking (Sternberg 2003: 325) and proved to be the idea that motivated the workshop. Year 2 Ideas samples below shows how four children from working above, at or below AREs who have tried to incorporate The Great Fire of London into their superheroes planning;



Year 2 Ideas samples

Whilst one of the purposes of mind mapping is to structure ideas (Yang 2020), and the examples above, representative of the whole 22 mind maps, show mainly lists rather than structure, there is evidence in this sample of children trying to connect the world of London 1666 to the fantasy world of superheroes. To provide a purpose for writing (Copping 2016b), it was agreed that a book would be created by each class with the title 'I wonder what would happen if superheroes landed when the Great Fire of London started?' Children would each create a 75 word story, so as to give less to write in the one day workshop time available and more time to focus on editing and revising, part of the process that there was limited time for in workshops 1 and 2. These workshops were also designed to facilitate problem-solving (Meadows 2006: 194), could superheroes save London from the fire? Each workshop began by facilitating curiosity (Robson 2014: 127) through the use of a large map of London (1666) with streets and landmarks laid out on the floor. This tool allowed the children to physically walk through London in 1666, see where the landmarks were and playfully visualise, as a way into composition (Craft et al. 2007: 141). The workshops were again structured using Alves and Limpo's (2015: 374) writing process of planning,

composition (translating ideas into text) and transcription (including editing). This process included a film clip of London 2018, featuring landmarks on the large map, engagement with the 1666 large map of London and discussing where they were in relation to the fire. Following this, ideas were developed in groups, aligning with my belief in a social approach to writing (Graves 1983: 97), and then planning the plot. The final stages of the processes allowed significant time to compose and revise text, as data from workshops 1 and 2 suggested children wanted more time to write. This links to developing attributes of persistence (Robson 2014: 127) and self-regulation (Risemberg 1997: 73).

Data was coded inductively using the same process (section 3.15, p.40/1). A coding chart was again developed using language from the data, an extract of which is presented in figure 17 below. The full coding chart is appended to this thesis in appendix B. This chart, shows how the codes were generated, where they were evident in the data sample, corresponding quotations and where the code connects to each of my three research questions.

Coding Chart – First Stage Analysis – Workshops 3 and 4 – Yr2			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ2	Teacher values	Elm interview Birch interview Birch Ref Diary	'I'm quite impulsive and reactive…I like to change the course of lessons…I'm quite into collaborative learning 'quite flexible really' 'I'm very kind of on them all the time…if I give them an inch they will take a mile' 'I try to be witty with them, fun and outgoing' 'Clearly a view from CT – give them an inch – a strict disciplinarian… keen to manage behaviour harshly.. this got in the way I think'

Figure 17: Extract from my coding chart – workshops three and four.

Thematic analysis was again employed, this data set generated thirty five descriptive and conceptual codes which were then categorised into themes (Braun and Clarke 2006: 87). These themes were categorised intuitively through making connections between codes and concepts aligned to my research questions. As a result of this process, five themes were

generated. These five themes influence each other and figure 18: Year 2 theme map below demonstrates, through the use of arrows, how each theme (larger coloured boxes and bold print) link to either one or more of the other themes. The coloured smaller code boxes denote to which theme they have been categorised. The theme 'The learning environment and thinking constraints' contains several codes that are connected and the arrows demonstrate where these connections are. The placement on the map of the theme 'external influences on creative thinking' and codes demonstrates their connection to the theme 'cognitive attitudes'.

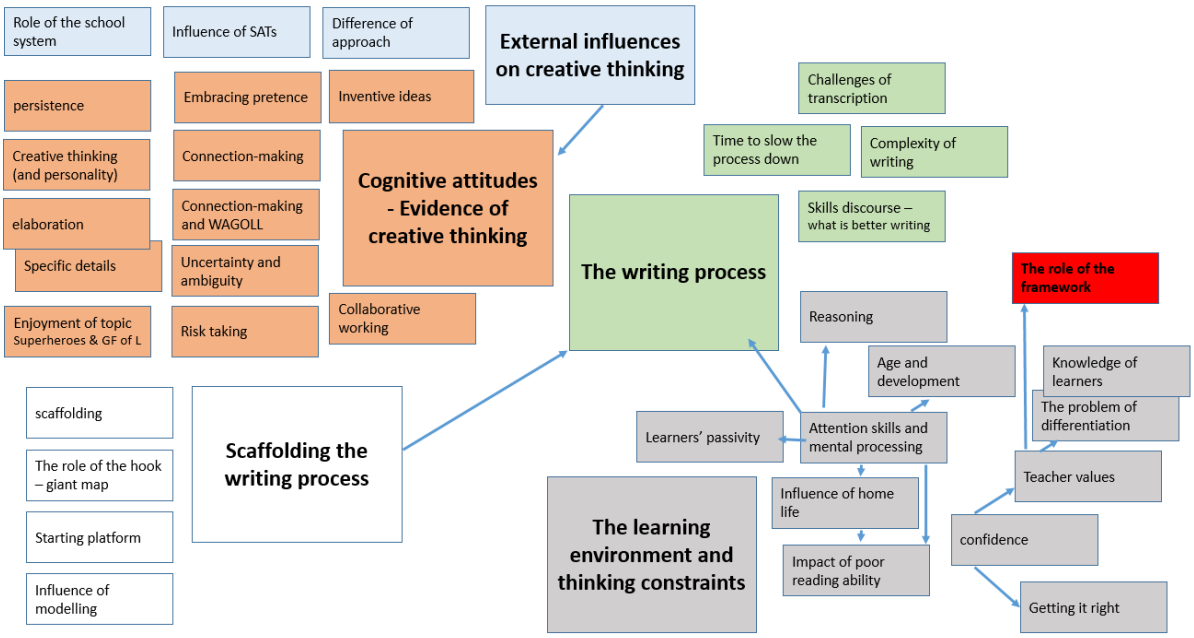


Figure 18: Year 2 theme map, workshops 3 and 4

The remainder of this section, explores each theme in turn, analysing the data and concludes with discussion of how findings informed the design of workshops five and six and any resulting amendments to my 'think for writing' framework.

4.9 Theme 1: Cognitive attitudes – evidence of creative thinking

This theme ostensibly connects to my third research question 'From teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?' Twelve codes were categorised into this theme. The first two codes to explore as part of this theme are 'connection-making' and 'connection-making and WAGOLL'. As a result of data from workshops 1 and 2, my aim as workshop facilitator was to

make connections between stages of the writing process more explicit. This was done through constant reinforcement and verbal reminders, the floor map used the same pictures and design as the A3 versions on tables to use as support for writing and explicit modelling of how to use the WAGOLL to develop their own writing. For some children this work in the gaps of the writing process building blocks paid dividends as my observations of Elm class noted;

> 'X embraced this and made some hilarious connections'
>
> (Elm Observation extract)

And the class teacher's observations of her class found that one group, a mixed AREs group had been able to apply some of the modelling I had done;

> 'Children had not made this connection, apart from Hulk group'
>
> (Elm Observation extract)

However, what this observation also reveals is that the other three groups working together had not made connections between writing process stages. My observations of Elm class also suggested that there was a significant lack of memory, recall and application in the way they worked, and this may well have inhibited their connection-making ability. Dietrich (2004: 1011) cited in section 2.11, p.35, ascribes cognitive abilities of working memory and sustained attention to the brain's pre-frontal cortex, associated with creative thinking. There is evidence here therefore that for some reason, possibly Adverse Childhood Experiences (Dahlitz 2017), the brain architecture of some of the children was not sufficiently developed to think creatively. This was supported in interview by Elm's class teacher;

> 'Can they make connections between what you're providing and
> their own creative thinking? Probably not at this point.'
>
> (Elm semi-structured interview)

In section 2.6, p.25/6, I have cited the work of Paul and Elder who state that creative thinking, of which making connections is a part, does not just come naturally and that a 'fit mind' (2019: 7) is needed to do this. This I have linked to Sternberg's (2003) view that creative thinking is attitudinal (page 34) and is reflected in my observational framework figure 9 (p.116). It is possible that these children did not seem able to make connections because their minds have not been trained and motivated to do so. The same challenge with

making connections was also prevalent in Birch class. In interview, Birch's class teacher noted that;

> 'You could give them every resource… they just don't use it'
>
> (Birch semi-structured interview)

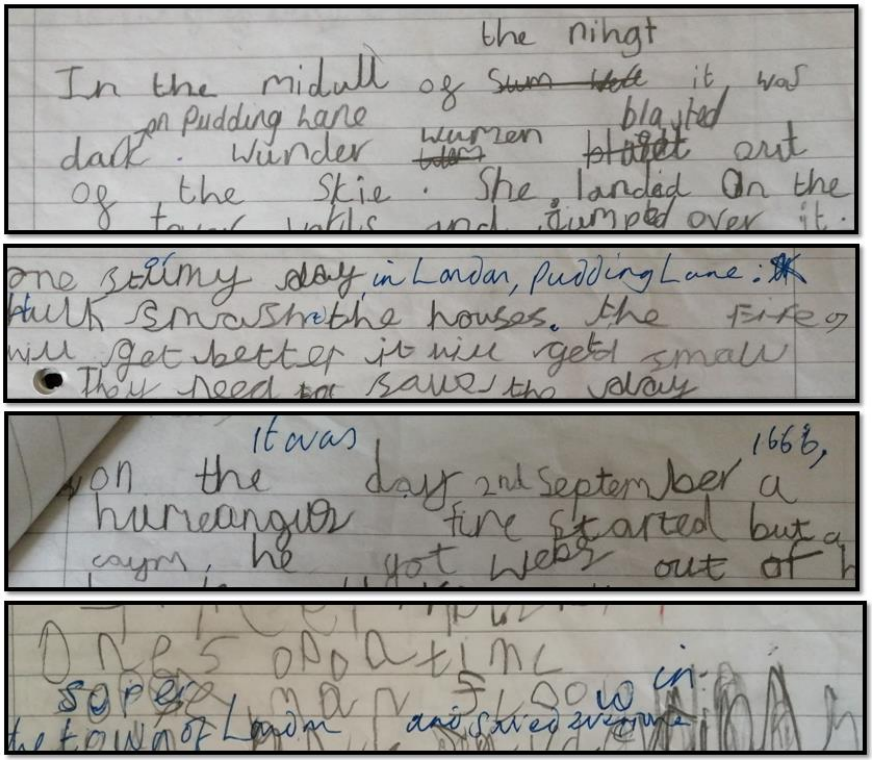
In interview, Elm's class teacher corroborated my conclusion about being trained to think creatively by suggesting that it does need embedding and perhaps more time and opportunity to develop. Kaufmann and Beghetto (2009) whose four C model of creative thinking I have discussed extensively in chapter 2 do suggest that creative thinking is developmental in nature (2009: 2). This theory of training and development of creative thinking with regard to making connections also applied to other creative thinking elements in my data. Elements such as risk-taking, persistence, elaboration of ideas and embracing uncertainty and ambiguity were found in the data to cause difficulty for children from both classes. For example, both classes struggled with tolerance of risk (Robson 2014: 123). In interview Elm's class teacher commented;

> 'At the start they seemed to just focus on the language they
> knew… no kind of out of the box thinking was there?'
>
> (Elm semi-structured interview)

In observation of Elm class, it was noted that there was a huge lack of risk-taking with ideas and Birch's class teacher commented similarly with children in her class focusing specifically on some children's strict adherence to a prompt sheet;

> '... he followed it to a tee, that's not part of what I was asked…
> he doesn't like to stray away from that'
>
> (Birch semi-structured interview)

My reflective diary also noted that the children, in their openings almost all went for something they knew, scene setting, and there was a lack of willingness to try something else out. Year 2 opening samples below gives four examples, two from each class working above and below age-related expectations (AREs). These examples demonstrate the use of predictable and known scene-setting openers;



Year 2 opening samples.

Elaboration and persistence are two further elements of creative thinking that provided significant challenge for both year 2 classes, but particularly Birch class. Section 2.25, p.87-92 of this thesis explores the work of Wang (2012). She identifies elaboration as the most 'prominent and constant connection' (2012: 45) between creative thinking and writing. By this she is referring to embellishing and adding more detail to initial ideas. Robson (2014: 129) incorporates this into trying out and analysing ideas and it is these elements of creative thinking that were observed using my figure 9 framework (p.116). This connects with persisting in writing, through playing with ideas and going further in writing than, as my observation of Birch class noted, giving up after the first sentence. Here there is a strong link to Sternberg's (2003) sense of creative thinking being about attitude. It was evident through the data that;

> 'Children were not great at developing ideas- just one here'
>
> (Birch Observation extract)

And

> 'Children were not really able to develop their ideas beyond one sentence or obvious answer…
>
> (My Reflective diary page 19– Birch class)

The attitude the children displayed did not appear to show that they had decided to be creative (Sternberg 2003: 333). This could also be because they did not have enough domain-specific knowledge in order to facilitate creative thinking. Meadows (section 2.10, p.34) makes the point that creative thinkers have an exhaustive knowledge of their field and a 'sizeable repertoire of basic skills and information' (2006: 195). It could therefore be that these children do not yet have the knowledge, information and developed skills to think creatively in terms of elaboration and persistence, similarly the elements of embracing uncertainty, ambiguity and complexity (Meadows 2006: 195). These also proved elusive to both classes as in my reflective diary, the same entry was made for both classes;

> 'The uncertainty and ambiguity of the approach where there were few right answers did not go down well and I had to insert lots more structure and scaffolding for any outcome to be achieved'
>
> (My Reflective diary page 20 – Birch class and page 16 Elm class)

Other elements of creative thinking however posed no challenge for the children at all. For example, all were engaged in the activity (Robson 2014: 127). The topic for writing, as stated earlier was the children's own choice and they enjoyed it;

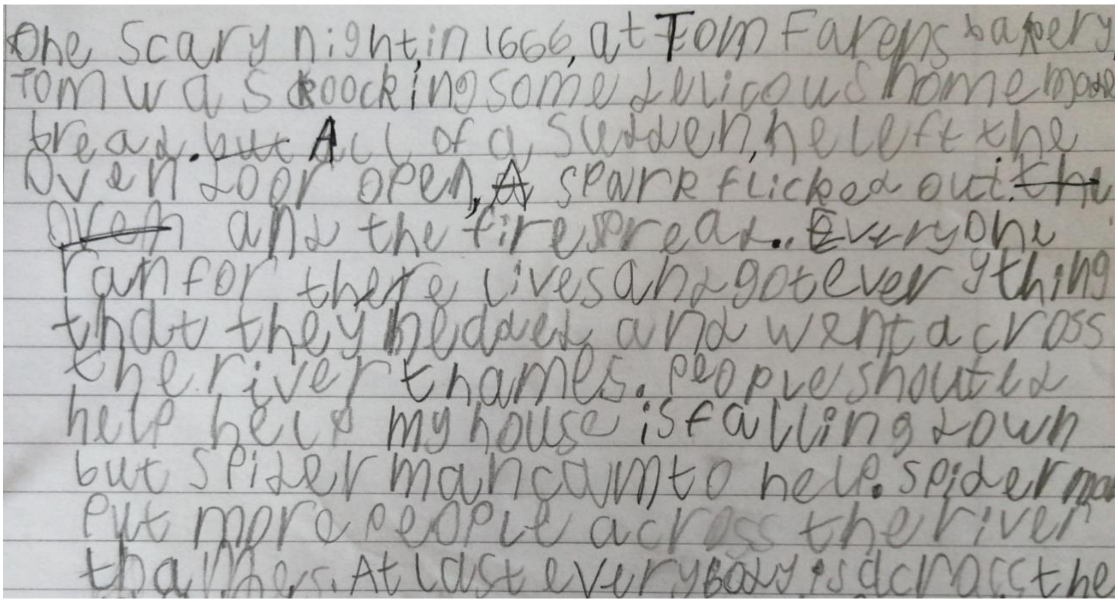
> 'I liked the writing because we had to write about superheroes and the Great fire of London'
>
> (Child C Elm focus group)

> 'It was cool… Because we were talking about superheroes… it was really good that we did superheroes going into the Great fire of London'
>
> (Child C Birch focus group)

All children embraced the pretence and had no problem imagining superheroes in London 350 years ago. This was evident through observation of both classes and focus group discussion, where one child had really immersed himself in the situation;

> 'Cos I'm playing a role, cos I was playing the role about each superhero'
>
> (Child E Birch focus group)

Year 2 Writing sample 1 below, is an extract from Child E's story. Child E's willingness to embrace the pretence to the point where he could imagine himself in the story is evident in his vivid description and coherence developed from his ability to visualise himself in the situation.


One Scary night in 1666, at Tom Fareys bakery
Tom was cooking some delicous home made
bread. All of a sudden, he left the
oven door open, A spark flicked out the
oven and the fire spread. Everyone
ran for there lives and got everything
that they nedded and went across
the river thames. people shouted
help help my house is falling down
but Spiderman cam to help. spiderman
put more people across the river
thames. At last everybody is across the

Year 2 Writing sample 1

The children also displayed invention and did show ability to try out ideas (Robson 2014: 129). There was evidence that they could show novel ways of thinking about how superheroes could save London from the great fire. Whilst some children, as my reflective diary noted, struggled to have imaginative ideas beyond facts of the great fire, others did demonstrate novel thinking. Observations noted;

> 'X had ideas about what could be done by the superhero to help'
>
> (Elm Observation extract)

This was corroborated by the children of Elm class's perspective on their own ideas. In focus group discussion several children commented that they had many more ideas during this workshop than they usually did in writing activities. The same was true for Birch class as observation of their thinking was identified;

> 'X was trying out new ideas'
>
> (Birch Observation extract)

The challenge for both classes was not in the creation and amount of ideas but the development of them. This was evidenced in observation of Birch class and my reflections when working with Elm class;

> 'Lack of inventive ideas but further questioning helped with ideas'
>
> (My Reflective diary page 16 Elm class)

There is evidence here through my data that whilst some children were able to think creatively in terms of trying out ideas (Robson 2014: 129), there was perhaps a lack of self-regulation (Risemberg 1997) to sustain an idea, analyse it and develop it further. Harris et al. (2011: 188), section 2.15, p.56, argue that struggling writers have less self-regulation than skilled writers and data discussed already does stress creative thinking's developmental nature. It could therefore be surmised that these children have not yet developed the skill self-regulation to persevere in creative thinking. I have taken the view, articulated in section 2.6, that everyone is capable of creative thinking (Sternberg 2006: 651). My data does not contradict this but it does perhaps suggest that training in creative thinking, alongside time to develop and apply the skills is needed. My data also suggests that there are some elements of creative thinking, certainly in the contexts of these workshops that are easier to gain than others.

To conclude exploration of this theme, codes categorised here that were also generated from workshops 1 and 2 will be considered. Firstly, collaborative working or team work in workshops 1 and 2 was considered to be a barrier to learning for year 6. However for Elm class, collaborative working was helpful. Observations noted that;

> 'children could build confidence from listening to each other's ideas… confidence to go from group to independent work was developed from discussion of groups'
>
> (Elm semi-structured interview)

Elm's class teacher, in interview, described herself as a believer in collaborative learning, and the class's ability to involve others, articulate ideas and be receptive to others' ideas (Robson 2014: 129) was evidence of training and prior experience of working in this way. This was however different in Birch class, as the class teacher noted in interview;

‘When you do group work… the ones who are quite happy to sit back… then the highers take over’

(Birch semi-structured interview)

The difference in training and experience was evident and far more prominent in Elm class than in Birch. However, considering evidence from analysis of all forty four writing samples, analysed using (figure 12, p.131), there was little noticeable difference in quality of writing product between the classes.

Finally, as with workshops 1 and 2, external influences on creative thinking did feature in the data, however not as strongly. Year 2 is a SATs year, but this was only mentioned once by Birch’s class teacher in interview, the different approach, a challenge for year 6 was seen as positive for certainly those children working at or below AREs in year 2. The class teacher in Birch class suggested that the different approach helped the children to engage and Elm’s class teacher commented on the open-ended approach giving more freedom. This was agreed in focus group discussion;

‘I liked the superheroes going into the Great fire of London… because it’s different to what we’ve had’

(Child D Elm focus group)

The influence of the school’s approach was evident in their whole school ‘superhero writing’ focus on transcriptional skills. Analysis of their writing would certainly support the need for a focus on transcription, but the issue of working between the gaps of the building blocks of writing and making connections was apparent as my reflections noted;

‘Tension between superhero writing, commas, adjectives etc – they knew what they were but couldn’t apply them’.

(My Reflective diary page 24, Birch class)

I have concluded exploration of this theme by looking at external influences on creative thinking, the next theme explores the subject of influences on thinking and writing in greater depth.

4.10 Theme 2: The learning environment and thinking constraints

As my research has developed, it became apparent through engaging with this case that a prequel piece of research may have been a useful prelude possibly titled 'exploring the constraints on children's creative thinking'. This theme is significant as twelve codes from this data set were categorised into it. Prior to undertaking this research I did not know that this would present itself, it emerged from the process of data analysis and so there is little literature on it in chapter two of this thesis. Therefore, much of the literature used in this section has not been discussed before, links will be made however to literature previously explored where relevant. Looking at this theme on Figure 18 (p.170), the twelve codes have been separated into two lots of six, each with a central code, 'attention skills and mental processing' and 'confidence', with arrows demonstrating how the other codes connect to them. Firstly in this section, 'confidence' will be considered, followed by the other linked codes.

A lack of confidence in all aspects of the writing process, including thinking, was evident in all sources across my data set for both classes. My early reflections when working with Elm class noted a huge lack of confidence, corroborated in interview with Elm's class teacher who identified the challenge and confidence required to commit ideas to paper;

> 'He didn't have the confidence to first move away from… he was sitting there with a blank sheet'
>
> (Elm semi-structured interview)

Birch class had similar confidence issues. Observations of them working noted that there was a lack of certainty about what they wanted to do in terms of ideas and a reliance on the facts of the Great fire of London story. This was supported in interview;

> 'They need constant, I think, reassurance'
>
> (Birch semi-structured interview)

The concept of confidence required to think creatively is termed 'creative efficacy', by Tierney and Farmer (2002) cited by Steele et al. (2018: 21). This, they define as the belief that one can produce creative outcomes aligning to Sternberg's (2006: 651) idea that creative thinking is attitudinal. Tierney and Farmer (2002), again cited by Steele et al., state

that creative self-efficacy can 'provide the confidence needed to take risks and adopt perspectives and actions that may defy social norms' (2018: 22). Evidence from my data suggests that the children lacked this confidence and therefore arguably creative self-efficacy. Bandura (1997: 80) notes that creative self-efficacy comes from knowledge and application. This is the knowledge of rules and strategies related to the task in hand, or domain-specific knowledge (Sweller 1988: 257), section 2.10, p.33, and the self- assurance to apply them. Mathisen and Bronnick (2009: 22), citing Schunk and Rice (1987) argue that self-efficacy also comes from positive feedback. This feedback, they argue, in order to develop self-efficacy should confirm that children are applying strategies well rather than practice in the strategies. This aligns with findings from workshops 1 and 2 where I concluded that instead of more effort helping children to understand, what the building blocks of the writing process are, more effort needs to go into teaching in the gaps, making connections and helping learners apply learning. Schunk and Rice's (1987) work adds feedback between the gaps helps build creative self-efficacy which in turn improves creative performance Mathisen and Bronnick (2009: 22). There was no evidence across my data set that any application feedback was happening. The importance of developing creative self-efficacy is also emphasised more recently in the OECD's (2019: 14) PISA Creative Thinking Assessment. In their study on motivation for writing, Limpo et al. (2020) also convey the importance of developing self-efficacy. Their findings suggest that self-efficacy had a big impact on the story length and quality written by their third grade research participants.

Cayirdag (2017: 1960) suggests that teachers play a pivotal role in the development of creative efficacy and confidence. One component of the teacher's work towards creative potential that Cayirdag (2017: 1960) discusses is the learning environment. This, as it relates to my data is identified as teacher values, knowledge of the learners and children's preoccupation with 'getting it right'. Elm class's teacher described herself as

> '... quite impulsive and reactive… I like to change the course of lessons… I'm quite into collaborative learning, quite flexible really'
>
> (Elm semi-structured interview)

This was evident during the workshops, it was noted in my reflections that in Elm class the children knew they could take risks, and during observation that

> 'With … reassurance some did achieve confidence to evolve some creative ideas'
>
> (Elm Observation extract)

Whilst Birch's class teacher had a much firmer approach, I did note that;

> '… this got in the way I think… the atmosphere of the class was quite negative'
>
> (My Reflective diary page 22, Birch class)

During interview, Birch's class teacher shared her perspective on the learners in her class. She commented on their lack of independent thinking, their need for a lot of adult-support and their having had everything done for them.

Combining literature on the teacher's influence on creative self-efficacy (Schunk and Rice 1987) and the data presented here it could be surmised that children in Elm class had a greater creative self-efficacy than children in Birch, a greater confidence and therefore greater creative performance. However, evidence from data does not necessarily support this. During observation of Birch class it was noted that;

> '… once confident after WAGOLLs, children open to change and better work as it was considered OK to get it wrong and make it better'
>
> (Birch Observation extract)

Whereas my reflections of working with Elm class noted that early on in the drafting process, the class were worried about getting the right answer, scared to add detail and concerned with thinking that their answers were wrong. It is therefore possible to suggest that whilst the teacher may be a factor, there is more to the development of creative efficacy and confidence. Mathisen and Bronnick (2009: 22) argue that training for creative self-efficacy is needed in order for it to be developed, drawing on the work of Gist (1989) who studied cognitive modelling and its effects on creative self-efficacy. The most effective cognitive modelling for building creative self-efficacy, Gist (1989) notes, includes modelling not criticising others' ideas, building on others' ideas and free association. This type of

modelling could take place working between the gaps of the writing process blocks discussed throughout chapter 4 thus far. It has certainly influenced my understanding of constraints on creative thinking development of my think for writing framework.

The second subtheme is centred on 'attention skills and mental processing' and how these elements of cognition affect creative thinking. Connected to this are other related factors found in the data and coded as age and development, reasoning, impact of poor reading ability, influence of home life and learner passivity. The issue of mental or cognitive processing as a constraint on creative thinking and writing was identified in interview with Birch's class teacher who reflected on one child's lack of engagement in the workshop;

> 'There's no like process for her, she can't process what you're saying to her'
>
> (Birch Semi-structured interview)

Birch's class teacher followed this up with a more open comment about the rest of the class commenting that they did not have the necessary thinking abilities. Both class teachers in fact connected this lack of cognitive processing to a lack of attention, Elm's class teacher commenting that;

> 'They don't have the same… erm... attention skills'
>
> (Elm Semi-structured interview)

And Birch's class teacher added;

> 'But then their attention isn't there either, if they can't retain what you've told them'
>
> (Birch Semi-structured interview)

Mumford et al. (2006) make the point that one of the impacts on creative thinking is limitations of processing capacity. They also suggest that creative open-ended problems, as the case of this workshop, tend to require the manipulation of multiple pieces of information and multiple processing activities. This links to the work of Sweller (1988) and his work on cognitive load, discussed in section 2.10, p.34, who argues that when the working memory is trying to process or manipulate too much information it can become overloaded (De Jong 2009: 106) and the task in hand cannot be completed effectively.

Evidence from my data suggests that for these children, in this context, too much demand had been placed upon their processing capabilities causing a lack of retention, recall and novel thinking. Ford and Stein (2016), in their work on cognitive development, suggest several risk factors that impact upon cognitive processing. Although their study took place in sub-Saharan Africa, I believe their risk factors have relevance for my case study. This is because the three risk factors they discuss, nutrition, environment and maternal child interaction, are nationally representative indicators as identified in the Walker et al. 2007 Lancet series on child development, rather than just in the context of their study (2016: 197). Ford and Stein's (2016) final risk is maternal interaction affecting cognitive processing relating to mothers who are depressed. This risk to cognitive function is also identified by McManus and Poehlmann (2012: 489), in their work on parent/child interaction they also cite social disadvantage as a possible trigger for depression. Santos et al. (2008) in their work on determinants of cognitive function in childhood make a connection between low socio-economic status, lack of stimulating experiences and a lack of cognitive functioning and processing. Data on socio-economic factors such as the influence of home life was evident in my study. In interview with Birch's class teacher, she stated that;

> 'It's not just education, it all depends on the environment... it's chaos for a lot of these children… no sense of organisation, no sense of wanting for some of them… some of them don't batter [sic] an eyelid because they're used to being screamed and shouted at'
>
> (Birch Semi-structured interview)

The influence of a chaotic home life was also recognised by one of the children in Elm class focus group as she gave a clear reason for doing more writing than usual.

> 'Because I normally don't do loads of writing… errrr because I sleeped more'
>
> (Child C Elm focus group)

There is no evidence in my data to confirm any of these risks as relating to Parklands primary and these classes, but in section 3.5, socio-economic factors are discussed relating to Parklands Primary and Manor Park estate. The school's catchment and the risks identified by Ford and Stein (2016) could certainly be a factor contributing to the seeming limitations on children's cognitive processing in my case study.

In developing this subtheme I have connected reasoning here as throughout the focus groups, when asked to develop their answers and give reasons for saying for example, the workshop was fun, the response was that they had forgotten. This was the case for a number of children in each of the focus groups. Reasoning, as Kiely (2014) states, is part of cognitive function and so is likely to be subject to the same risks and impacted in same way as cognitive processing more generally. In her definition, Kiely (2014) also lists attention, learning and decision making as aspects of cognitive function. In interview, Elm's class teacher connected lack of attention and taking in information to passivity in learning and the negative effect this had;

> 'If they're passive during that time, how much of it are they taking in? If they're passive, they are not going to make those connections'
>
> (Elm Semi-structured interview)

Similarly to reasoning, attention and learning are likely to be subject to the same risks as described above due to it being part of cognitive function.

The final code to be considered in this sub-theme is that of age and development. In interview Elm's class teacher commented that;

> 'They don't have the creative thinking skills, or they haven't had it modelled to think like that'
>
> (Elm Semi-structured interview)

Resnick (2007), however argues that young children do think creatively. He posits the creative approach to learning in Kindergarten helps learners develop the creative skills they need in the 21st century. Abbasi (2011) confirms this. Drawing on longitudinal research into divergent thinking that Robinson (2010) discusses in his talk 'Changing Paradigms', she reports that in this work 98% of kindergarten children scored at genius level in divergent thinking yet this had dropped to 50% by the time they were retested five years later. Young children then, literature does show, are able to think creatively. However perhaps it is the cognitive processing ability for which age was a factor not creative thinking. It has already been discussed in this section that creative problem solving requires more complex cognitive processing and my reflective diary evidence supports this;

> ‘Are they too young for this? Can they process? Can they deal with the complexities of story writing? Probably not?
>
> (My Reflective diary page 15 Elm class)

This was supported in interview with Birch’s class teacher who stated that;

> ‘They are 6. Their brains haven’t… the wiring isn’t there yet’
>
> (Birch Semi-structured interview)

Throughout this theme, the complexity of cognitive processing for creative thinking has been discussed and evidenced from my data. Alongside this is the issue of confidence, borne out of creative efficacy that influenced creative performance. My data shows that all of these were found to be limited and that in turn had an effect on the final two themes, which will be discussed together: The writing process and as a result of limited cognitive processing, the need to scaffold the writing process for the learners.

4.11 Themes 3 and 4: The writing process and scaffolding the writing process

I have chosen to discuss these two themes together as they are inextricably linked, one being a support for the other. Throughout my data, it was evident that the thinking and writing process to achieve a product needed significant structuring and scaffolding for the learners. On my theme map for these two workshops, (figure 18, p.170), arrows demonstrate the connection between these two themes and also how the children’s cognitive processing challenges influenced their writing both in terms of process and product. Firstly I will discuss the four codes that have been categorised into the writing process theme: The complexity of writing, challenges of transcription, skills discourse and time to slow the process down. Following this the impact of the scaffolding put in place to support will be considered through exploration of the four codes categorised into that theme: scaffolding, the role of the hook, a starting platform of ideas and the influence of modelling.

In section, 2.15 of this thesis, the complexities involved in writing have been discussed at length. Kellogg (1999: 3) draws attention to the challenge of constructing coherent thought in the mind then mapping those thoughts onto paper using the agreed symbolic

convention to convey those thoughts. In interview, Elm's class teacher echoed the very issue that Kellogg (1999: 3) raises;

> 'To like internalise and then churn out in a day, they were thinking about beginning, the problem, who's coming into the story'
>
> (Elm Semi-structured interview)

This was reiterated by Birch's class teacher in her interview, she particularly noted the processing issues involved in translating thought into text;

> 'Their minds work quicker than what they're writing, so they jump words and miss words… It's a multi-function process… too many steps.'
>
> (Birch Semi-structured interview)

Hiatt and Rooke (2002: 2), section 2.15, p.51/2) suggest that during the writing process an internal dialogue is taking place within the writer. This dialogue, they suggest is the process by which thoughts are processed and developed into text and they argue that that the quality of this internal dialogue, making decisions about word choice, punctuation, spelling and sentence structure determines the quality of the writing. Here is where this theme connects with the previous section on cognitive processing. Writing is a set of cognitive processes not just physical ones (Hayes and Flower 1981: 366) and it could therefore follow that limited cognitive processing skills limit successful navigation of complex writing processes. Some of those decisions that need to be made through the internal dialogue of turning thought into text are transcriptional and, like workshops 1 and 2, evidence of this part of the writing process being significantly challenging for the children was present across much of the data. In my reflections whilst working with Elm class, I noted;

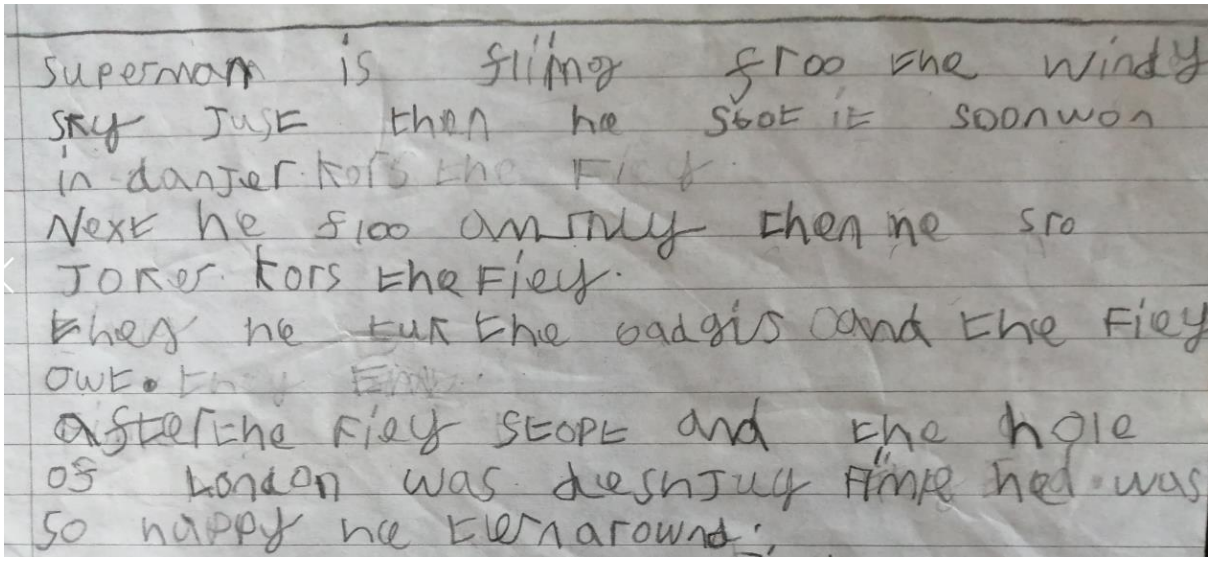
> 'The mechanics of writing is a challenge, sentences don't make sense, they don't read back.'
>
> (My Reflective diary page 14 Elm class)

And this was supported through interviews with both class teachers. Elm's class teacher in interview, described the mechanics of writing as being challenging, and Birch's class

teacher referenced the challenges of dealing with so many things to process to turn thoughts into meaningful text;

> 'Its usual things like spelling, punctuation… they're too busy
> trying to write their ideas down'
>
> (Birch Semi-structured interview)

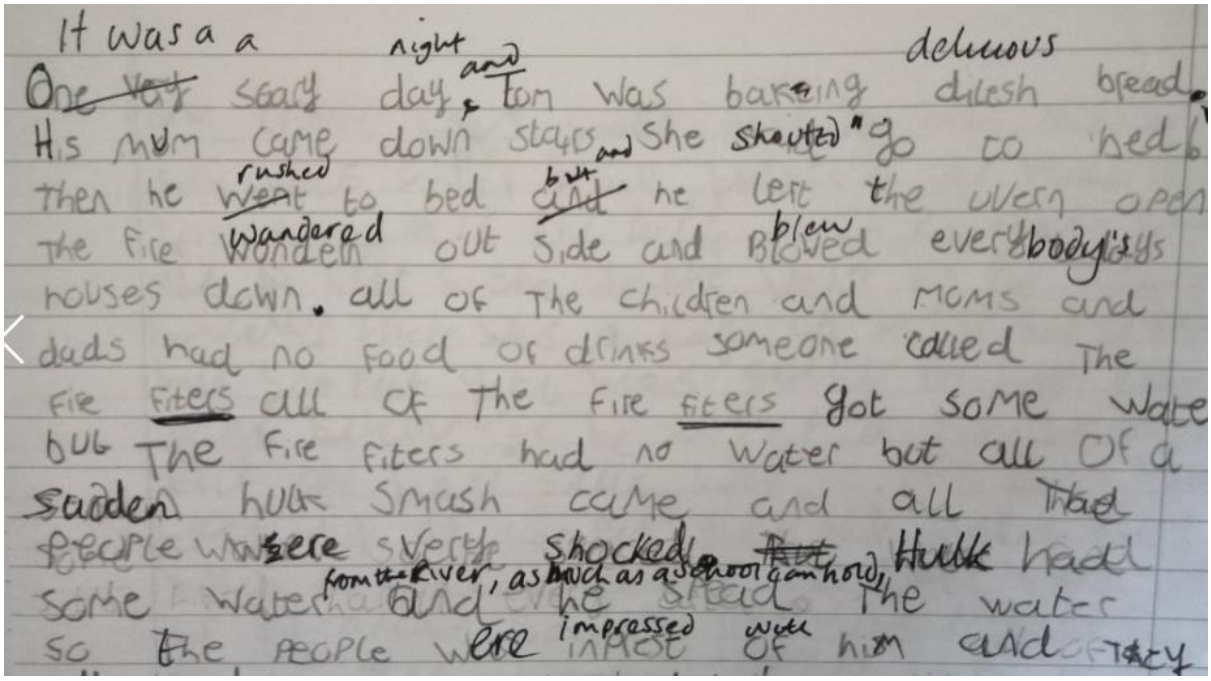
The challenges presented by the transcription part of the writing process are discussed in section 2.15, p.55. There I have cited MacArthur (1999: 169) and Graham and Harris (1997: 415) who contend that it is these transcriptional elements that struggling writers will find hard. Analysis of the forty four pieces of writing produced from these workshops supports this. Only transcriptional elements in two scripts (from children working below AREs) were assessed as a higher quality than composition and the remaining forty two scripts demonstrated a higher level of composition than transcription. This is exemplified in Year 2 writing sample 2 below, from a child working at AREs, which demonstrates some clear ideas, strong descriptive language and good organisation, however, there is poor spelling, handwriting and limited punctuation use.



Year 2 writing sample 2

The issue raised by Birch's class teacher of children being too busy writing their ideas down to process other transcriptional processes alongside this is exemplified in Year 2 Writing sample 3 below. This piece of work, from a child in Birch class assessed as working above AREs shows lots of great ideas and evidence of myself spending time with him, going

through his work verbally and supporting him to revise his work so his written communication is more effective;



Year 2 writing sample 3

This takes time and both class teachers in interview felt that time to slow the writing down would enhance the quality of writing and also learning. Elm's class teacher commented;

> 'I think if there was a bit more time to slow the process down for each stage….'
>
> (Elm Semi-structured interview)

In section 2.15, p.56, I have cited the work of Graham and Harris (2000) who contend that the process of revising and editing takes motivation, perseverance and self-regulation and this was deemed to be a creative thinking feature that was not evident in my data. Zimmerman and Risemberg (1997: 75) add that the mental process of editing and revising improves writing performance. This is yet another cognitive process to juggle that could inevitably lead to cognitive overload for these children and impact upon effective task completion. When asked about their writing in focus group discussion, both classes focused on transcriptional elements as defining better writing. This supports the findings of Lambirth (2016) whose study, explored in section 2.22, concluded that children discussed aspects of writing they found most difficult, often transcriptional aspects or skills. The skills discourse of

writing, evident in data from workshops 1 and 2, was also evident in my data here. Children from Birch focus group, perhaps referencing the school's 'Superhero' writing incentive, remarked on their improved writing in the workshop, referencing transcriptional elements only;

> 'Cos usually I don't really do my full stops'
>
> 'Cos I don't usually do that long sentences'
>
> 'I usually do big writing, now I went small'
>
> (Child A, C and D Birch focus group).

Writing as a complex set of processes has been discussed throughout this section so far and as a result of this complexity, support through scaffolding (Vygotsky 1978) for the writing process can lead learners through to task success. Building on his social constructionist beliefs about learning, Vygotsky (1978), cited by Foley, suggests that in order for learning to take place 'appropriate social interactional frameworks must be provided' (1994: 101). The first of such frameworks put in place during my workshops was a giant floor map of London 1666, a tool for children to engage with the Great fire of London both historically and geographically, and be able to imagine what being there might have been like. Pantaleo (2016), section 2.23, p.74, suggests that to enable thinking and learning, a learner should be actively engaged with their environment and this is what the floor map sought to do. In interview Elm's class teacher commented on its success in achieving its aim;

> 'I really liked how you set the classroom up at the beginning of the day. I think that was definitely a hook. It helped the reluctant writers give it a go… they were exploring the pictures of the buildings in London … they could see it and visualise it'
>
> (Elm Semi-structured interview)

Part of the purpose of the giant map was to also provide geographical information so children could position their stories and not worry about having to spell street names or names of key landmarks or characters. This floor map was translated into A3 table maps with the same design, landmark pictures, street names, and time was taken to ensure the

children made this connection. Birch's class teacher, in interview, was unsure as to whether the children had made the connection;

> 'The model bit on the floor was great… But did they use it? When they had the maps on the table did they use it? Maybe not.
>
> (Birch Semi-structured interview)

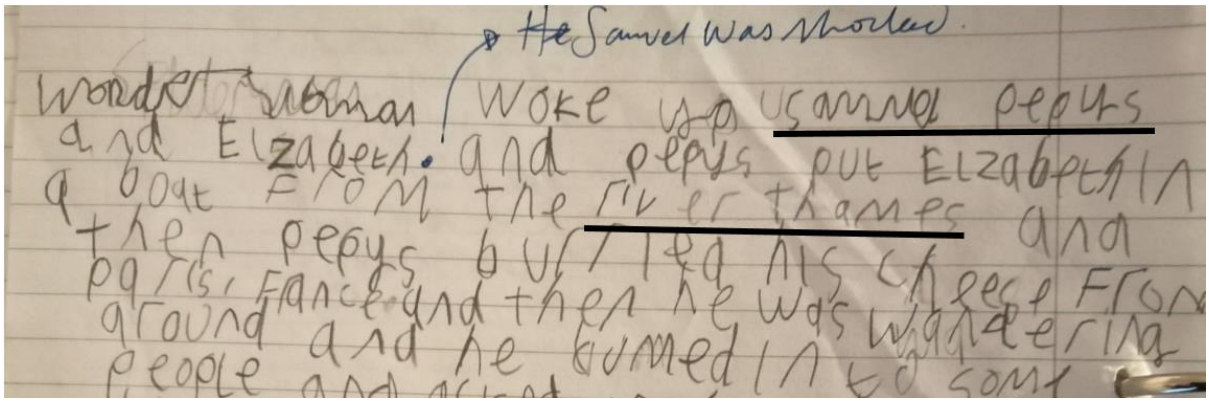
However, in focus group discussion, Birch class demonstrated they certainly understood what the map was for;

> 'The big, big map… cos we knowed where everything was and what everything was called'
>
> (Child D Birch focus group)

And this was supported by Elm focus group who saw the map as a support for their writing;

> 'The map… because it helped me spell the words… what helped me is the map… and my brain helped me'
>
> (Child B Elm focus group)

This was also evident during the workshop itself. Elm's class teacher's observations noted that the children were exploring the relationship between the pictures in London and on their classroom map, visualising the fire from different perspectives. However, when analysing the writing, there was little mention of any of the place names from the map, where there were characters, Samuel Pepys and some key landmarks such as River Thames, there was some evidence that the map had been used, as year 2 writing sample 4 below, from a child in Birch class working below AREs, emphasises;



Year 2 writing sample 4

It could be argued therefore that Birch's class teacher may have concluded correctly. Whilst the children may have known what the map was for and even able to articulate it, perhaps in their rush to write their ideas down, they were not able to focus on and apply this support tool offered, perhaps the application element of cognitive function (Kiely 2014) was a process too far in this case.

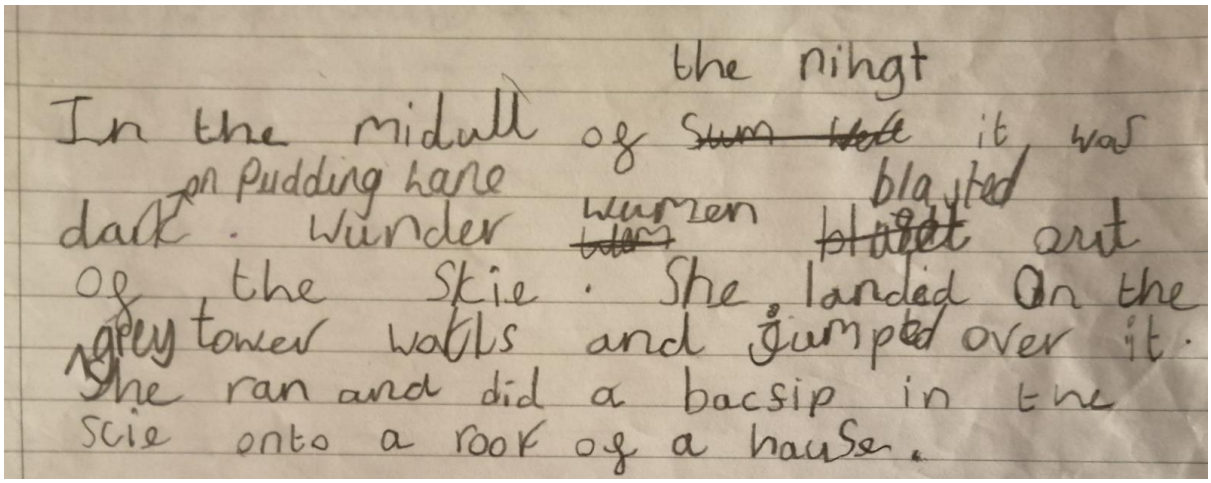
For some children the scaffolding provided a sense of security, almost a life belt to cling onto in the howling storm of writing complexity and cognitive processing.

> 'He's got some form of scaffolding in front of him, his comfort blanket'
>
> (Elm Semi-structured interview)

Foley (1994: 101) argues that one of the key factors that makes effective scaffolding is the transfer of control from teacher to learner as the learner grows more confident. Through my data, there is no evidence that the children ever really grew confident enough for handover of control to really take place, so the scaffolds became crutches and the damaged limb of the writing process was never fully healed so the crutch was always needed. This lack of confidence, it was argued earlier in this chapter, comes from creative self-efficacy which I concluded was limited in these learners due to all the reasons cited earlier. However, there was evidence that some of the specific modelling I did, especially in terms of editing and revising, had been applied. In interview, Elm's class teacher noted that one of her class, assessed as working above AREs, had employed my modelled approach to revising writing;

> 'She'd listened to what you said about making errors and not using a rubber, cross out and that's all right'
>
> (Elm Semi-structured interview)

Evident in her writing (year 2 sample 5) below is understanding editing as improving and developing work, through the addition of more effective language and setting the scene more effectively for the reader, rather than just a procedure she should follow;



Year 2 writing sample 5

4.12 Summary and implications for design of workshop's five and six and the 'think for writing framework'

Having analysed the data set from these two workshops, there are two key areas that have significant implication for my research conclusions and moving forward to workshops 5 and 6. The first of these is preparation for writing. Evidence from my data has shown that creative thinking and performance requires confidence, and this comes from a sense of creative self-efficacy. This has two elements, domain specific knowledge and skills and the self-assurance to apply them. Therefore before engaging in the cognitive processes of writing, children need to understand the writing context, the skills needed and how to apply them. Data from my research shows that it is in the application children need most modelling, support and development. The teacher has a vital role to play here in modelling this process for the children and giving feedback on it when utilised. This is part of the process I have termed 'working within the gaps' throughout this chapter and is emphasised in figure 19, second modification of 'Think for Writing' framework, below where I have represented the writing process elements to emphasise the importance and content of the gaps. The second of these areas is training. Evidence from my data shows that training in creative thinking is required in order to fully navigate the complex, cognitive skills required for writing. Creative thinking is impaired by a number of factors, one of which is social disadvantage (Santos et al. 2008), and so therefore, for the children in my research context, training the building and strengthening of neural pathways is vital. These can be developed through multi-sensory experiences and teaching different ways to process

information thus building plasticity and cognitive flexibility (Morin 2020). Morin (2020), in her discussion of how children develop thinking, also suggests that teaching children to think about cause and effect and reasoning (this lack is evident in my data) also helps develop this flexibility. Evidence from my data also shows a need for developing self-regulation, as the creative thinking skills of persistence to sustain and develop writing through editing and revising were lacking. Training is not the full answer though, as my data suggests. Whilst Elm class were trained in co-operative learning approaches, my data suggests that this had limited impact on learning, suggesting a stronger focus on application is required. As team work had been a barrier for many children, moving forward with the social element of thinking and writing required further training and application in the final two workshops. This focus on training and development underpinning the cognitive writing process is also emphasised in figure 19, second modification of 'Think for Writing' framework below,

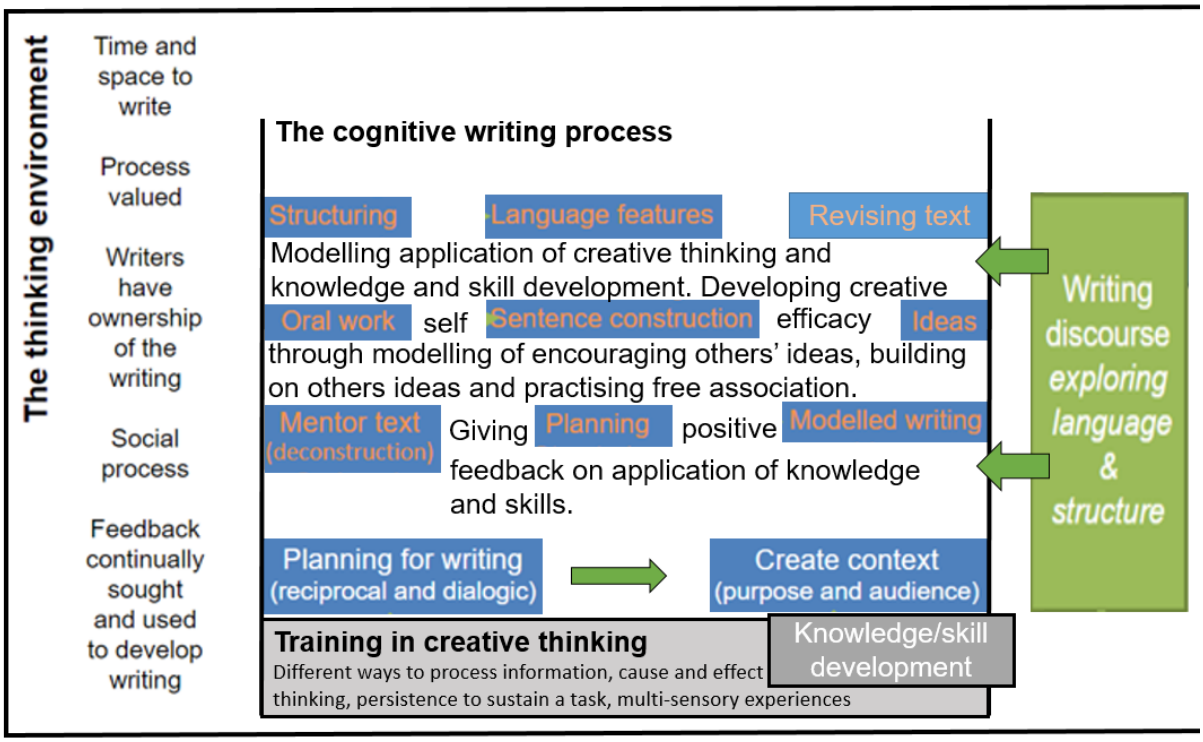


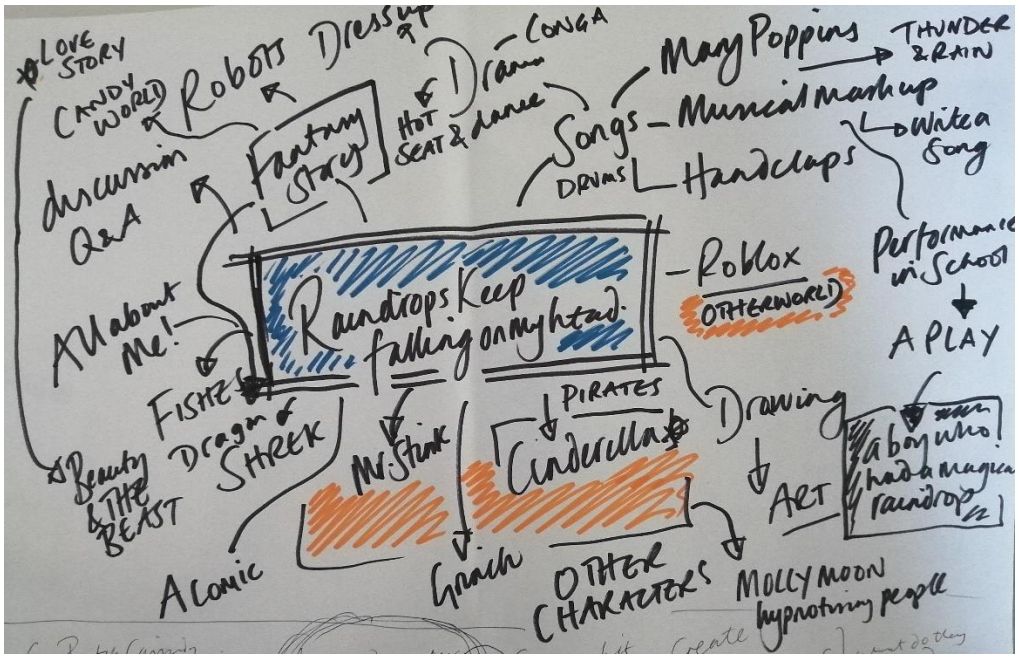
Figure 19, second modification of 'Think for Writing' framework.

The design of workshops 5 and 6 was informed by figure 19. This involved, firstly, some creative thinking training. This began a week prior to the workshop with some input on the purpose of mind-mapping and then idea generation for the workshops. Out of those ideas a

multi-sensory experience of developing a musical play was decided upon both as a product and a vehicle for developing creative thinking throughout the writing process. Also involved was making more explicit connections between the building blocks of the cognitive writing process as the text in the gaps between blocks in figure 19 shows. It involved structuring the social process of the thinking environment more effectively through role-giving, a simple co-operative learning technique (Kagan et al. 1997), as my data has shown that for many of the children in this case study, team work was a challenge and in some cases, a barrier to learning rather than a support. Due to my work and the school context factors, these two workshops took place in both year 4 classes (Maple and Elm) in February 2019.

4.13 Workshops 5 and 6: Raindrops keep falling on my head

The theme 'raindrops keep falling on my head' was chosen by both year 4 teachers to tie in with their Science topic on water and rainfall. Each workshop, like the previous four, was a one day workshop to keep each data collection context the same length of time for validity reasons. 'Raindrops keep falling on my head' would also provide a vehicle for a problem solving approach to writing (Meadow 2006: 194) through the use of creating play-scripts that had to include certain ingredients: a musical element, a scientific fact about water, an imaginary land, a problem to solve and a well-known character. The problem for the children to solve was how to incorporate all of these into a play-script which they could then perform. A week prior to the workshop, I had begun the ideation process with the children including decision-making about what the workshops would entail. This, like workshops 3 and 4, involved creating mind maps (Buzan 2003), but despite modelling mind-mapping as a way to structure and extend ideas (Yang 2020), many of the children's mind maps were essentially lists, much like those from workshops 3 and 4. To develop their understanding and training, I facilitated the synthesis of their ideas into a year 4 mind-map where they explored connections and idea development verbally and I depicted their collective thinking on paper. 'Year 4 ideas mind-map' below is my depiction of their thinking. This demonstrates their ability to see and make connections and develop ideas but perhaps not able to hold all of the information in their heads and organise it on paper as well as other demanding skills of writing: spelling, handwriting, letter formation.



Year 4 ideas mind-map

Like the previous four, workshops 5 and 6 were structured using Alves and Limpo's (2015: 374) writing process of planning, translation and transcription. Play-scripts was the form of writing chosen by the children and this provided a slightly different focus for the transcriptional elements of the writing process; the finished product for these workshops was a performed play, not a piece of writing, so the transcriptional elements such as handwriting, spelling, punctuation and sentence structure all served a tangible purpose of communicating to the actors how they should perform their lines and create impact. This is different to the previous workshops where the product was a 'published' piece of writing. This certainly had an impact on my data and will be discussed as the themes unfold throughout the remainder of this chapter. The workshop process began with explanation of the social process of thinking and writing and an introduction to the idea of each person in each writing group having a role, a co-operative learning strategy (Kagan et al. 1997). Each team member wore a lanyard with their role and an explanation of what that role meant, options to swap were given at points during the morning. The afternoon would be given over to preparing for performance, refining the script and making decisions about musical instruments and costume. Uninterrupted time was given for this, allowing the development of persistence (Robson 2014: 127) and self-regulation (Risemberg 1997: 73).

The data was coded inductively and a coding chart was again developed using language from the data, an extract of which is presented in figure 20 below. The full coding chart is

appended to this thesis in appendix C. This chart shows as in coding charts figures 14 and 17 (pages 145 and 169) how the codes were generated using language from my data, where evident in the data sample, corresponding quotations and where the code connects to each of my three research questions. As a point to note, the semi-structured interviews with the class teachers was done together following Laurel class's workshop as Maple's teacher was unavailable immediately after her class's workshop. This influences the data as the teachers in this data set were able to respond to one another's comments.

Coding Chart – First Stage Analysis – Workshops 5 and 6 – Yr4			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ1	Lanyard roles (Co-operative learning)	SC Obs Maple Laurel interview Maple interview Laurel interview Laurel Ref Diary	'Excited about lanyard jobs and made decisions very easily' 'Most 'helping others' children were great at moving around the table to make sure everyone was participating' 'Leader of groups were persistent even when some group members struggled to participate ideas' 'It was the roles, giving them the roles, they liked that' 'in terms of giving them a role, kind of got in the way but having the roles was good as it got them to think about different things' 'However, having the roles, the components of the activity to think about different elements – did help them'

Figure 20: Extract from my coding chart – workshops five and six.

Thematic analysis was again employed. This data set generated forty descriptive and conceptual codes which were then categorised into themes (Braun and Clarke 2006: 87). These themes were also categorised intuitively through connecting codes and concepts aligned to my research questions. As a result of this process, four themes were generated. The first two themes across the top of figure 21, 'Year 4 theme map' in shades of orange, connect together. 'Working together' is part of the creative thinking attribute of 'involving others' (Robson 2014: 129), but with several codes relating, I deemed a separate theme important as team working has been a feature throughout data from all workshops and was a design feature of workshops 5 and 6. The arrow moving from cognitive attitudes through to codes relating to ideas and into working together forms a creative thinking set

of codes. The effect of the task is connected by two, two way arrows showing how it is connected to 'creative thinking' and 'working together'. The four white codes form a bridge between the task and the final theme of teachers and learners as the way the teachers and learners related to the task was important as discussion of data through the rest of this chapter will demonstrate.

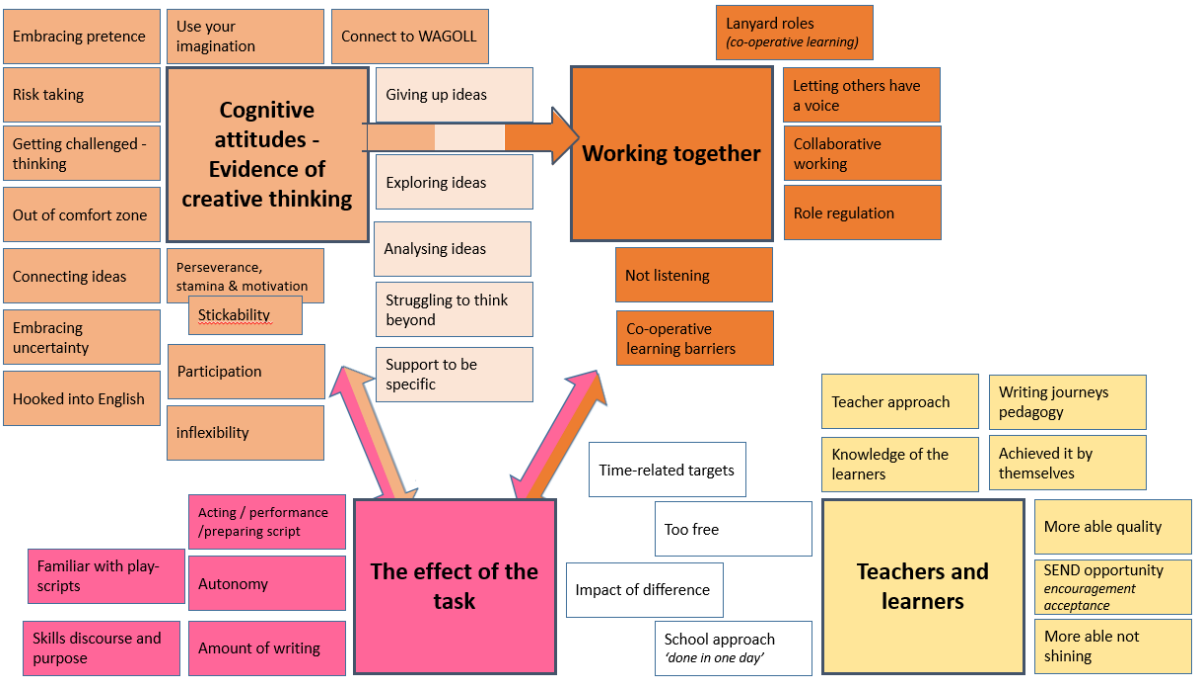


Figure 21: Year 4 theme map, workshops 5 and 6.

The remainder of this section, explores each theme in turn, analysing the data, and concludes with discussion of how findings led to any amendments to my 'think for writing' framework. This will then lead to a brief conclusion and bridge to the final chapter of this thesis, chapter 5 which synthesises my findings from this chapter, discussing them inside the structure of my three research questions.

4.14 Theme 1: Cognitive attitudes – evidence of creative thinking

I have deliberately chosen the wording for the title of this theme as a repetition of a heading from workshops 3 and 4. This is to demonstrate continuity of my thinking across workshops and recognise the reoccurrence of some of the same conceptual codes in this data set as with workshops 3 and 4. The codes and this theme title are coloured orange, as with workshops 3 and 4 theme map (figure 18, p.170), to illustrate this continuity of thinking. Firstly in this section I will consider the five conceptual codes generated that are

repeated from workshops 3 and 4 data analysis. These are embracing pretence, risk-taking, connecting ideas, connecting to a WAGOLL and embracing uncertainty. Parallels will be drawn where appropriate and connections made between findings from this data set and that of workshops 3 and 4 relating to these codes. Secondly I will consider the seven other codes in the same orange colour categorised into this theme. Following this, the subtheme, coloured in figure 21 as very light orange relating to ideas will be discussed. A significant amount of data across this data set related to ideas and so, although ideas are an identifiable part of creative thinking definitions (Sternberg 2003: 325), I deemed it appropriate to cluster these codes together to form a sub category.

The first two repeated conceptual codes considered here are 'connecting ideas' and 'connect to WAGOLL'. The creative thinking skill of making connections has been a recurring theme across my whole data set from all six workshops. However, it was less significant in the data from these workshops than in the previous four. Connecting ideas only appeared in my reflective diary whilst working with Maple class and once in observation of Laurel class. Where making connections came across in data from the first four workshops as being a real problem for a significant number of children, in these two workshops there was more evidence that children here were able to make connections between ideas and planned learning activities towards the final performance. Although my reflections noted that

> '… some groups used the WAGOLLs in different ways, some ignored them completely'
>
> (My Reflective diary page 29 Maple class)

There was other evidence that creative thinking was taking place in terms of making connections between different parts of the writing process and connecting seeming discordant ideas. My reflections also added;

> 'They could connect to the WAGOLL and see how planning fitted into the play-script… X totally saw the connection and used the plan to inform the play-script'
>
> (My Reflective diary page 29 Maple class)

This was corroborated during observations of Laurel class;

> ‘X and X – at first mutually exclusive ideas but with help were able to bring those apparently opposite ideas together’
>
> (Laurel Observation extract)

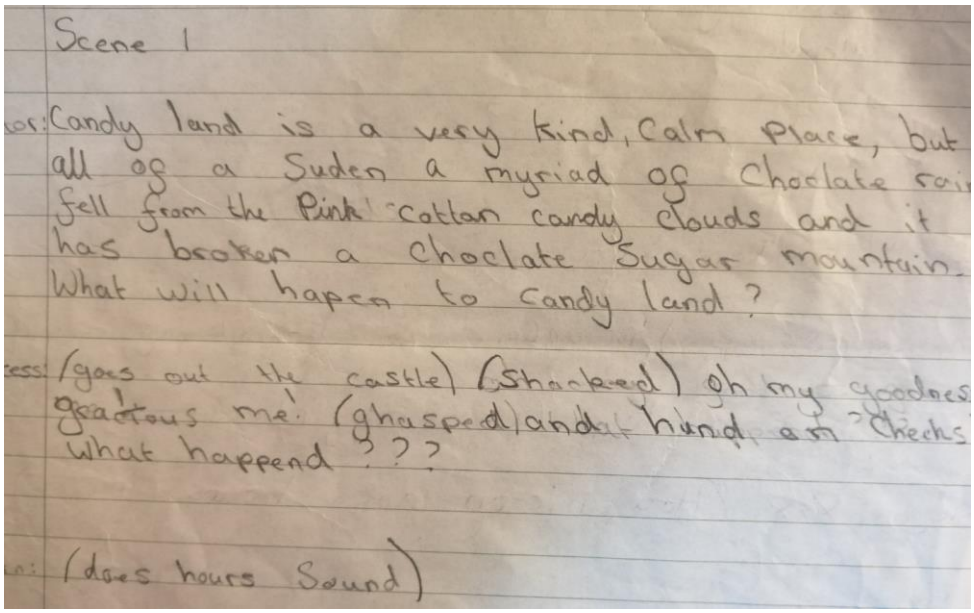
Making connections is noted in my observation framework (figure 9, p.116) as part of trying out ideas and speculating (Robson 2014: 129). Cremin (2015: 33) in her work on creative teachers lists connection-making as a key creative thinking skill and Paul and Elder (2019: 7), discussed in section 2.6, p.25/6, refer to this aspect of creative thinking in terms of training but it gets seemingly little attention in much of the literature I have considered. Barr et al. (2015) in their work on creative thought use the term ‘creative connections’ to refer to how the mind can unify two apparently disparate elements as was evident in my extract from observation from Laurel class above, so it is a concept worthy of further consideration. However the main point my data from these workshops raises pertaining to connection-making is that it does not follow the lack of connection-making from the other four workshops. Church (2010: 40) suggests a possible reason could be to do with the nature of the task. Her work on engagement theory and facilitating higher level thinking suggests that an activity that builds thought, synthesis and evaluation different to traditional routine school activities can help build connections. The devising, composing and performance of a play-script with certain ingredients could well have been this type of task. However there is evidence that the shared mind-mapping at the beginning may have also influenced connection making. Pollard-Durodola et al. in their work on using knowledge networks (similar to mind maps) to develop young children’s vocabulary suggest that children develop vocabulary through ‘understanding relationships between new words and their connected concepts’ (2011: 267). This principle could be applied to ideas. It could be that children develop ideas through understanding relationships between new ideas and their related concepts, which is precisely what was going on during my scribing of their ideas to produce ‘Year 4 ideas mind-map’(page 194 of this chapter). The effect of the task is therefore an important factor and will be discussed later in this chapter as it is another theme.

Whilst the data from these two workshops provides evidence that children displayed some attitudes of creative thinking such as making connections, others were evidenced in the same way, certainly as workshops 3 and 4. My observation of Maple class and semi-structured interview with Laurel class’s teacher suggested that the open-ended nature of

the task was challenging, the children found the uncertainty of what was expected and lack of rigid structure difficult to embrace. Embracing the pretence of the worlds they created also held no difficulty for children as data from observing Laurel class demonstrated. Risk-taking, however, a challenge for children from the previous four workshops held no fear for children here. Although not a code as prevalent here as in previous workshops' data, Maple's class teacher's observation of her class noted that;

> 'Children who usually shy away from performing, taking risks'
>
> (Maple Observation extract)

Perhaps the nature of the task, risk-taking through performance, provided a vehicle to develop that creative thinking attitude. Risk-taking in writing was also evident in some of the scripts in terms of language, emphasis through capitalisation and punctuation for effect. Year 4 writing sample 1 below, developed by a group of children working between below and above AREs demonstrates the use of parenthetic brackets for stage directions, advanced vocabulary (myriad) and a rhetorical question to draw in the reader/audience. Only the parenthesis, out of these, was modelled directly or through a WAGOLL.


Scene 1

Candy land is a very kind, Calm Place, but all of a Suden a myriad of Choclate rai fell from the Pink cotton candy clouds and it has broken a choclate Sugar mountain. What will hapen to candy land?

(goes out the castle) (shocked) oh my goodnes gracious me! (ghasped) and put hand on cheeks what happend ???

(does hours Sound)

Year 4 writing sample 1

As discussed in section 2.15, p.55/6, self-regulation is a significant part of the writing process. Self-regulation aligns with persistence and completing challenges (Robson 2014:

129). Persistence has been a repeated code generated from data across all six workshops, reframed in workshops 5 and 6 as perseverance, stamina and stickability. Observation of both classes produced data demonstrating, like the four previous workshops, that this was a challenge for the children. Data from my reflective diary whilst working with Maple class suggests that the lack of perseverance was in the areas of organising themselves and the motivation and stamina to push through to deliver a product worthy of the process effort. Amabile (1996: 107) suggests that this type of persistence is more likely to occur if the learners are intrinsically motivated to complete the task, perhaps this was the case here as my reflections noted;

> 'After lunch, lack of structure, really struggled, the role cards didn't work and a real lack of stamina and motivation to push through'
>
> (My Reflective diary page 40 Laurel class)

Robson and Rowe (2012: 361) in their observations of young children's creative thinking during activities found that persistence was most evident where a task was child-initiated and a teacher was absent. Whilst in my research context, the task was introduced by myself, the children had the freedom to develop and take it in any direction they wished. However, perhaps the lack of perseverance in group organisation and sticking to their role in the group caused the break down that impacted upon motivation to produce quality performances. This issue connected to some children demonstrating an inflexibility in terms of compromise of ideas and in turn impacted upon their participation in the learning.

Ideas are a key component of definitions of creative thinking (Sternberg 2003: 325) and one of the cognitive attitudes of creative thinking that Robson (2014: 129) identifies. Whilst part of the bigger theme of cognitive attitudes, I chose to categorise the different codes that were generated to do with ideas, reflecting the different aspects that were apparent in the data. The first element to notice with respect to exploring and analysing ideas in the data is the social aspect of the thinking process. In observation of Maple class, their teacher noted that;

> 'Lots of conversation exploring various ideas before writing them down'
>
> (Maple Observation extract)

This was corroborated by my own reflections as I observed a group getting creative with a dangerous fast food which they named 'catastrophe'. Craft et al. (2014: 22) in their work on developing and maintaining creative pedagogy cite co-construction of learning as a characteristic of creative pedagogy. This reflects a more learner-centred approach and allows learners to co-construct their thinking and learning with each other and/ or with their teacher. Evidence from my data here suggest that learners co-constructing ideas helped the quality, amount and diversity of their thinking. Analysing ideas as a creative thinking behaviour (Robson 2014: 129) connecting to the code of struggling to think beyond the obvious and needing support to be specific has been a feature throughout data from earlier workshops. Sternberg (2003: 332/3), whose ideas are discussed extensively in chapter 2 and shape my own understanding of creative thinking, lists analysing one's own ideas as a key decision that underlies creative thinking. This, as Sternberg (2003: 333) states, involves critiquing one's own ideas, holding them lightly and being sceptical about them. Evidence from my data suggests this was initially a challenge for the children, with my observation of Maple class stating that children were;

> 'Struggling to analyse ideas about where they fit with the theme'
>
> (Maple Observation extract)

This observation was discussed with class teachers in semi-structured interview as analysing ideas I had noticed seemed a challenge for both classes. However, here was one instance where having more than one observer provided additional, highly valuable data that my observation had missed. Laurel's class teacher recounted her own observations of a particular group working through the process of refining their script and analysing ideas;

> 'Well, he did go on to say… and he's someone who can't take being told No and his team went… think about our theme… Does fortnite link? And he went, Oh no it doesn't'
>
> (Laurel Semi-structured interview)

The point to note is that this idea analysis took place with a social context, illustrating perhaps, the importance of facilitating a social learning context where learners can co-construct new learning together in order to develop cognitive attitudes of creative thinking.

4.15: Theme 2: Working together

Idea exploration and analysis took place within a social context, groups of between four and six children across a range of assessed AREs. Whilst working together to facilitate co-construction is identified by Robson and Rowe (2012: 360) and Robson (2014: 129) as a creative thinking attitude, I deemed it necessary to give it its own theme as six codes directly related to working together specifically and this is illustrated in my Year 4 theme map (figure 21, p.196). This theme map also illustrates the connection between cognitive attitudes, ideas and working together through an arrow that encompasses all three themes' colours. I have concluded discussion of the previous theme by suggesting that co-constructing learning can facilitate the development of creative thinking, however, the problem, evidenced through data across the previous four workshops, was that working together was very challenging for the children and presented a barrier to learning rather than a support. As a result of this data, a co-operative learning strategy (Kagan et al. 1997) of giving group roles was put in place to help the children understand their role within the team and that each member is valued, useful and has something to give. These roles, created by myself, were leader, writers 1 and 2, musical director and speaker. Each role had a lanyard with attached badge and an explanation of each role. Time was given at the start of the process for each group to work to decide their roles, and three other places across the writing process were identified where roles could be swapped if desired. For both classes, this co-operative learning strategy, data shows, was positive in helping the children work together. Using the roles helped the children in both classes consider different aspects of the writing process. In interview Maple's class teacher commented that;

> 'It was the roles, giving them the roles, they liked that… having the roles was good as it got them to think about different things'.
>
> (Maple Semi-structured interview)

This was corroborated through my reflections whilst working with Laurel class;

> 'However, having the roles, the components of the activity to think about different elements… did help them'.
>
> (My Reflective diary page 36 Laurel class)

There was also evidence across this data, how the separation and articulation of roles helped the children. One of the key ways was focusing them on the task in hand. In interview Maple's class teacher shared her observations of some of the children who had the role of leader;

> 'The leaders, they took their role seriously… that's my job, I'm the leader, I've got to make sure everyone's participating'
>
> (Maple Semi-structured interview)

She went on to discuss how having the physical badge and bookmark to hold and refer to helped them to take charge of the role and be it, rather than just being told they were the role, the tangibility of something to wear gave them ownership.

Slavin (2010: 163) suggests that the accountability and equal opportunities for success that co-operative learning provides are central to team success. Using roles enabled each person to be accountable to the group for how they played their part and there was therefore buy-in for all to achieve success regardless of previous assessments or how they usually performed in English lessons. Gillies (2003: 36) articulates what some of the specific successes of co-operative learning can be. Citing Shachar and Sharan's (1994) study on the effects of co-operative learning and achievement, Gillies (2003: 36) suggests that vocabulary and written expression are improved through co-operative learning. My data does not provide conclusive evidence on this point, however across the twenty play-scripts that were analysed, using my adaptation of Dunsmuir et al.'s (2015) Writing Assessment Measure (figure 12, p.131), overall, composition elements of vocabulary, organisation and ideas were found to be lower than data from the other workshops. However, transcriptional elements: handwriting, spelling, punctuation and sentence structure were significantly higher. This is a reversal of previous data. However an important variable here is the nature of the task and this theme will be discussed following this section. Writing a play-script has a very different purpose to writing a story (as in the previous workshops) and with this workshop there was no finished written product, just the performed play and these variables mean like for like are not being compared. Tolmie et al. (2010) focus on the social effects of collaborative learning. As a point of note, whilst there is slight difference in the aims of co-operative and collaborative learning (Tolmie et al. 2010: 177), the processes are very similar. As the class teachers use the terms interchangeably and as this is how they appear in my data, I also use them interchangeably in discussion. Tolmie et al. (2010: 178)

argue that collaborative learning brings significant benefits to achievement through the sharing and exploring of ideas, however they also suggest that 'positive social relationships are a pre-condition which need to be established for achievement gains to occur' (2010: 178). This was evident in my data as my reflections whilst working with Laurel class noted;

> 'The group generally worked well… but group make-up is crucial to success'
>
> (My Reflective Diary, p.38, Laurel class)

If positive social relationships in the classroom are a pre-requisite for effective collaborative learning, then care in decision-making around personnel combinations is needed. Tolmie et al. (2010: 178) go on to suggest that any unresolved differences will undoubtedly impact on collaborative learning success and in their research found that friends achieved the most highly working together as there was more trust in their relationship to exchange and analyse ideas. If group-make up is not considered carefully then collaborative and co-operative learning can be a barrier to achievement.

There were also other barriers to effective co-operative learning achieving success. My reflections whilst working with both classes focused on their lack of training and experience in working co-operatively. Early on in the workshop with Laurel class, I noted that;

> 'The role cards didn't really work and kind of got in the way which may well be due to the children not having any grounding in co-operative learning '
>
> (My Reflective diary, page 35, Laurel class)

My reflections whilst working with Maple class early on in the process were very similar, noting the lack of training in co-operative learning. It was also evident in my reflections, noted from informal conversations in class that for some children the co-operative learning approach hindered their achievement;

> 'Some didn't feel they had written much or thought much and actually as they had no training in co-operative learning this was clearly the case for many'
>
> (My Reflective diary, page 28, Maple class)

These challenges were corroborated across the data, Maple class's teacher observation noting that;

> 'Challenging for many children to work collaboratively'
>
> (Maple Observation extract)

This challenge was also noted by Laurel's class teacher in semi-structured interview;

> 'They couldn't prepare anything because they all wanted to be in charge. Hey, all knew what was best so…..I'm not doing that because they're not listening to me…'
>
> (Laurel Semi-structured interview)

The evidence from the data here around co-operative learning effecting creative thinking raises questions around whether training in co-operative learning strategies should be part of the foundation of the final iteration of my 'think for writing framework'. My data here suggests that using an explicit co-operative learning strategy did impact the cognitive writing process.

At first sight it seems that there is contradiction here in the data or in my explanation of it. However, the data shared here regarding barriers relates to early on in each workshop. As each workshop developed, with some intervention from the class teacher and myself to support groups with role choice, understanding the role descriptions and mediating their application within the task, co-operation developed. In the previous section, discussing the theme of cognitive attitudes and also through both year 2 and year 6 workshops, self-regulation as a factor in the writing process has been discussed as being difficult for the children. Codes such as persistence and perseverance have also been allocated to themes across this data set as it is identified by Robson (2014: 129) as a creative thinking attitude. This attitude in terms of role regulation was evident here, as I noted in my reflective diary that some of the boys in Laurel class, particularly those assessed as working below AREs, struggled to maintain their roles and their motivation into the workshop's later stages. I observed that this could have been due to these stages having much less teacher- imposed structure instead leaving groups to work towards their end goal of a performance by themselves. This approach was designed to encourage persistence, organisation and self-regulation through motivation and it seemed those working below AREs found this challenging. Harris et al. (2011: 188) cited in section, 2.5, p.55/6 state that struggling

writers lack self-regulation and my data here would seem to support this, but I would add that this self-regulation not only applies to writing but also sustaining thinking and motivation. In my discussion of an effective pedagogical environment for thinking and writing (section 2.23, p.75/6) I have cited the work of Rothwell (2016) who links effective task design with motivation and persistence, particularly meaningful tasks that lead to authentic feedback. The importance of the task is discussed next.

4.16 Theme 3: The effect of the task

This theme links to my first research question, 'From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?' On my Year 4 theme map, figure 21, p.196, the large arrows from this theme to the themes of 'cognitive attitudes' and 'working together' demonstrate that these are connected to each other. The design of the task can either facilitate creative thinking or be more traditional and routine (Church 2010: 40) and task design also includes group organisation. The task of preparing a performance through script writing and rehearsal proved to be motivating and enjoyable, an attitude connected to creative thinking (Robson 2014: 129). Children from both classes in focus group discussion expressed their enjoyment of the task;

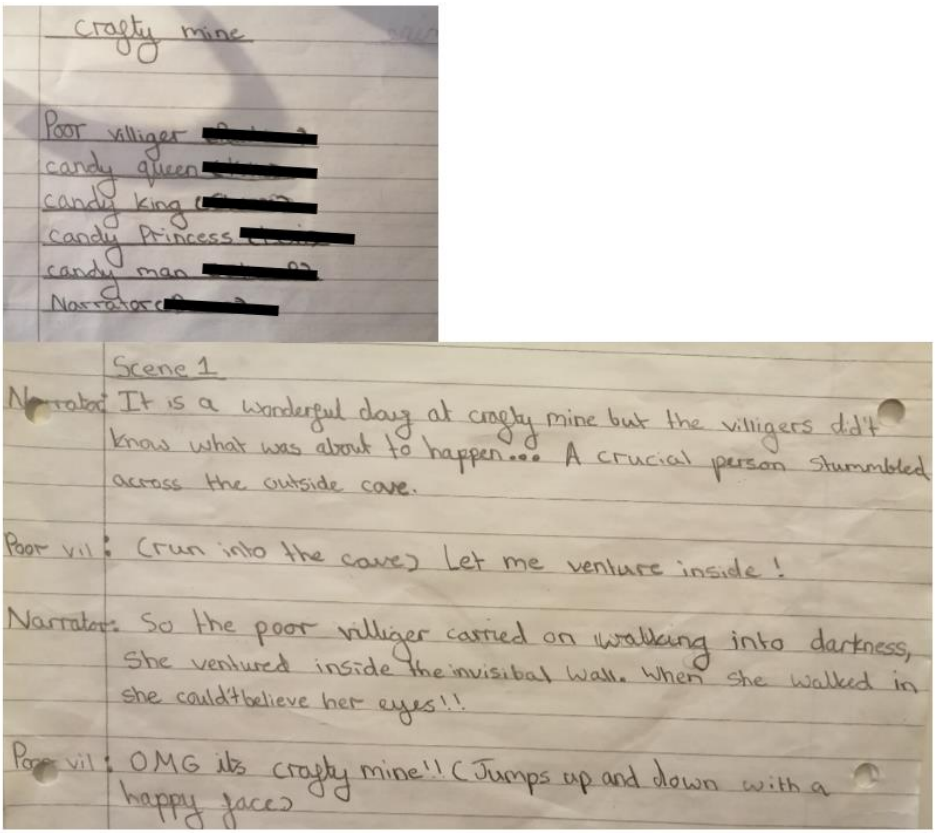
> 'I liked the performance because it was very fun when we were doing the instruments and practising them and the costumes'
>
> (Child F Maple Focus group)

Laurel's focus group shared how much they enjoyed the acting, dressing up and performance. One particular comment focused on having an opportunity to demonstrate their skills;

> 'We get to act stuff out and show what we can do'
>
> (Child B Laurel Focus group)

The performance element, acting, dressing up and musical instruments were the front-runners in the race for enjoyment accolades and the script writing a little further back. However, there was a hint through the data that the learning focus may have got lost at the expense of the performance. I asked Maple's focus group if they would have enjoyed as

much performing without instruments or dressing up and they all said they would not. However, I would argue that these 'props' help make the task more authentic. In section 2.23, p.76 in my discussion of an effective pedagogic environment in relation to task design, Wiggins (2009: 30) discusses the importance of authentic writing for real audiences and purposes and a play-script for performance to an audience fits that purpose. Furthermore Wong and Moorhouse (2018: 1) suggest that a real world writer seeks to establish a relationship with their audience, and when the children knew who their audience was, their discussion of ideas centred upon what their audience would be interested in. One group from Maple class, understood their audience were interested in particular web-based games Candy Land and Minecraft and so put together their play-script idea as a combination of the two, an extract is seen in Year 4 writing sample 2 below. The purpose was to engage their audience, and this provided a motivating context for manipulating punctuation, sentence structure and targeted vocabulary;



Year 4 writing sample 2

This task did not involve individuals doing large amounts of writing and the children enjoyed the focus on the performance, but it did build thought, synthesis and evaluation of ideas which as Church (2010: 40) argues facilitates higher level thinking. Therefore this task raises the question whether requiring a large amount of writing is important or does that

requirement become a barrier to learning and the development of thinking? Data from Maple class's focus group discussion suggests that 'amount of writing' is an area that needs to be considered. They were very clear that in the workshop they did not have to do as much writing as they would in a normal English lesson. Amount of writing was also equated to amount of work;

> 'We didn't have to do that much work, or writing, or thinking'
>
> (Child B, Maple Focus group)

The concern from this piece of data is that this child's perception is they did not do much thinking either. However, this child began the focus group by saying

> 'I enjoyed writing the play-scripts because you had to use your imagination and create the world that you wanted to'
>
> (Child B Maple Focus group)

Given the seeming contradiction between these two pieces of data from the same individual, I can only surmise that this is a perception issue and that the difference of approach, group writing and thinking maybe led her to believe that the school's approach, mainly individual work focused primarily on improving attainment is possibly her benchmark for work and writing.

In my discussion of a pedagogical environment pertaining to task design (section 2.23, p.76), Parr and Limbrick (2010: 586) discuss the importance of a task being purposeful. This sense of purpose was evident in my data in a different way to the previous workshops. Although when discussing better writing children from both focus groups referred only to transcriptional processes of handwriting and punctuation, discussion with Maple focus group demonstrated an understanding of the connection between the purpose of writing a script, to be read by the actors, and transcriptional elements of the writing process;

> 'Because if we were going to write a play-script and we were going to use it I didn't want it to look scruffy'
>
> (Child B Maple Focus group)

This aligns with Rothwell's (2016) findings, also cited in the aforementioned section in chapter 2 on task design, that having a strong purpose for the task provides motivation for quality writing. This finding was corroborated through writing analysis where the

transcriptional elements of all twenty scripts analysed were assessed as higher than workshops from years 2 and 6, especially punctuation and spelling.

The penultimate code to discuss within this theme is autonomy, which is linked to motivation. Grainger, Goouch and Lambirth's (2003: 7) research, section 2.22, p.69-70, suggests that enjoyment, a creative thinking attitude (Robson 2014: 129), is linked to freedom of task. In the play-script task set for workshops 5 and 6, children had the freedom to devise their own scripts, their own characters, their own setting and approach, the inclusion of the other ingredients, musical element and scientific fact in a way that they chose. Focus groups from both classes cited this freedom as influencing their enjoyment;

> 'We got to write about anything we want – as long as it's got something to do with rain'
>
> (Child A Maple Focus group)

> 'I liked it we got to pick what kind of ending'
>
> (Child D Laurel Focus group)

Task design has been a significant theme coming out of the data from these two workshops. There are strong connections between task design and creative thinking as the data has shown and my year 4 theme map (figure 21, p.196) has demonstrated. My data suggests that it should therefore feature as a context for the cognitive writing process in my final 'think for writing' framework.

The final code to consider before exploring the codes that bridge to the final theme of 'Teachers and learners' is the children being 'familiar with play-scripts'. In section 2.10, p.34-36, have considered the importance of domain-specific knowledge for creative thinking. There I have cited Meadows (2006: 195), Sweller (1998: 257) and Sternberg (2003: 334) who argue that creative thinkers have a high level of knowledge in their field. In the context of my research, therefore, this suggests that a prior knowledge and understanding of the function, purpose and layout of play-scripts should facilitate creative thinking. Evidence from my data suggests that this familiarity did support Maple class with the creative thinking opportunities needed to complete the task. Maple's class teacher, in her observations noted that her class were;

> ‘Reasonably familiar with play-scripts so helped children overcome initial complexity’
>
> (Maple Observation extract)

This was corroborated by data from my reflective diary, commenting on the children’s understanding of the play-script approach and that gave them more confidence with the freedom given to pursue their own ideas. Across the whole data set, scaffolding the writing process, providing structure and support has been a significant feature, this is evident in both of the previous theme maps (figure 15 p.146 and figure 18 p.170). Data collected across workshops one to four has shown that children have needed structure and scaffolds to help them with the writing, however, here, there is a suggestion that prior domain-specific knowledge in the field studied provides a strong foundation for creative thinking and writing so that scaffolding is not relied upon as much.

Moving into those codes that sit between this theme and ‘Teachers and learners’, there was some evidence from this data suggesting that the balance between freedom and structure had not quite been found. Maple’s class teacher was very clear that;

> ‘I said to you after Monday that for my children it was too free rein’
>
> (Maple Semi-structured interview)

Following this extract, Maple’s class teacher went on to refer to the lack of structure given to the afternoon of the workshop, where I had deliberately left space for children to demonstrate self-regulation and persistence towards their performances which Maple’s teacher felt needed more structure to help the children focus. Freedom here relates to a lack of structure to the time period rather than freedom of choice, linking back to a lack of self-regulation and persistence rather than freedom to express themselves with their own ideas. However, there is evidence from interview data with Maple’s class teacher that structured, focused, time-related targets to complete a task did help the children stay motivated. In section 2.23, p.80/81, I have discussed the importance of a pedagogic environment that promotes learner agency, drawing on Craft et al. (2013: 540) who connect learner agency to creative thinking. This aligns to Grainger, Goouch and Lambirth’s (2003: 7) study concluding that freedom of task and autonomy led to a greater enjoyment of writing. However, evidence from my data suggests that some structure as part of the

task design in terms of time-related tasks to complete as part of the writing process are also helpful to motivate and focus the learners.

The final two codes that bridge towards 'Teachers and learners' focus on how the difference in my approach through the workshops influenced the children's writing and thinking. The first difference noted in the data centred upon the whole day workshop design to follow through the writing process rather than the more traditional one hour lesson each day over a week. Whilst partly a pragmatic decision, based on the school's and my constraints, the 'doing it all in a day' approach was planned to assist with connection-making between writing process stages. Interview data suggested that the one day approach allowed a stronger focus on the writing process rather than feeling pressure to have a written product at the end of each one hour lesson;

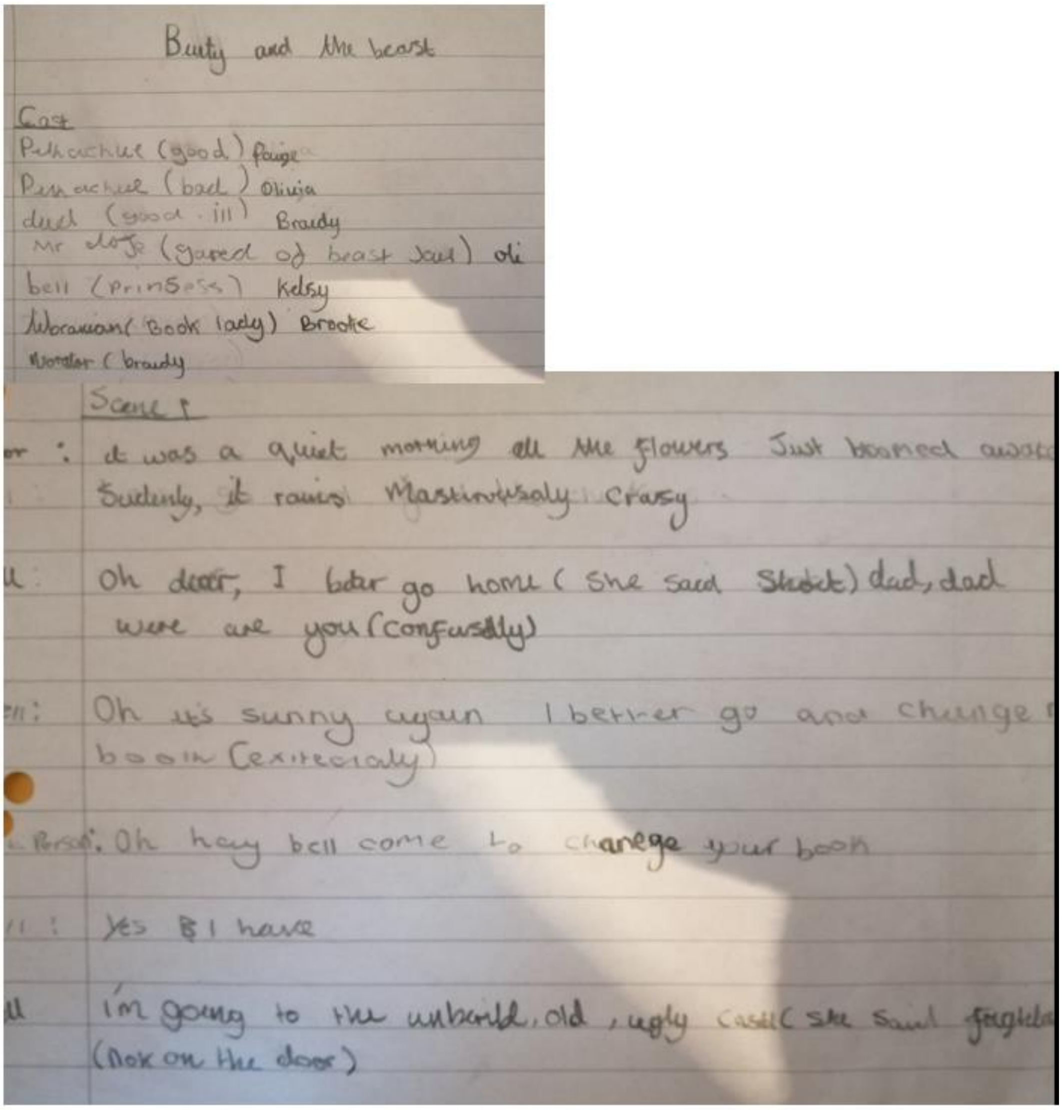
> 'What was nice though, it was a lot, but like how it was done in one day… it didn't matter, they could just be creative, throw their ideas down, we didn't say it's got to go in your books, we need best draft written'
>
> (Laurel, semi-structured interview)

One of the significant differences that featured strongly in focus group data from both classes related to task design. In section 4.14 page 198, I have cited Church (2010)'s work on engagement theory and effective task design being that which promotes evaluation, synthesis and other aspects of higher level thinking, contrasting with more routine traditional school activities. Children from Laurel focus group rated the workshops very highly because they were very different to the normal English work they engage in;

> 'I would give it a 5 because erm we got to do some more things that we haven't been doing before'
>
> 'we never get to dress up and do acting in front of the class and like make up a story on play-scripts'
>
> (Child C and Child F Laurel Focus group)

There is no evidence in the focus group data that suggests the children could articulate the level of thinking they had to engage in, but there is evidence of their thinking through the scripts written. Year 4 writing sample 3 below, shows one group's play that amalgamates popular traditional story 'Beauty and the Beast' with modern popular Pokemon characters.

Here is evidence of language appropriate to the genre, clear communication through stage direction for the actors and some humour through line repetition between actors;



Year 4 writing sample 3

The fact that the workshops were being facilitated by me was another difference that came out in focus group data, particularly from Maple class. Children clearly wanted to impress or please a visitor to their class;

> 'Whenever a new person comes I try harder'
>
> 'When we have a visitor I have better ideas'
>
> (Child A and Child E Maple Focus group)

The impact of the task design and of a visitor was also acknowledged in my reflections after the focus group with Maple class;

> ‘During focus group the impact of me as visitor came through and also the whole performance and costume / musical instruments as factors’
>
> (My Reflective diary page 34 Maple class)

The importance of task design has come through this data set quite significantly. My data, supported by literature, has suggested that effective task design for creative thinking includes some learner agency, freedom to use time but with some structured tasks within the writing process. Tasks should be real, purposeful and authentic with an audience to motivate and enthuse the learners and facilitate writer/audience relationship. Drawing on the work of Stronge and Hindman (2003: 48), (section 2.23, p.78), I have stated that a teacher creates the pedagogic environment for their class. Task design is an important aspect of this, also discussed in section 2.23 of this thesis. In the final theme ‘Teachers and learners’ the impact of the pedagogic environments of both Maple and Laurel class on their learners will be explored, influenced by their teachers’ usual approaches and how as a result of their environment some groups of learners responded to the learning opportunities facilitated during the workshops.

4.17 Theme 4: Teachers and learners

This final theme links primarily to my second research question, ‘From their viewpoint, to what extent do teachers’ perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children’s creative thinking?’ This section will separated into two, the first looking at the four categorised codes relating to the role of the teacher, their articulated pedagogies and their response to their learners. Within the context of that environment, the second part explores how some groups of learners, identified in my data, responded to the workshops. The teacher as I have said above, drawing on Stronge and Hindman (2003: 48), creates the pedagogic environment for the class. Theme maps from each of the workshop pairs (figures 15 and 18 pages 146 and 170) include codes pertaining to the teachers’ influence on the learners and learning, and the same is evident here. It was evident through the way Maple and Laurel’s class teachers related to each other that there was a close professional relationship

between them, and they worked as a team. They both identified themselves as different to other teachers in the school, Laurel's class teacher stating;

> 'I think we are quite different… because we're really straight to the point'
>
> (Laurel Semi- structured interview)

This was developed by Maple's class teacher who added;

> 'We are like hyper-organised'
>
> 'So very frank, straight to the point, tell the kids, this is it, this is why it is'
>
> (Maple Semi-structured interview)

Evidence from the data also demonstrated the teachers' concern for their classes and knowledge of the learners, Maple's class teacher discussing her understanding of what triggers challenging behaviour for some of her classes and informing me that Laurel's teacher had expressed concern to the school's leadership team regarding one particular child's ability to cope with the workshop approach. This way of being did influence the pedagogical environment they both created. In section 2.23 I have discussed various aspects of the teacher role in creating an effective enabling pedagogical environment for thinking, one of those aspects is learner autonomy and freedom. The importance of this for children's enjoyment was discussed in the previous section, 'the effect of the task'. In the aforementioned section in chapter 2 I have cited Falconer (2018: 9) who argues that an effective environment is one where children are enabled to demonstrate initiative and be involved in the decision making process around learning tasks. Evidence from the data above suggests in these two classes a teacher-directed approach to learning decisions dominates the environment. These two class teachers have described themselves as different and this was evident across the data as they were the only two teachers out of the six who demonstrated some personalising of the school's approach to teaching English. Their 'different' approach, yet still within the school's prescribed structure had a stronger focus on valuing the process not product than was articulated by any of the other teachers. They termed the process a writing journey.

'I mean if you looked at our writing journeys in our books,
there's not an awful lot until they start planning and actually
writing… we do a lot of like writing on tables and things like
that… and flipchart work'

(Maple Semi-structured interview)

Laurel's class teacher developed this by sharing how they work with WAGOLLs and engage with the process;

'We're not as much though in English books, are we? Because it's
all they scribble all over everything, like the WAGOLL with pen'

(Laurel Semi-structured interview)

It appears that these two teachers' have manipulated the school's product-based approach to writing based on a consideration of learner need and pragmatics, emphasising the processes involved in writing. Discussion of a process approach (section 2.17) emphasises writing as developmental and stages in the process should be flexible (Dyson and Freedman 2003: 967 and 974), and the data above suggests that through the free writing on tables, flipchart paper and engaging with the WAGOLL less rigidly, flexibility was evident. I would also suggest that the teachers feel a tension between the school's product approach and enabling the children to have some autonomy in their work. Laurel's class teacher was genuinely surprised at what her class had achieved without her regular input. The extract from her semi-structured interview, begins with her talking, I then respond and she responds to my question;

'I didn't say a single thing… so what they've achieved they've
actually achieved it by themselves so for them it's…

That's alright isn't it?

I'll take it'

(Laurel Semi-structured interview)

Whilst support was given, it was more in the form of working between the gaps of the writing process building blocks, through personalised feedback, challenging the group through questioning and suggestion, meddling in the middle (McWilliam 2009: 289). This is

seen as more effective for facilitating creative efficacy, (section 4.10, p.178) desirable for creative thinking.

Data from workshops 5 and 6 specifically brings two identifiable groups of learners into focus. These are children with Special Educational Needs and Disability (SEND), in this case, these children were all assessed by their teachers as working below AREs. The second group are children working above AREs, identified in the data as 'more able' and 'Greater Depth Standard' (GDS), terms used by the class teachers and their school. Data from workshops 5 and 6 relating to these two groups mirrors data from workshops 1 and 2, where children assessed as above AREs struggled with the workshops and those children assessed as working below AREs achieved more highly than in usual English lessons. In semi-structured interview I discussed this observation with both class teachers, Laurel's class teacher identified the working together element of the activity as being a challenge for the GDS children;

> 'Because of them having to let go of control… they couldn't just sit and do what they wanted to do and that's the problem with the GDS sometimes… My GDS were the sulky ones… the ones who went like I'm right, you're not, I'm not doing what you want to do'.
>
> (Laurel Semi-structured interview)

Whereas she articulated that those children working below AREs (many of those identified as having an SEND) were more included than usual. She commented of one child;

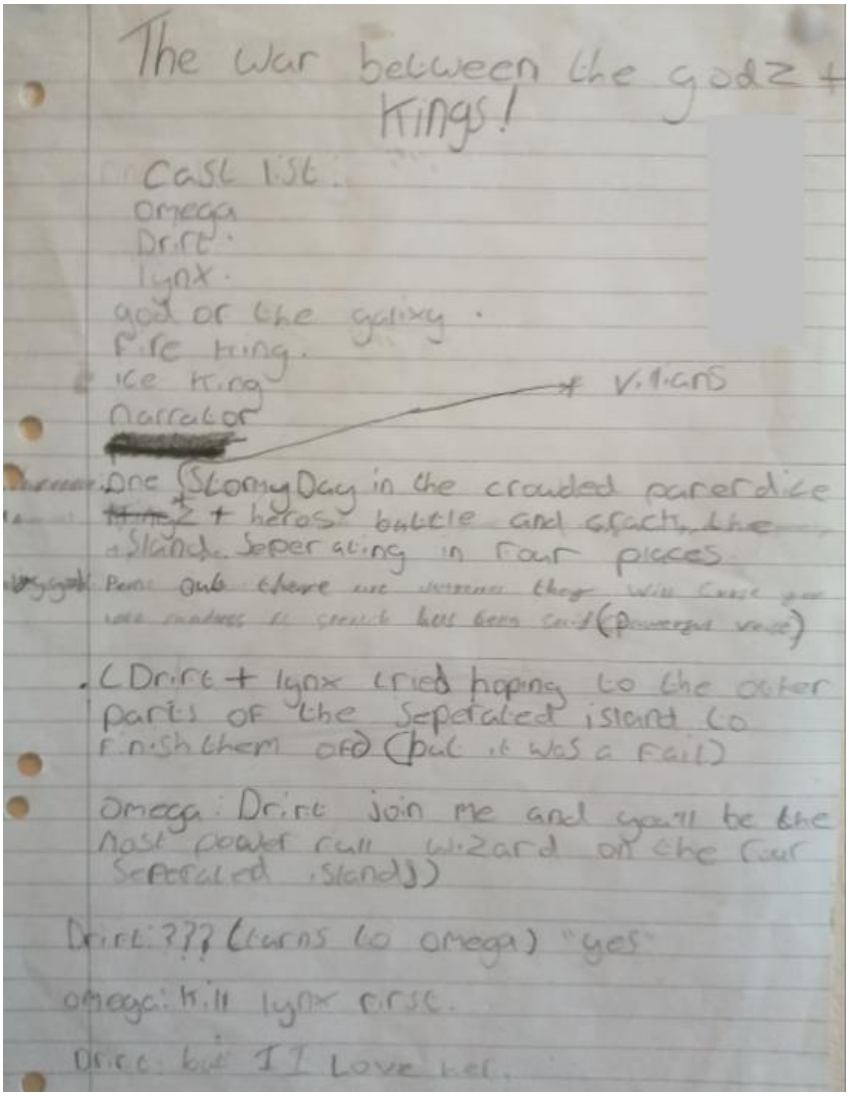
> Like he was talking, he was being really listened to and he was being really valued'
>
> (Laurel Semi-structured interview)

In their study of pupils' experience of groupings in school, Hallam et al. (2004: 517-9) state that mixed ability teaching (their term), for primary-aged children, which my workshops essentially were, was far more positive for those children working below AREs than those working above. The reasons given are very similar to evidence from my data, they felt that they were not left out and much more included in what was going on. The data shared above also suggests that the mixed approach to grouping that I took with the workshops influenced behaviour and this is also suggested by Hallam et al. (2004: 522). Their research,

like mine, suggests that frustration was felt by those working above AREs. Considering the theme of working together, evidence suggested that the social contexts and relationships within the classroom were a factor in successful co-operative learning. Blatchford et al. (2003: 154) consider this to be a highly significant factor in successful grouping for learning, and evidence from my data suggests that in some groups I may have, albeit by chance as I had no prior knowledge of the children, created some effective groups. For example in interview again with Laurel's class teacher, we were discussing a group that was made up of three children assessed as working above AREs, two at AREs and two below AREs. I commented that;

> 'Their language and writing structure was phenomenal actually. The quality… I mean their performance was appalling, but you listen to what they actually read, it was actually phenomenally well written.'
>
> (Laurel Semi-structured interview)

Year 4 writing sample 4 below, is an extract from this group's play-script. They had brought their combined love of marvel comics and fantasy fiction together to develop 'The war between gods and kings'. They have used parenthesis, not for stage directions, but added detail, genre specific character names and intuitively a combination of short sentences to build tension and longer sentences providing further detail.



The War between the godz + Kings!

Cast list.
Omega
Drift.
lynx.
god of the galixy.
Fire king.
Ice king
Narrator
+ Villans

One Stormy Day in the crowded parerdice kingz + heros battle and crach the island. Seperating in four pieces

(Drift + lynx tried hoping to the outer parts of the Seperated island to finish them off (but it was a fail)

Omega: Drift join me and you'll be the most power full wizard on the four Seperated islands))

Drift: ??? (turns to omega) "yes"

omega: kill lynx first.

Drift: but I I Love her.

Year 4 writing sample 4

Evidence from my data also demonstrated that in Maple class, some of the mixed groups worked effectively. I do not have evidence of any particular details of these group relationships, but in interview with Maple's class teacher, there was evidence that one child working significantly below AREs wanted to write for his group and this was accepted by them. The child's name is omitted here and replaced with 'X'.

> 'X said I would quite like to do the writing and X is on the Early Learning Goals for writing... so we had a little conversation and said how can we incorporate X into being the writer and X said if you start it, I'll do a couple of sentences and X loved it'
>
> (Maple Semi-structured interview')

Evidence from this data set suggests that a reason for those working above AREs did not all appear to shine here could have been because of the dynamics within each group (Tolmie

2010: 178) and due consideration was not given to the social relationships within the classroom (Blatchford et al. 2003: 154). When considering this issue arising from year 6 workshop data, (discussed in section 4.4, p.153), evidence for that data suggested that the issue arose due to these children being unwilling to step away from reliance on the school's structured system which brought them success, however data from workshops 5 and 6 suggests that the social relationships dynamic as part of each group could also have been a contributing factor.

Following this discussion, three areas have emerged that need to be included to develop my 'think for writing' framework towards a final version. The first is the importance of teachers creating a pedagogic environment that fosters autonomy and learner agency as these, my data suggests impact heavily upon enjoyment (Robson 2014: 129). The second is training in co-operative learning strategies, added to my foundation of the cognitive writing process. The third is to do with task design, including purpose. Evidence from my data suggests that a task that enables higher level thinking such as synthesis, evaluation enables stronger engagement and helps make connections between concepts (Church 2010: 40). In the context of my research, the play-script for a real audience with the purpose of a performance with props was that type of task. These three areas have been incorporated to create my final 'think for writing framework' in figure 22 below;

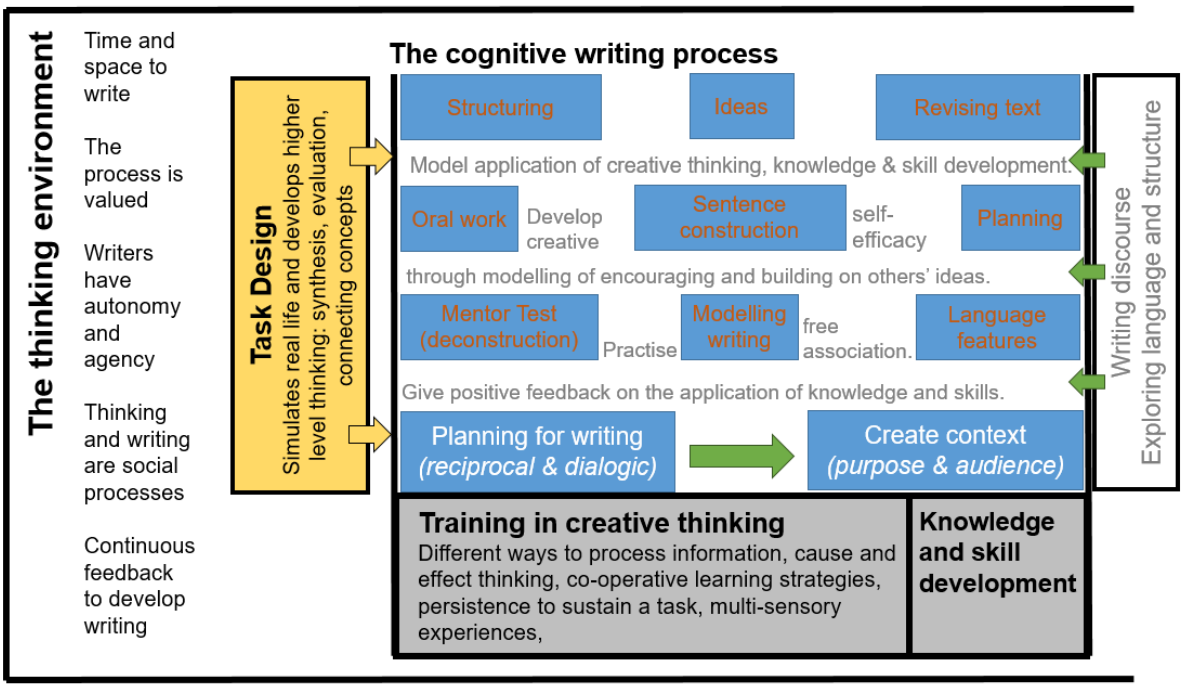


Figure 22. My final 'Think for Writing' framework

4.18 Conclusion and bridge to chapter 5

Throughout this chapter results of my first stage of data analysis, (figure 13, p.138), have been shared. Data from each pair of workshops has been discussed in the light of relevant literature, much of this introduced and explored in chapter 2. This chapter also represents a two year journey of data collection, analysis and theory modification leading to my final 'think for writing' framework. Throughout this journey of discovery, areas have been identified in the data that were not anticipated when compiling my literature review. Therefore other literature in this chapter not found in chapter 2 has been introduced where unpredicted data has presented itself. My focus for this chapter has been to emphasise those conclusions from my data that have led directly to the ongoing development of my 'think for writing' framework, however there are many other conclusions that have been drawn and mentioned in this chapter but not fully followed up. The next chapter, chapter 5, explores the second stage of data analysis (figure 13, p.138). It takes all of the conclusions I have mentioned in this chapter and synthesises them using my three research questions as a structure.

Chapter 5: Restructuring the data

5.1: Introduction

The purpose of chapter four was to demonstrate development of my data over the two years of data collection, the focus, to show the process of arrival to my final 'think for writing framework'. This chapter's purpose is to take my data and restructure it inside the framework of my three research questions, so as to respond to them explicitly;

1) From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?
2) From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?
3) From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?

The restructuring process, (figure 13, p. 138) and is reproduced below, for reference;

Second stage analysis	3	Familiarisation with data	All data read in hard copy and chronological order to get a holistic picture
	4	Generate initial codes	Coding developed from first stage building on emerging codes. This was undertaken chronologically for each workshop. – ongoing thinking taking place using memos to track thinking
	5	Search for themes	Amalgamation of codes into themes
	6	Define and name themes (1)	Data comparison across data from each workshop – identifying recurring themes and consideration of anomalies
	7	Define and name themes (2)	Tested themes out and selected data to illustrate themes
	8	Produce the report	Reported findings

Figure 23: Second stage of data analysis aligned to Braun and Clarke (2006: 87)

Chapter 4 was re-read by myself and the findings from each workshop were identified in the text, coded and intuitively attributed (Savin-Baden and Howell-Major 2013: 440) to the most appropriate of my three research questions so as to provide an evidence- based response to

them. Codes were then organised into themes, recurring data identified and those themes logically ordered under the heading of each research question in order to report the synthesised findings. (This is available as appendix D). This chapter is therefore structured using my research questions. However, during stage 1 data analysis it became apparent that some codes in the data could be connected to question 1 or 3 and that there was crossover between them. This is evidenced in the coding charts in the appendices where under the 'RQ (research question) links' column, some codes have the link, RQ1/3. As a result, in this chapter, my findings restructured into research question 3 will follow question 1's associated findings, and the chapter will conclude with a short summary following synthesised findings relating to question 2. However the chapter starts by discussing a significant finding that is a prequel for my research, it is not part of the research questions, but provides an evidence-based foundation for exploring them. This finding is that the pedagogical environment and training thinking skills are a pre-requisite for creative thinking and for supporting the writing process. Following this chapter are some focused concluding thoughts (chapter 6), articulating my contribution to knowledge in the fields studied, the limitations of my study, implications for practice and possible areas for further study.

Section 5.2. below explores the evidence for the prequel to my research. The necessity of this prequel came through understanding some of the barriers to children's creative thinking and how that influences their engagement in the writing process. It became apparent that some children were not able to think creatively because they had not been trained to do so and/or the environment in which they were learning, was not conducive to creative thinking.

5.2: Pedagogical environment and training thinking

A pre-requisite for creative thinking and supporting writing

The title of my thesis and research questions have made the assumption that children can think creatively. This assumption was based on empirical studies from literature (Craft 1999, 2003; Resnick 2007; Robinson 2010; Craft et al. 2013), my own prior research (Copping 2016b) and my own experience of working as a teacher and consultant in a range of primary settings. However a key finding from this research is that although all children have the capacity for creative thinking (Sternberg 2008; Paul and Elder 2019), there are pre-requisites that need to be in place for creative thinking to flourish and develop. This is illustrated

through the 'training in thinking' foundation to the cognitive writing process and the overarching thinking environment in my final 'think for writing' framework (figure 22, p. 219). The first of these, the pedagogical environment that the class teacher determines (Cremin 2006), I have termed 'the thinking environment'. This is the desired context within which the cognitive writing process can take place. Factors of an effective pedagogical environment are prominent in the literature as well as my findings. These are writing as a social process (Pantaleo 2016; Smagorinsky 2013), valuing that process (Graves 1983; Bereiter and Scardamalia 1993) and writers having freedom, autonomy and agency (Grainger, Goouch and Lambirth 2003; Gadd and Parr 2016). However my findings also suggested that a child's confidence can influence their creative thinking. Confidence to think creatively comes through having developed creative self-efficacy (Tierney and Farmer 2002), which they later define as 'the belief one has the ability to produce creative outcomes' (Farmer and Tierney 2017: 23). Creative self-efficacy, my research draws out, is not just an innate sense or ability, it is an attitude that needs to be trained and developed to allow creative thinking to flourish. As discussed in section 4.10, p.178, creative self-efficacy is developed through the self-assurance to apply the knowledge the learner has to the task they are engaged in (Sweller 1988). This self-assurance is most effectively developed through feedback on learning (Schunk and Rice 1987). However, the most effective feedback to develop this self-assurance is not pure praise as expected but feedback on application, helping the learner pinpoint how they have applied that knowledge and that this is desired. Whilst feedback is evident in 'the thinking environment', where feedback is sought and given is important, feedback to develop self-efficacy through self-assurance needs to be ongoing. 'The cognitive writing process' element of my 'think for writing' model has been designed in the form of a brick wall with gaps the same size as bricks. The reason for this will be discussed later in this chapter on page 226. However, for the purpose of this section, the text between the bricks needs to be considered. This text refers to developing self-efficacy through ongoing feedback on application of knowledge. It has been placed here to illustrate that developing and training children's creative self-efficacy in order to develop their thinking is an ongoing process and should take place throughout the writing process. This idea of the development and training of thinking is illustrated in my 'think for writing' framework as a foundation for the cognitive writing process set within an environment for thinking.

As well as training in creative thinking skills such as information processing, cause and effect thinking and thinking persistence, my research also found that for writing and thinking as social practices to be maximised, training the children in working together is imperative. Without this, my data showed, working together collaboratively was in many cases a barrier to the children's learning. It was not until time was spent in two of the workshops explicitly teaching what effective teamwork looks like and introducing a co-operative learning strategy did team work become a support. However, this training did not provide a neat answer, even with the role – giving as a support. Positive social relationships within each team are a pre-requisite of effective thinking (Blatchford et al. 2003) and these were not often present in many of the team dynamics.

My final 'think for writing' framework (Figure 22, page 219) suggests that if children are learning in the context of an effective thinking environment, actively engaging in quality creative thinking training and receiving ongoing feedback to build creative efficacy then they will be able to think creatively and it will influence their writing. However, another significant finding of my research means that this is not the case. This finding relates to cognitive processing and is discussed fully in section 4.10, p.180/1. Here I have cited the work of Mumford et al. (2006) who argue that limitations in cognitive processing capacity can impair creative thinking. My data suggests that many of the children who took part in my research, especially evident during workshops 3 and 4 did not have the information processing capacity to deal with the many simultaneous constraints to be juggled within the writing process. Other skills also being asked of them to juggle simultaneously, such as working together, problem solving, risk taking, deconstructing and using a mentor text was too much for them. These demands can cause cognitive overload (Sweller 1988; De Jong 2009) for the learner and impact upon the brain's ability to complete the tasks set. Where this relates most significantly to the children taking part in my research is that the catchment area that serves Parklands Primary (the case study setting) and the area where the vast majority of my child participants live is recognised as an area of social deprivation. This is discussed in section 3.5 but is significant as social deprivation can impact on cognitive processing. Whilst there are a number of influences on cognitive processing (Ford and Stein 2016), McManus and Poehlmann (2012), cited in section 4.10, p.182, suggest that social deprivation can impact cognitive processing negatively. Although I have no direct data from my research to confirm that this was the case for all of my specific participants, there is a likelihood that it could have been a factor given the social environment within which many

of them live. Given this evidence that many of my child participants' cognitive processing capacity could have been limited, it logically seems to follow that more is needed to support its development, and therefore there should be a greater focus on an effective pedagogic environment and training to help develop creative thinking.

This provides a context to explore data reconstruction under the headings of each of my research questions.

5.3: Creative thinking opportunities and their influence on the work

Findings restructured into research question 1

1) From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?

Each of the workshops facilitated a wide variety of creative thinking opportunities from embracing pretence through writing in role and visualising London in 1666 to creating ideas, analysing them, persisting in ideas and making connections between them. Other opportunities included involving others through team working. Each of the pairs of workshops were designed as a problem-solving approach to writing (Meadows 2006), from Yr. 6 saving the school from alien robot force Dax, to Yr. 2 exploring how superheroes could have halted the Great fire of London and year 4 combining scientific facts about water, a fantasy land and a musical element into a play-script. Evidence from my data suggests that these creative thinking opportunities had limited influence on the children's work. Where my data suggests that the pedagogic environment set by the teacher resulted in passivity through teacher control and a lack of willingness to take risks, creative thinking was not as evident (section 4.10, p.154) yet the quality of the work was not really impacted. One of the reasons for this, as discussed earlier in this chapter, could have been to do with cognitive load and the complexity of the writing process. Kellogg (1999), cited in section 2.15, p.52 states that creating meaning in the form of writing is enormously complex involving managing many simultaneous processes. Given the links between the juggling of complex simultaneous constraints and cognitive overload discussed in section 5.2, it is therefore helpful for teachers to understand this complexity and deliberately not overload the learner. Meanwhile, teachers can help learners build cognitive flexibility (Morin 2020) through some of the training detailed in my final 'Think for Writing framework' (figure 22, p.219).

Connection-making during the writing process influenced the children's work significantly. Findings from data across all six workshops indicated that children were seemingly unable to make connections in two different ways. Firstly, data showed that children were finding it challenging to make connections between different elements of the writing process across their workshop. There was the occasional piece of data (Appendix B, p.282) that showed children were able to see how for example, in workshops 3 and 4, the large map they worked with to visualise London in 1666, helped them with their writing through the use of place names. However, for approximately three quarters of the children, data from all workshops showed that when each activity (writing process phase) was completed, there was little sense that skills, knowledge and understanding gained supported the next stage. Where the understanding of writing as a process was more evident was during workshops 5 and 6 where the teachers had personalised the school's approach to writing and made it more process-orientated.

A lack of connection was also evident in terms of relating reading and writing, a mentor text (Culham 2014) and their own composition. Despite the fact that the school's systematic approach to teaching writing involves mentor text deconstruction, data showed that children could not apply their previous knowledge of using a mentor text to the different context of the workshops. It was evident that the learners knew what the building blocks of the writing process were, for example, mentor text, composing and editing text, drawing a comic strip, modelling writing, team work, and how to use them discretely, what evidence shows they struggled to do is make connections between them to develop writing. My final 'think for writing' framework has the cognitive writing process illustrated as a wall, each building block representing a different element. However this illustration emphasises the gaps between the blocks being the same size as the bricks. This emphasises my findings that teachers working between the gaps, building self-efficacy, developing application skills and connections through feedback is as important as teaching the building blocks.

The lack of connection-making ability perhaps illustrates a lack of creative self-efficacy to apply the knowledge they had. It could also be argued that the systematic and repetitive school approach driven by attainment in tests had become a writing procedure to follow rather than developing application. The impact of the school's system is discussed in more depth later in this chapter in exploring findings relating to research question 2.

Involving others was also a significant creative thinking opportunity that influenced the children's work. As mentioned earlier, in my discussion of the pedagogic environment (section 5.2), team work, particularly evident in workshops 1-4, was a barrier for some children's learning rather than the support it was intended to be. Barriers to team work, my data showed were some of the children's frustration and anger, group dynamics and some children misunderstanding what team work involves. Even with role-giving and role signifiers in workshops 5 and 6, the self-regulation to sustain those roles through the whole workshop was a real challenge. The influence of this on the work was different for different identifiable groups of learners. For those children identified as working above AREs, involving others proved to be more of a challenge and the team work element of the workshops was a barrier for many of them to achieve what was normally expected. Data shows that for these children, many of whom had a high level of attainment using the school's individual approach to writing, giving up control was difficult. Hallam et al. (2004), cited in section 4.17, p.216 does suggest that children working above AREs may get frustrated with group work, particularly when they are working with children achieving not as highly as them. Hallam et al. (2004) goes on to suggest that a mixed grouping such as I used can support those children working below AREs as they can feel valued and my data supported this. Blatchford et al. (2003) cite social relationships in the classroom as a pre-requisite for effective group work and where this was the case within my workshops, my data supports Blatchford's premise. Therefore developing positive social relationships across the class is important if children are to be able to involve others and therefore develop their writing. Where involving others positively influenced work was evidenced in children analysing their ideas together. This is an important creative thinking skill (Robson 2014: 129) as through analysing an idea the learner assesses its suitability for the task and rejects or uses it depending on their analysis.

To conclude discussion of findings relating to research question 1, consideration is given to the influence of the tasks set. Within each workshop there were creative thinking opportunities, but it was evident that for workshops 5 and 6, where the task was more open-ended and gave the learners more autonomy and freedom, there was more enjoyment demonstrated and evidence of connecting the purpose of the task with the quality of writing needed. Lambirth (2016), discussed in section 2.22 suggests that young

writers preferred writing tasks where they were able to express themselves and Gadd and Parr's (2016) work on effective teachers cite giving pupils more freedom and autonomy as an aspect of their practice. They also suggest that these teachers give children input into decisions around learning activities, giving them more agency in their writing. However, the most significant finding relating to how the task influenced the children's work centred round the thinking that those tasks engender. For workshops 1-4, the task was writing a story, which when broken down followed writing process stages (Alves and Limpo 2015), offering limited freedom of expression in terms of approach to the task. The play-script task and performance provided freedom of approach and the processes involved to achieve a performance, the task required the children to synthesise, evaluate, analyse and apply information, all higher thinking skills, as well as take risks (Church 2010). Data from these workshops showed the greatest influence of the task on the children's work.

5.4: Evidence of creative thinking and its influence on process and product

Findings restructured into research question 3

Research question 3 is explored here as through the stage 1 coding process it became apparent that there was cross over in the data. It therefore makes sense as themes from section 5.3 will be explored further here.

Across my data, several cognitive attitudes of creative thinking were evidenced during my research workshops. Within this section the three most significant in the data, are evident across each of my theme maps (figure 15 p.146, figure 18 p.170 and figure 21 p.196). The first, enjoyment is followed by the creative thinking attitude of persistence, significant across my whole data set due to the children being seemingly unable to demonstrate it. Following this, embracing pretence and understanding relationships between ideas will be discussed in terms of their influence on writing process and product.

Evidence from my data showed that the children enjoyed each of the workshops they participated in. Data shows that the children enjoyed and involved themselves in the themes for each workshop were motivated by the contexts and for the first part of each workshop were motivated by the process task set. Their enjoyment of the workshop did influence creation of ideas, enthusiasm and engagement with the process. However, it could be argued that my status as a visitor, doing something different to their normal work would naturally engender enjoyment and motivation and that as data shows, children wanted to

please a visitor in their school. However observations throughout the day from the class teachers and myself corroborated the belief that generally the children did enjoy the workshops. However, for the first four workshops, the enjoyment, I would argue did not really influence product. Analysis of writing from the first four workshops did demonstrate some high levels of composition, overall, the quality of the product did not reflect engagement with the earlier parts of the writing process. Yet during workshops 5 and 6, the enjoyment earlier on was evident in many of the groups' performances of their play-scripts, where a finished product was not an individual piece of writing. A possible reason for this has been discussed in sections 5.2 and 5.3: the complexity of the writing process (Kellogg 1999). Given the analysis of their writing and observation, many of the children engaged in putting ideas into coherent text, a significant number of whom could be termed struggling writers (Graham and Harris 2009). It has been discussed, section 2.15, p.55, that it is the transcriptional process of writing that struggling writers find most challenging. This was evident through the analysis of children's writing from workshops 1-4. Editing and revising text (largely transcriptional processes) took place during the latter stages of these workshops, therefore it could make logical sense that children's enjoyment waned at this point and this of course influenced their product. However data from these first four workshops shows that children who were not struggling writers also struggled to maintain enjoyment, however this was due to group work, struggling with a more flexible approach to writing, different to the school's approach where they met with success. This was however different with workshops 5 and 6, where the writing was part of the process not product, and because there was a recognised purpose for effort in transcription, actors to be able to read the writing, attainment of these children's transcription elements of writing was generally higher.

Another reason for enjoyment not being carried through into the latter stages of each workshop is persistence (Robson 2014: 129). Persistence and several synonyms of it, such as perseverance and stamina appeared across the whole of my data set, and due to it being a creative attitude, it is the focus of the 'Training in creative thinking' foundation of my final 'think for writing' framework (figure 22 page 219). Persistence is connected strongly to self-regulation which Harris et al. (2011) posit that struggling writers find more challenging than more competent writers. It would therefore make sense that the struggling writers taking part in the workshops would find sustaining the management of complex processes difficult and therefore find editing, revising and improving quality of product very challenging. For

workshops 5 and 6, lack of persistence and self-regulation was evident in that rehearsals for their performances lost focus, role-organisation could not be sustained and more teacher interventions were needed.

A creative thinking attitude that the vast majority of the children found easy to demonstrate was embracing pretence. This facet of creative thinking is also discussed in section 2.13, p.48 and is connected by Robson (2014: 130) to learning gains in trying out ideas and hypothesising. My data suggests that embracing pretence directly influenced writing process in terms of trying out and developing a wider range of ideas but these ideas did not always translate into written product. The challenge for the children was turning those ideas into text, keeping the balls of sentence structure, punctuation, spelling, hand-writing and text organisation in the air, the same phase in workshops 1-4 where enjoyment waned. During workshops 5 and 6 this did not appear as much of a problem as for many of the children, these balls seemed to be kept in the air more intuitively, something in the task of writing a play-script that meant their prior knowledge was more easily activated, perhaps the lack of pressure of producing a very neat final piece was a factor. Analysis of the twenty scripts from workshops 5 and 6, demonstrates higher achievement in those transcriptional elements than the stories from workshops 1-4, but attainment in the composition elements was not as high.

The final area to consider in this section is understanding relationships between new ideas and their related concepts. This attitude was evidenced particularly during workshops 5 and 6 in some of the play-scripts written. Drawing on year 4 writing samples 1,2 and 3 and associated commentary (pages 199, 207 and 212) their domain-specific knowledge (Sternberg 2003: 334) of play-scripts and knowledge of their chosen topics through being given freedom to choose impacted upon their written scripts. The children were evidently able to relate their prior knowledge of the writing form and apply their knowledge of their chosen worlds to develop some innovative work. Wang (2012), whose work is discussed in section 2.25, argues that the primary link between creative thinking and writing is elaboration and my data in part supports this. In the children's scripts there was more evidence of specific details but also genre-specific language, humour and intentional use of punctuation for effect. Having the play-script as a task also allowed the writers to connect with their audience (Rothwell 2016), which provided further motivation for writing to communicate intentionally more effectively.

5.5: External factors influencing teachers' pedagogy and children's creative thinking

Findings synthesised into research question 2

The predominant external factor present across my whole data set was the approach to teaching English that the school had developed. The reasons for their development of this approach are discussed more fully in section 3.5, but it was essentially driven by external measures of school effectiveness such as Ofsted judgements (SATs). Across workshops 1-4, taking place with year 6 and year 2 (both year groups in which SATs are taken), my data showed evidence of learners being passive recipients rather than active participants in their learning. Initially, my reflections whilst working with year 6 led me to consider that the approach of one of the class teachers had enabled this passivity, however the other year 6 teacher, with a very different approach also expressed concern that learners were passive. With the use of this approach, from albeit my limited observations and limited time working in the school, I did not see the children given opportunity to take risks in their writing and thinking. This was evidenced through the children having difficulty with the open-ended nature of the tasks that I set. Permission given for them to think about how they wanted to communicate through writing was very difficult for them to embrace, perhaps because their usual English work is very prescriptive, arguably about getting to a finished piece rather than understanding how to communicate effectively in writing. This was evident through the use of the support tool, a mentor text (Culham 2014), which almost became a constraint. Even though mentor texts were used every week with the school's approach to writing, during the workshops I was using them slightly differently and that seemed to cause problems for the children. This could suggest that the children lacked understanding of the purpose of a mentor text or the skills to apply their learning.

Data from workshops 5 and 6 provided slightly different findings relating to the school's approach to writing pedagogy. These workshops took place in year 4, a year in which SATs are not required to be taken. Data from these workshops showed that year 4's teachers had worked together to adapt the school's approach to align more with their own beliefs of writing as a journey, a process. This understanding was evident in the responses of the children to the workshops, as they were keen to be active in the learning and more comfortable with process writing. It could be argued that their focus, a play-script helped with this however, the fact that a performance was the product rather than a written piece

makes comparing findings with workshops 1-4 difficult as there are too many variables to consider.

The other significant factor that influenced writing pedagogy and creative thinking is the pedagogical environment the children are working in. This is influenced by the school's approach and the influence of external measures. Each of the teachers who took part in my research had different levels of experience, areas of expertise and preference and different personalities and my data shows that these influenced the pedagogical environment of their classrooms. My data does also suggest that the pedagogical environment is also influenced by external factors such as an imposed whole-school approach. This whole-school approach, designed understandably to facilitate children's attainment of a national age-related expectation, did have an effect. This effect was felt, my data suggests in predominantly two ways: Firstly, those children currently assessed as attaining above (AREs) showed a lack of flexibility in their understanding of writing as a process. My data suggested that particularly during workshops 1 to 4 these children were seemingly unable to apply their expertise to a new context, frustrated perhaps by the different challenges posed by working with others in the process. Secondly, discussion of writing was categorised by what Lambirth (2016) terms a skills discourse. Discussion of what makes better writing, in my data, consisted of handwriting and spelling mainly. Lambirth (2016) also suggests that children articulate the elements of writing they struggle most with and my data certainly supports this as those transcriptional elements of writing (handwriting, spelling, punctuation, sentence structure) were a big challenge for those children working at or below AREs. However, this was not the case for this group of learners in workshops 5 and 6 where the environment was organised and carefully managed so that the social aspects were an enabler and not a constraint, the writing was part of the process, not the product and it had a definite audience and purpose. The task to be completed had more autonomy for the learners and where higher levels of persistence were needed towards the end, where traditionally to achieve a final written piece, the complexities of editing and revising work need to happen, a performance was the product instead. In these workshops, children's transcriptional elements of the process were assessed at a higher level and were used more intentionally to communicate meaning.

5.6: Summary

The process of synthesising findings into my three research questions has highlighted a few themes arising from my data and connected to my final 'think for writing' framework figure 22, p.219). The first of these is training and development of creative thinking. Whilst all do have the capacity to think creatively (Sternberg 2006), some attitudes of creative thinking need more training and require creative efficacy, which also needs developing. The second is the ongoing development and feedback or 'working between the gaps' of the writing process building blocks. Through analysis of data, it has become apparent to me that many children struggle to make connections between different parts of the writing process, seeing them as separate tasks, rather than parts working towards a whole. This is mainly due, I would argue, to the complex juggling of simultaneous skills needed to produce effective writing and the significant cognitive processing skills needed to manage it. The third theme relates to persistence and self-regulation. As writing is such a complex process requiring significant cognitive processing, brains become overloaded and learners are not able to sustain writing through to the latter stages of the process, typically editing and revising. This affects the quality of work produced. The fourth theme, task design, arises from this. Task design has been a significant factor throughout this research. My data shows that where process writing is valued, a tangible audience and purpose for the writing is identified and the actual writing is not at the end of the process, the pressure to produce is off and the quality in terms of authors' intent and effective communication rose. The fifth and final theme links to this: external influences and the pedagogical environment. My findings have highlighted the impact of a product-based approach to writing pedagogy that is necessitated by high-stakes measures of school effectiveness. These high-stakes measures, in my research case, have driven the introduction of a structured system for teaching writing that whilst doing its job, increasing test scores, has influenced teachers creating pedagogical environments that have not supported learners to develop their cognitive processing and connection-making or engage with writing as a process.

The final chapter, the conclusion of my thesis, discusses the significance of my research in terms of contribution to the fields, implications for practice, limitations and areas for further research.

Chapter 6: Concluding thoughts

6.1: Contribution to the fields of creative thinking and writing pedagogy

This work brings a number of contributions to the fields of creative thinking and the pedagogy of children's writing. Both of these fields have been extensively researched, however the first contribution my research makes is a conceptual one, in that it brings both the fields of creative thinking and writing pedagogy together by exploring how one influences the other. This is significant because whilst there is significant research into creative thinking and significant research into children's writing pedagogy there is a paucity of research that I have found that explores how one influences the other, Wang (2012) being the only piece of empirical work that my literature searches discovered. Drawing together the findings articulated in chapter five of this thesis, I have suggested how my research findings bring these two fields together and influence one another.

Creative thinking can strongly influence many of the cognitive processes involved in writing, such as generating ideas, shaping and developing those ideas and through embracing pretence, help with developing a storyline. However, my data suggested that creative thinking opportunities did not necessarily influence other parts of the writing process that are usually associated with a writing product, such as spelling, punctuation and sentence structure. As a result, a quality gap between ideas and the written product opened up. Therefore the way in which my research makes a conceptual contribution to knowledge is through looking to fill that quality gap and in so doing bring the two fields of creative thinking and writing together. Through the data, this gap was characterised largely by the children's confidence. My data showed that children had the confidence to think creatively but this did not translate through into the process of putting words on the page. This gap between thinking and writing, my data suggests, can be filled by developing children's creative self-efficacy which is connected to confidence (Matthisen and Bronnick 2009:22; OECD 2019: 14). Developing children's self-efficacy could be seen therefore as the conceptual glue that holds the fields of creative thinking and writing together. Within this development, children should be coached to make connections between building blocks of

the writing process through feedback on their skills at applying their knowledge to other contexts. This may be as a complement to whole class writing instruction. Development of creative self-efficacy in this way also builds persistence and self-regulation, two important attributes that are cognitive connections between creative thinking and writing pedagogy.

Secondly, all of the studies involving creative thinking explored, use some form of creative or divergent thinking test to assess creative thinking. These tests attribute a creative thinking score to the subject's task achievement. My research however, is significant because it uses observation as a tool, to analyse not only creative thinking, as Robson (2014) does, but to go further and analyse how that thinking influences children's writing. It thus provides a more holistic picture of the subject's creative thinking capability in an applied situation, how that influences their writing and how a teacher's pedagogy enables or constrains it. These observations identified some cognitive attitudes of creative thinking as being responsive to a stimulus, such as a simulation or motivating hook. Other cognitive attitudes required permission, such as risk-taking and the right pedagogical environment. A further contribution to the field therefore is the understanding that whilst, as Sternberg (2008) argues, everyone has the capacity to think creatively, there are some enablers and constraints. Many of the enablers have just been mentioned above, however a constraint that my research has engendered is cognitive processing. If the brain has limited capacity to process significant amounts of information at once, then its capacity to think creatively is diminished. This can be caused by a range of factors, including social deprivation and adverse childhood experiences meaning the brain architecture of children who have been subject to any of these factors is not yet sufficiently constructed to deploy creative thinking.

A further contribution to the fields is my 'think for writing' framework (figure 22, p.219). This framework, created initially through a piece of my own empirical research (Copping 2016b) and evaluated, modified and developed through this research is designed to serve two purposes: Firstly, as a way to conceptualise writing as a cognitive process, not just a technical one, with enablers for success, such as the thinking environment, task design and training in creative thinking. Secondly, as a tool to support education settings in their development of policy and practice and practitioners in their planning of units of work that involve writing. The main contribution to the fields my 'think for writing' framework makes are through the enablers or pre-requisites mentioned above, but also and significantly, through the emphasis of teachers supporting learners to connect parts of the writing

process. Helping learners understand how one part builds upon the other through working between the gaps of the bricks to develop creative efficacy and apply knowledge to a variety of contexts through feedback.

6.2: Implications for Practice

The conclusion of supporting learners to connect part of the writing process has significant implications for those who are teaching in primary educational settings but also for tutors working in higher education settings, educating those teachers. Whilst this research is based in England, the findings are applicable to primary settings wherever writing is taught. The teaching of writing in my experience, is often focused on creating mentor texts, planning activity, modelling writing and devising scaffolds to support the learners. This is also evidenced by the plethora of published plans available for teachers. My research does not suggest teachers should not focus their time here, but it does suggest that teachers should spend time and energy working with learners to connect those building blocks. The implication for primary practice here is for teachers to develop the skills to work within those gaps: modelling how to apply creative thinking skills, domain-specific knowledge and giving ongoing feedback to the learners about their application to build creative self-efficacy and assurance to apply knowledge and skills across contexts.

The second implication is for teacher educators and is in the design of modules relating to primary English. The design of primary English modules I have been involved with at both undergraduate and postgraduate level has consisted of input focusing on the building blocks of the writing process without considering working in the gaps. My research therefore suggests that consideration of supporting teachers develop the skills needed to work in the gaps needs to be given in module design and development.

A third implication for practice is understanding the importance of enablers for creative thinking. Sternberg (2006) suggests that people are not creative because they do not choose to be and whilst I do understand his position, my research suggests that there are some attitudes of creative thinking that need training and development. This is a significant enabler, illustrated in my 'think for writing' framework. In order to develop their learners' creative thinking skills, teachers of writing need to understand what this training entails and be upskilled where necessary to facilitate it. Similarly, in order to develop these skills,

teachers need to understand how to create a thinking environment so as to enable successful navigation through the cognitive writing process.

The final implication for practice is that of task design. Units of English work in primary classrooms in my experience have often concluded with a 'published' piece of writing, a product to mark the end of the process. However my research has concluded that having the product as a revised and edited piece of writing may not always yield the most effective learning. Without training and development, struggling and novice writers find self-regulation in writing a challenge and editing and revising are often left to the end of the process at a point where children cannot sustain their writing. They have already juggled lots of different skills to turn thoughts into coherent sentences that communicate meaning and their brains may well be experiencing cognitive overload. This impacts their ability to complete the task. In order to avoid cognitive overload teachers need to consider the complexity of the writing process, understand the many constraints novice writers are juggling when writing and consider this in their task design.

6.3: Limitations of this study

There are two limitations and both concern data collection. Whilst there is a broad data set to support reliability of findings, the roles I undertook within the whole process can come under scrutiny. As facilitator of each workshop and supporting the children during the process, having an observer role as well was not ideal. Whilst teaching, it is almost impossible to take on a least adult role (Mandell 1991) as was intended during observation and so my focus was split. This meant that it was challenging for me to observe effectively and so the observations I did make may well have been incomplete. To mitigate against this, I asked the class teachers to also complete an observation sheet (figure 9, p 116). However, prior to the workshops there was not any time available to discuss the observation sheet with the teachers and so despite there being criteria for what to observe, there may have been misunderstanding. Another of my roles was as focus group facilitator. This leads to the second limitation of this study, focus group data. The purpose of a focus group is so the participants can build on ideas from one another and unfortunately this did not happen in any of the groups. The predominant voice in each group was myself as none of the children really interacted with each other. Several possible reasons for this present themselves: Myself as facilitator of the group as well as the workshops could have influenced the data

and been a barrier to their interactions, it may also have been a barrier to any negativity regarding the workshops. My lack of training in facilitating focus groups with children could also have been a reason for the groups not working effectively. However, despite these limitations, the data collected produced some significant findings, harnessing the perspectives of the class teachers and their insider knowledge of the case. The data set as a whole, despite the focus group challenges also included some rich perspectives from the children about their learning, thinking, writing and engagement

6.4: Areas for further research

The boundary of this case study is Parklands Primary School, three year groups and six teachers and this research took place at a significant time in the school's development. As this research took place where two thirds of the participants were year groups taking Standardised Assessment Tests (SATs), it is not surprising that SATs and external measures were a significant influence in my data. Workshops 5 and 6, taking place in a year group where SATs were not a factor did yield some different findings and so undertaking some workshops with other non-SATs years in Parklands Primary would be interesting to compare. Also, at the time of writing, Parklands has maintained its good Ofsted rating and so undertaking some workshops at this less turbulent time for the school where perhaps its immediate priorities have changed would be compelling too. Section 6.3 draws attention to the focus group element of data collection as having been problematic. Following further training in focus group facilitation, it may useful to undertake further workshops and have them facilitated by either one of the group's peers, or class teacher rather than myself as workshop facilitator so that the children's voices can come through in the research more strongly.

Parklands Primary is in an area with a history of social deprivation and this factor, my research shows, was significant in my findings, therefore a final area of further study could be undertaking this research in a very different type of school and comparing findings. Other researchers could build on my findings, further develop my 'think for writing' framework and consider its application to other primary contexts.

6.5. Final thoughts: Reflecting on the process.

The process of undertaking this research has been significant for me both personally and professionally. Firstly, a significant piece of learning for me was going through the process of transferring from probationer to full PhD. This process took place quite early on in my PhD journey and involved the submission of a substantial document outlining my research questions, literature base, methods, data collected so far, early analysis and schedule for completion. Following this was a discussion of my work with a panel where a decision as to my progression to full PhD would be made. Having my proposed research opened up with a cleaver of incisive questioning was very challenging and painful as I was unsuccessful first time and needed to resubmit. However, feedback from the panel opened up my thinking as it led me to a much wider literature base than I had previously searched. My understanding of the complexity of creative thinking and children's writing was broadened and strengthened. My understanding of case study design was also developed over the next two years of the research process, I had wrongly thought my research was multiple case study design but on my way to present early findings at a conference, through reading, realised my research was a single case and so had to hastily reframe my presentation.

Secondly, having the opportunity to engage with a primary school over a two year period has supported my professional practice as a teacher educator. It has allowed me to engage with teachers as a researcher rather than assessor or trainer. This has given me recent and relevant experience to draw on in my teaching and become more experientially acquainted with the pressures teachers are facing in the current climate. I was also able to see from an outside perspective, the extent to which external measures of school effectiveness influence teachers' pedagogy and practice. This research has also presented me with the privileged opportunity of working with some of my former students at different stages in their careers. Seeing the confidence that they have developed in their decision making, the skills with which they managed the learning and the compassion they demonstrated for the children in their care was very rewarding.

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Appendix A: Coding Chart – First Stage Analysis – Workshops 1 and 2

Coding Chart – First Stage Analysis – Workshops 1 and 2 – Yr6			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ1/3	Deep thinking ideas	6D Ref Diary, 6DObservation 6D interview 6H interview 6H focus group	'some really deep thinking ideas' 'interesting and creative ideas' 'came up with some fantastic ideas' 'I think they will struggle but they had loads of good ideas' 'I know they all have lots of narrative ideas' 'It's really interesting you get your mind going'
RQ1/3	Connection making	6D Ref diary 6DObservation 6D interview 6H interview 6H observations 6H focus group 6H Ref Diary 6H focus group	'very little ability to pick out language' 'made more of reminding to use WAGOLL but still many didn't have them in front of them' 'because we always use WAGOLLs…the dragon one was really good… you spent a long time picking out good words to magpie so I think the synapses in your brain, they link…' 'They didn't use the WAGOLL, it was so away, they had forgotten it 'Children didn't connect what I was doing with the WAGOLL to how they could use it and magpie ideas, they didn't know what to do with it and seemed to see it as a separate activity to the writing. 'she gives us a copy (WAGOLL) and we need to read it and pick bits out… and highlight the best parts. Then write it in your own words Sometimes she says you can use it or not' The children seemed to really flounder with the WAGOLL just because it was in a different format to what they are used to When we all did the openers I just put where they were coming from.. from the Iron Man
RQ1/3	Below AREs achievement	6D Ref diary 6D work 6DObservation 6D interview 6H interview	'Child with ASD, good ideas and writing, doesn't usually write' 'Evidence from two children below AREs using WAGOLL in writing – he laughed over the quiet, humble world' 'Child with ADHD usually frustrated with writing, spoke excellent ideas for a scribe' 'the vocabulary they used was impressive – XX and XX wouldn't usually stretch themselves to such advanced vocabulary' 'they wanted to keep writing, especially CC with SEBD – wouldn't normally have done that' 'my normal low achievers have done some really good work'
1/2/3	Above AREs disengaged	6D interview	'I don't think his ideas were as innovative as they usually are' 'I was disappointed with the back table to be honest'

		6D Ref diary	'they are usually fantastic writers so I don't know' 'best writer in the class didn't reach full potential'
RQ2	Knowledge of learners	6D interview	'I know all about them, I care about them, knowing their background. Knowing why they're upset, I think I am good at that' 'Maybe if I was more experimental with what we did then….' 'I love drama and this class are dramatic'
		6D Ref diary	'teachers second year with the class, clearly invests in them'
		6H interview	'Our children need a lot of modelling' The boys are so OCD and controlled.
RQ1	Scenario stimulation	6DObservation	Children buzzing and asking question-clearly piqued interest
		6D interview	'after the wow they were very excited' 'they really hooked in straightaway, I think because the stimulus was so vivid' 'he was into it and genuinely thought that he was a robot'
		6D focus group	'You took it so important and how we got to wear passes..' 'made me think it was actually real'
		6H interview	He (boy with SEBD) bought into it, he doesn't usually like stuff like that but he was like, Ah it's real
		6H focus group	'It was weird' 'I first thought it was real, then it was like, No' 'It weren't daft or anything like that… it's just a bit of fun' 'cos robots can't take over our body, that's just stupid' 'I actually quite enjoyed pretending it was real'
RQ1	Creative thinking technique helped organise ideas	6D interview	'I thought it was really clear in their brain, that was the when and where, how and why'
		6H focus group	'I found it a bit hard I didn't really understand it' 'I think it was good that we done it… I struggled a bit at one point..then I started to get it even more'
RQ3	talk to scaffold writing	6D interview	'for a lot of them…. speaking before they write, 'Child with ADHD usually frustrated with writing, spoke excellent ideas for a scribe'
		6D Ref diary	
RQ2	challenge of transcription	6D interview	'it has a big impact on the structure of their sentences because they struggle.. quite a lot of the time it goes brain dump on the page'
		6D focus group	'I tried hard to figure out the spellings you underlined
RQ2	not used to change influence of school system	6D interview	'They're used to the same structure and they're quite systematic, you do a cold write then the next time we pull apart a WAGOLL – so it's safe for them' 'it's just the journey the school have adopted is rigid' 'It's so condensed, they are used to working pacy that's why…they said they want more time'
		6D Ref diary	Used to WAGOLL and magpieing ideas
		6D focus group	'I think it was good for the school to, well have something different' 'normally, we have to have a certain setting..' 'we usually do a bunch of writing and not much drawing' 'we always do loads and loads of writing'
		6D observation	'When we was doing our cold write'

		6H interview	More able groups did struggle to adapt to a different approach to English – couldn't transfer skills 'They are just sat there going, Ahha, we are so spoon fed'
RQ2	influence of SATs	6D focus group 6D interview 6H interview	'In year 6 we concentrate on getting into high school' 'Year 6 level is like really, really high writing' 'they said that in year 6 we know we have to work for the SATs 'It's all the SATs I've done, I know what I need the kids to get,…follow a strict routine of lessons
	enjoyed the approach	6D interview 6D focus group 6D observations 6H focus group	'I think that the children really enjoyed it' 'I thought it was really fun' 'I liked the things we are learning at the moment' 'it made me laugh a lot' 'I've got more into space now' Children were very excited I enjoyed every single bit of it really 'It was good fun I had lots of fun doing it 'It was fun writing all these stories and sharing them out
	a different approach	6D focus group 6D observation 6H focus group	'…as well to have something different than we usually do' '..it was fun and creative and different to what we usually do' 'I do like difference but there's times when you don't like things, but I really liked this' 'Whilst all groups were excited and engaged, it was clear that the different structure and approach was challenging for the back two tables 'we got to do things we don't usually do'
	liked science fiction	6D focus group 6H focus group	'I liked the things we are learning at the moment' 'I got more into science-fiction now because of you' 'After that lesson I've got more into space and want to watch more films' It persuaded me to try because I really liked that thing about robots and the scientist yeah'
	work with someone new	6D focus group	'whenever someone's new I our classroom I always have the feeling that its gonna be good lessons'
RQ3	working as a team	6D Ref diary 6D observation 6D focus group 6H interview 6H focus group	'Children finding working together almost impossible 'arguing and short fuses when working together for most groups, or one person taking over' '..work hard with my table.. we have to have teamwork to work altogether and that's really important' 'helps us work with…the people around us' 'my group helped me' 'I like having more people around me with more minds and more knowledge so we can add it all up and make something good out of it' 'I could give my ideas to other people so that can get better than they are now' 'I mean they were engaged but when it was their turn not to write… if they were all doing their own task it would mean…' 'it was really fun writing the stories. Like to share my group'

			'share your own opinions and share ideas together' 'if we didn't work in groups.. I like doing it myself Working as a group can help instead of on your own 'Yeah, like talk, like work as a team and everything like that'
RQ1	the role of scaffolding	6D interview 6D focus group 6D observations 6H interview 6H focus group	'picking out good words to magpie…' 'having all the support, WAGOLLs, success criteria and big masses of paper to write all of the things…could have edited it and built it up to make it much better'. 'tried to go further reaching for my ideas' 'picked out language but didn't really know why or use it to their advantage as writers' 'It's the modelling and scaffolding….we unpick that and the WAGOLL' 'This is the WAGOLL…right you've got a word bank, you've got sentence openers 'WAGOLL helps you so you don't forget'
RQ1/3	autonomy of imagination '	6D focus group 6D observation 6H focus group	'I got to use my imagination for everything in it' 'I was imagining more than usual because of how fun it was, sometimes I'm bored I don't do that much writing but if I'm really excited I do a lot of writing' 'My favourite is stories, cos you can just make them up' 'I could let my imagination go free and further and get more ideas' Lots of vibrant discussion and creative ideas from all groups about how Robot Dax came to infiltrate the senior leaders – liked open-endedness, freedom and flexibility at this point in the process. 'I liked using creativity to write new things like your imagination' 'I really liked we got to use our imagination 'we used creativity and more imagination' 'I could use my imagination and make up new things' 'You use your own ideas instead of having to find and use ones from research'
	perspective on learning	6D observation, Ref Diary, interview and focus group 6H interview 6H focus group	'XX surprised me throughout the session, I didn't think his ideas were as innovative' 'XX (same child) could have done more, been more engaged, translated innovation onto paper but often disengaged XX (same child in focus group) ' I did better than usual, I tried hard as well..to do the best I could' 'some are a bit chancy' 'They could have chosen not to do this but they all did' 'It was a bit easy to be fair' (this below AREs child struggled throughout, saying she hated writing) 'It was fun, you got to work as a group' (the above child complained all day and couldn't work with a group) 'I found writing the Science fiction easy' 'It was easy because we writ fiction in most of year 5
RQ1	More time to write but easily off task	6D interview	'They said they like to have more time… I tried to give them more time, I felt part of the reason I kept jumping in

		6D Ref diary	with mini-plenaries was cos I felt it needed moving on a bit' 'They go off task easily and its fair enough to say they want more time to do…. But if they're not doing it then… 'Wanting to give them time to incubate ideas, talk it out, but frustration at lack of progress and feel pressure they should be writing more. Should I jump in or not?'
RQ2	Influence of teacher	6H Ref diary 6H interview 6H Ref diary	'Teacher controlling things, working with a group, doing the work for them' 'developed ideas when given permission 'When CT went to work with a group, they stopped thinking and relied on her' – stifled ideas CT presence quite volatile and loud 'What my kids put would depend on what I put' 'I expect the best behaviour, quite strait-laced' 'What would they say about you' (CT does a cow impersonation) The children were very dependent, wouldn't chance ideas (could be influence of school system too)
	Staying focused	6H interview	'I think they kept their focus – I was out for the afternoon and they've all been writing'
	Importance of purpose	6H interview	'I think it's because they had a purpose' 'It's about giving them a purpose'
RQ1	Drawing as part of the writing process	6H focus group	'I like drawing the comic' 'I liked doing the drawings and the comic, I don't really like doing much writing' 'I would give it a 5 cos I like writing and drawing' 'Because I like drawing'
RQ1/3	Improving vocabulary	6H focus group	'Because I used better vocab and better words 'I like tried to improve my words even better. Even rewriting helped me improved'
RQ3	What better writing is	6H focus group	'I don't usually do cursive writing and it got really neat, I thought my handwriting got better' 'I thought I'm gonna do cursive from now on.. Yeah the work helped me do better writing'

Appendix B: Coding Chart – First Stage Analysis – Workshops 3 and 4

Coding Chart – First Stage Analysis – Workshops 3 and 4 – Yr2			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ2	Teacher values	Elm interview Birch interview Birch Ref Diary	'I'm quite impulsive and reactive…I like to change the course of lessons…I'm quite into collaborative learning 'quite flexible really' 'I'm very kind of on them all the time…if I give them an inch they will take a mile' 'I try to be witty with them, fun and outgoing' 'Clearly a view from CT – give them an inch – a strict disciplinarian… keen to manage behaviour harshly.. this got in the way I think' 'atmosphere of class quite negative'
RQ2	Learners passivity	Elm interview	'coming up with ideas rather than being passive' 'If they're passive during that time how much of it are they taking in?' 'If they're passive, they are not going to make those connections' 'If they're passive, how much of it are they actually taking in?' 'everybody is introduced to… so go away now and use that, you've got 10 minutes…change a word there'
RQ1/3	Connection-making	Elm interview Elm Ref Diary Elm Obs – AC Elm Obs – JLJ Birch interview Birch Ref Diary Birch Ref Diary	'I noticed you kept drawing them to other bits' 'Can they make connections between what you're modelling and the scaffolding you're providing and their own creative thinking? Probably not at this point' 'those stepping stones to the next step..Yeah Ok it wasn't clear enough for them' 'Need a lot of support to think about connecting ideas up 'XX couldn't apply superhero element to Great fire' 'XX embraced this and made some hilarious connections' 'Many children struggled to connect idea from shared sessions – lack of memory, recall, application' 'children had not made this connection apart from the 'Hulk' group 'you could give them every resource… they just don't use it' 'They knew all about connectives and adjectives – could they connect them in their work? Some of them did' 'she was the only one who took ideas from the work I had done, she may have only written 'this much' but she put some stuff together that was quite interesting' 'My aim was connecting whole class to group work, connecting parts of the day so they can see the relevance of each bit' 'spelling test words –does this translate into writing? No'

			'A lot of children returning to the facts of what they did before and not connecting with what we had done in the day despite explicit modelling'
RQ1/3	Connection – making and WAGOLL	Elm interview Birch interview	'they're actually used to making connections between this as an example , I'm allowed to take little bits and use it' 'they couldn't see it was an example they could take little bits from…it wasn't on a sheet' 'they've only just realised what a WAGOLL is and the purpose of a WAGOLL'
RQ2	Role of the school system	Elm interview Birch Ref Diary	'If I'd said 'this your WAGOLL' would it have made a difference? 'I don't know if it's what you've always done?' 'tension between 'superhero writing' commas, adjectives etc – they knew what they were but couldn't apply them'
RQ1/2 and 3	Creative thinking	Elm interview	'I think definitely children were thinking creatively' 'perhaps it needs training , it might need embedding, it might need a little more time' 'opportunity to develop their thinking'
RQ3	Creative thinking and personality	Elm interview	'He's got a very eccentric personality and he'll think of things like that'
RQ2/3	Attention skills And mental processing Reasoning	Elm interview Elm Ref Diary Elm Obs – AC Birch interview Birch focus grp	'they don't have the same…erm.. attention skills' 'the amount of time spent on activities…without changing…it stopped that creative thinking. I've kind of done enough' 'lack of listening to instructions and recall of information' 'lack of persistence and perseverance' 'a lack of persistence from..' 'but then their attention is not there either, if they can't retain what you've told them' 'There's no like process for her, she can't process what you're saying to her' 'It's because they've not got them thinking abilities' 'I asked them how to spell 'went' they told me then they write it differently' 'some of them still haven't got that listening ability to switch on and do' 'they can't compartmentalise, you know they'll think the Hulk was there and he wasn't' 'Erm I forgot what I really enjoyed'
	The role of the framework	Elm interview Birch interview	'this wouldn't be something you could put in a book and say 'use that' it would need to be embedded more in a school's culture' 'Its something that needs modelling and embedding' 'sometimes things are overthought, there's always a model and a plan for everything'
RQ1/3	Risk taking	Elm interview Elm Obs – AC	'children knowing they can take risks' 'at the start they seemed to just focus on language they knew 'no kind of out of the box thinking was there?' 'massive lack of risk taking with ideas'

		Birch interview	'I gave him a prompt sheet, ingredients to include…he followed it to a tee.. that's not part of what I was asked…he doesn't like to stray away from that'
			'the sense of taking risks – he's one of our GTS children'
		Birch Obs – JW	'free thinking, not afraid to take risks'
		Birch Ref Diary	'They pretty much all went for scene-setting, so lack of willingness to take a risk
RQ2	Age and development	Elm interview	'they don't yet have the creative thinking skills, or they haven't had it modelled how to think like that'
			'you were working with year 2 and they were writing a story…its quite a lot for them'
			'especially with the infants, they need a lot more input'
		Elm Ref Diary	'Are they too young for this? Can they process? Can they deal with the complexities of story writing? Probably not'
		Birch interview	'I mean they're still finding the routines of year2, they are a young year 2'
			'they're 6, I mean that ability - …the penny starts to drop when they're about 8,9,10'
			'They are 6. Their brains haven't…the wiring isn't there yet'
RQ2	confidence	Elm interview	'He didn't have the confidence to first move away from… he was sitting there with a blank sheet'
			'in the beginning it was quite prescriptive because their ideas weren't there…but then as they settling…we got a lot more variation'
		Elm Ref Diary	'Huge lack of confidence'
		Elm Obs – AC	'with a lot of scaffolding and reassurance some did achieve confidence to evolve some creative ideas'
			'XX write everything down that is on screen – massive lack of confidence to think'
		Elm Obs – JLJ	'LA' reluctant to move away from using a whiteboard to pre-plan ideas before committing to paper.. reluctant to cross out ideas whereas 'XX was crossing and changing as she went'
		Birch interview	'They need constant, I think… I don't know whether it's reassurance'
			'for some it was starting to click once they were comfortable'
			'XX would have sat there all day, if no-one had done to her and it's just about her finding ownership for herself'
			'they didn't seem to have any confidence at all'
		Birch Obs – AC	'lack of certainty about what they want to do'
		Birch Obs – JW	'tend not to navigate away from the true facts of the story'
		Birch focus grp	'People keep on telling me I'm doing it wrong and I am'
RQ2	Scaffolding	Elm interview	'He's got some form of scaffolding in front of him, his comfort blanket'
		Birch Obs - AC	'need a lot of questioning to get more specific'
RQ2	Difference of approach	Elm interview	'in a different seating position, he just sat there and didn't write anything'
			'it was different in that.. a lot more open-ended'
		Elm focus grp	'I liked the superheroes going into the Great fire of London.. because it's different to what we've had'
		Birch interview	'It was very different for them which helped'

		Birch Obs – JW Birch Ref Diary	'The map and floor layout was a distraction for some children' 'They couldn't cope with the room layout, working with the floor size map and doing work on chairs and floor.' 'difference and lack of structure was a real challenge'
RQ1/3	Starting platform	Elm interview	'Once he had Batman on the roof then he had a platform to go on..' 'Once xxx revealed the Joker idea (co-constructed with the teacher) being Thomas Farriner, this opened the door to other children developing their ideas'
RQ3	Inventive ideas	Elm Ref Diary Elm Obs – AC Elm Obs – JLJ Elm focus grp Birch Obs - AC	'Lack of inventive ideas but further questioning helped with ideas' 'children not able to have any imaginative ideas beyond Great Fire facts' 'RH' had ideas about what could be done by the superhero to help' 'Because normally I don't have loads of ideas but today I had tons 'XX trying out new ideas' 'X trying our new ideas but needs help to carry them idea through'
RQ2	Complexity of writing	Elm interview Birch interview Birch Obs - AC	'He had them but they were just locked up in there with all his insecurities about writing' 'to like internalise and then churn out in a day, they were thinking about beginning, the problem, who's coming into the story' 'I think the process of composing is a hard one' 'their minds work quicker than what they're writing, so they jump words and miss words' 'English is such a wide net and they're trying to think, well am I here, or here, or here?' 'It's a multi-function process, too many steps' 'some children used to answering questions on a prompt sheet – can't translate that to writing'
RQ1	Influence of modelling	Elm interview	'she'd listened to what you said about making errors and not using a rubber, cross out and that's alright'
RQ2	Challenges of transcription	Elm interview Elm Ref Diary Birch interview	'obviously the mechanics of it was challenging' 'mechanics of writing is a challenge – sentences don't make sense – they don't read back' 'they will constantly spell them wrong…they al use phonetic sounding of words. 'it's usual things like spelling, punctuation…they're too busy trying to write their ideas down'
	Time to slow the process down	Elm interview Birch interview	'I think if there was a bit more time to slow the process down for each stage…' 'then they're waiting, then my lower end…and it's about finding a balance with that'
RQ2	The problem of differentiation	Elm interview	'you're going to find that problem, some are ready to move on and some are not'

RQ1/3	Collaborative working	Elm interview	'it's like them really being collaborative with their ideas and sharing.. 'he put one idea. .the rest of the group were just happy to allow him to do it. That was to do with group work, rather than have designated roles…some of them will sit there and be passive'
		Elm Obs- JLJ	'children could build confidence from listening to each other's ideas
		Elm Obs – JLJ	'confidence to go from group to independent work was developed from discussion of groups'
		Elm focus grp	'I haven't just done mine, using other people's ideas on the wall and on the sheet' 'I think that when we was on the tables it helped me with my writing'
		Birch interview	'when you do group work… the ones who are quite happy to sit back..then the highers just take over'
		Birch Obs - JW	'LA children tend to let HA take over – children worked better grouped with thinking task'
RQ1	The role of the hook– giant map	Elm interview	'I really liked how you set the classroom up at the beginning of the day. I think that was definitely a hook. It helped the reluctant writers give it a go' 'they were exploring the pictures of the buildings in London …I liked the fact you explored the relationship and made it a position in the classroom' 'they could see it and visualise it' 'one of the children could retrieve facts and link to ideas'
		Elm Ref Diary	'recognised the map on the floor and were inquisitive about it'
		Elm Obs - JLJ	'children explore relationship between pictures in London and on their classroom map…. They visualised the fire from different perspectives'
		Elm focus grp	'I liked when the tables were around it and there was the space and we could sit on the tables' 'The map…. Because it helped me spell the words' 'what helped me is the map and my brain helped me'
		Birch interview	'the model bit on the floor was great…But did they use it? When they had maps on the table did they use it? Maybe not'
		Birch Focus grp	'I loved the bit where we… erm.. where we learned about where St Paul's Cathedral was and Big Ben' 'I liked where we got to stand on the island, the first one' 'The big map, map.. cos we knowed where everything was and we knowed what everything was called'
RQ2	Getting it right	Elm Ref Diary	'The class focused on and were worried about getting it right – scared to add detail and think the general answer is wrong'
		Birch interview	'it was that constant reinforcement of 'you don't have to do it this way'
		Birch Obs - JW	'once confident after WAGOLLs, children open to change and better work as it was considered Ok to get it wrong and make it better'

RQ1	Specific details	Elm Obs -AC	' XX needed help to get more specific detail in'
RQ1/3	Embracing pretence	Elm Obs – AC Birch Obs – AC Birch focus grp	However all children embraced the pretence of superheroes in 1666. 'all embraced the pretence of superhero landing in the great fire of London but it was their idea' 'Cos I'm playing the role, cos I was playing the role about each superhero'
RQ1/3	Uncertainty and ambiguity	Elm Obs - AC	'the uncertainty and ambiguity of the approach where there were few right answers did not go down well and I had to insert lots more structure and scaffolding for any outcome to be achieved.'
RQ3	enjoyment	Elm focus grp Birch focus grp	'I enjoyed the writing because it was really fun' (*3 more of the same as above from three other children*) 'it was amazing because we getted to write our own sentences'
RQ3	Enjoyment of topic – superheroes and Great fire of London	Elm focus grp Birch Obs – JW Birch Focus grp	'I liked the writing because we had to write about superheroes and the Great fire of London' 'I liked when I was drawing the Great fire of London' 'I really wanted to do the heroes part of the Great fire of London' 'The theme is the hook, they're excited got them on task straight away' 'it was cool…. Because we were talking about superheroes' 'It was really good that we did superheroes going into the great fire of London'
RQ2	Influence of home life	Elm focus grp Birch interview	'Because I normally don't so loads of writing…eeeer because I sleeped more' 'it's not just education, it all depends on the environment…its chaos for a lot of these children…no sense of organisation, no sense of wanting for some of them' 'some of them don't batter an eyelid because they're used to being screamed and shouted at'
RQ2	Skills discourse – what is better writing	Elm focus grp Birch focus grp	'Putting more adjectives in' 'Cos usually I don't really do my full stops' 'Cos I don't so that long sentences' 'I usually do big writing, now I went small'
RQ2	Influence of SATs	Birch interview	' I just think. .obviously ;'ve got a SATS year' ''like when we have to mark against the statutory framework, just to get expected is 10 things…that's not the point of the ting and I think… just for that year you lose your creativity'
RQ2	Knowledge of learners	Birch interview	'They need a lot of adult-led support, they can't work on their own, some of them, they really struggle to find independent thinking and have basically had everything done for them'
RQ2	Impact of poor reading ability	Birch interview	'the main problem is they can't read them – it's literally and alien language and like…' 'The reading then hinders them being able to think and learn'

			'If they haven't got the vocabulary, she's a very low reader which is part of her problem'
RQ3	elaboration	Birch Obs – AC Birch Ref Diary	'not great at developing ideas – just one here' 'children not really able to develop their ideas beyond a one sentence or obvious answer, however with additional questioning this did improve.
RQ3	persistence	Birch Obs - AC	' not great at playing with ideas, gave up after the first sentence

Appendix C: Coding Chart – First Stage Analysis – Workshops 5 and 6

Coding Chart – First Stage Analysis – Workshops 5 and 6 – Yr4			
RQ1	From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?		
RQ2	From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?		
RQ3	From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?		
RQ link	Code	Data set and participant	Corresponding quotes
RQ1	Lanyard roles (Co-operative learning)	SC Obs Maple	'Excited about lanyard jobs and made decisions very easily' 'Most 'helping others' children were great at moving around the table to make sure everyone was participating' 'Leader of groups were persistent even when some group members struggled to participate ideas'
		Laurel interview	
		Maple interview	'It was the roles, giving them the roles, they liked that' 'in terms of giving them a role, kind of got in the way but having the roles was good as it got them to think about different things'
		Laurel interview	
		Laurel Ref Diary	'However, having the roles, the components of the activity to think about different elements – did help them' '..at the beginning.. they were arguing over it like.. but then after about 5 or 10 mins they started going 'well I've done this, if you be a writer….' '… and the interesting thing your group …their end product was a hell of a lot better than anyone else's to be fair'
		Maple interview	
			'I think those initial roles helped them see those were the kinds of things they needed to be thinking about' 'that's something missing from mine, they don't actually understand what teamwork consists of' 'the leaders, they took their role seriously' 'that's my job, I'm the leader, I've got to make sure everyone's participating' 'I'm sure it went much better collaboratively because we used them' 'there was something about physically having it in their hand….it helped them take charge of it'
		Maple Ref Diary	'using roles helped – knowing everyone would have a go so they chose their roles well'
RQ1	Role regulation	Laurel Ref Diary	Some of the LA boys found the lack of structure and regulating their role in the group
RQ1	Co-operative learning barriers	Laurel Ref Diary	The role cards didn't really work and kind of got in the way which may well be due to the children not having any grounding in co-operative learning – too angry and volatile to be able to work together'
		Maple Ref Diary	'some didn't feel they had written much or thought much and actually as they had no training in co-operative learning this was clearly the case for many…group work, personalities control was a factor'.

		DF Laurel Obs	'Taking votes to make decisions – some wanted only their ideas'
RQ1	Exploring ideas	SC Obs Maple Laurel Ref diary Maple Ref Diary	'lots of conversation exploring various ideas before writing them down' 'ideas were formed quite quickly' 'one group did get creative and focused on fast food called 'the catastrophe'
RQ3	Analyse ideas	AC Obs Maple Maple Ref Diary Laurel interview	'struggling to analyse ideas about whether they fit with the theme' 'Analysing ideas is weak But as the plan developed more ideas developed and more analysis of characters' 'what I noticed from Monday was the children couldn't really analyse ideas.. whereas I think what you're sharing with me I hadn't really seen as much today' 'well, he did go on to say… and he's someone who can't take being told No and his team went.. think about our theme.. does fortnite link? and he went Ah no it doesn't'
RQ1	Struggle to think beyond	AC Obs Maple	'struggling to think beyond safe places they know – minecraft etc' 'I don't know what Mary Poppins did, I haven't watched it'
RQ3	Support to be specific	AC Obs Maple Maple Ref Diary	'needing some support to be specific' 'Children need a lot of support to be specific, can't follow ideas through'
RQ3	Not listening	SC Obs Maple	'some children …upset when children not listening to their ideas'
RQ3	Participation	SC Obs Maple	'Lower ability children struggled to participate in initial ideas' 'My main players in the room…they just loved it'
RQ3	Letting others have a voice	SC Obs Maple	'GL, OM, JG, MS, DD, LMR, PD great at letting others have a voice'
RQ1/3	Collaborative working	SC Obs Maple Laurel interview Laurel Ref Diary Maple Ref Diary AC Laurel Obs DF Laurel Obs	'Challenging for many children to work collaboratively, however work was completed' 'I think they worked better in groups than I thought they would… But they're not known for being very good at team work are they?' 'they couldn't prepare anything because they all wanted to be in charge. They all knew what was best so.. Well I'm not doing that because they're not listening to me instead of right what we've got is really good, let's move forward' 'the group generally worked well.. but group make up is crucial to success' 'XX very good at leading others but afternoon struggled, control freak 'involving others – not great at all' 'LA – engaged and involve din group discussions, exploring ideas and being listened to.. developed each other's ideas' 'sharing roles – started sulking and demanding but got better and shared roles

		Maple Focus Gp Laurel Focus Gp	'It helped me cos people were giving everyone ideas' 'X didn't join in.. he wanted to be a different character that wasn't in the play. 'I had people around me to help me have some better ideas' 'It was actually better than usual.. normally my group wouldn't do that so it was kind of fun today' 'Mine just got on and we done the script and we agreed with each other who had what line and who was what character' 'they listened to the leader and they was doing the right things 'we had a bit of a wobble but then we actually worked well together'
RQ1/3	Risk taking	SC Obs Maple	'Children who usually shy away from performing-taking risks'
RQ1	Familiar with play scripts	SC Obs Maple Maple Ref Diary	'Reasonably familiar with play-scripts so helped children overcome initial complexity' 'They understood the play-script approach 'They had done play-scripts before'
RQ3	Stickability	AC Obs Maple AC Laurel Obs	'Really found stickability an issue' 'links to not being able to persist' 'lack of persistence, stickability is poor, there are some risks with language'
RQ1/3	Embracing uncertainty	AC Obs Maple Laurel interview	'not great at embracing uncertainty and open-endedness of the task' 'wouldn't want to do it like that all the time No'
RQ2	Teacher approach	Laurel interview Maple interview	'I think we are quite different…because we're really straight to the point' 'We are like hyper-organised 'so very frank, straight to the point, tell the kids, this is it, this is why it is' 'You're very pragmatic, let's get it done, get it sorted, organisation' 'we anticipate things that could happen, t=rather than let them happen and react to it' 'your approach is knowing the kids, knowing what triggers them?' 'like (Laurel's teacher) proactively warned SLT about a child in her class.. because she didn't know whether he was going to manage it or not'
RQ2	Writing journeys pedagogy	Maple interview Laurel interview Maple interview	'I mean if you looked at our writing journeys in our books, there's not an awful lot until they start planning and actually writing.. we do a lot of like writing on tables and things like that..and flipchart work.. 'so we want them to be precious in their books' 'we're not as much though in English books, are we? Because it's all they scribble all over everything, like the WAGOLL with pen'

			'they have got the opportunity to.. I'll write this, Oh no, that's not right, I can rub it off the table or scribble it out on flipchart paper'
RQ2	School approach 'done in one day'	Laurel interview	'what was nice though, it was a lot, but like how it was done in one day.. it didn't matter, they could just be creative, throw their ideas down, we didn't say it's got to go in your books, we need best draft written' 'They handled it much better than I thought'
RQ2	Time-related targets	Maple interview	'I was quite intentional about giving them time-related targets today and they actually responded to that really well' Right, you've got 20 minutes, I want to see the title, cast list… and it actually worked'
RQ1	Too free	Maple interview	'I said to you after Monday, for my children it was too free rein' 'Yeah, yeah it was a bit too free'
RQ1	SEND opportunity Encouragement Acceptance	Laurel interview Maple interview Laurel interview Maple interview	'like he was talking, he was being really listened to and he was being really valued' 'because it wasn't sit down and write or you need to get this grammar in here, it wasn't like that. .he could just express himself' 'and then XX says to him 'You're doing really well.. he like passed a role over to him and he was stood giving people.. it was just lovely' 'XX said I would quite like to do the writing and XX is on the Early Learning Goals for writing.. so we had a little conversation and said how can we incorporate XX into being the writer and XX said if you start it, I'll do a couple of sentences and XX loved it' 'It was so nice to see them joining in and being valued, not just being there' ' and I think where did he get that from?' 'He's not able to write it but he does have some brilliant ideas up there so it was great that they were accepting of him'
RQ2	More able not shining	Laurel interview Maple interview Laurel interview Maple interview	'those who are more able, do really well within the system you use, have not really shone as much as they might do normally. Is this something you've felt happened here? I think so for mine Yeah' 'because of them having to let go of control… they couldn't just sit and do what they wanted to do and that's the problem with the GDS (Greater Depth Standard) sometimes' 'My GDS were the sulky ones' 'My GDS were the ones who went like I'm right, you're not, I'm not doing what you want to do. '..and then she throws everything and says 'No I'm not doing it'
RQ2	More able quality	Laurel interview	'Their language and writing structure was phenomenal actually. The quality…. Well. Yeah, you had three highs out of five on that table'

			'I mean their performance was appalling, but you listen to what they actually read, it was actually phenomenally well written'
RQ3	Giving up ideas	Maple interview	'Like maybe they came up with the ideas but they were OK with that not being 'the' ideas the group went with
RQ1	Hooked into English	Laurel interview	'they were interested in it…they are hooked into English
RQ2	Knowledge of the learners	Maple interview Laurel interview	'they are definitely a year group that needs everything broken down 'Oh my goodness, we've written that much, but we did it over four or five lessons' 'they would have loved this for a 'wow' 'I know what you're saying about the roles being limited sometimes but for our children… It does help doesn't it? It does help.
RQ3	Achieved it by themselves	Laurel interview	'I didn't say a single thing…so what they've achieved they've actually achieved it by themselves so for them it's… That's alright isn't it? I'll take it'
RQ1	Acting / performance / preparing script	Laurel Ref Diary Maple Focus Gp Laurel Focus Gp	'They got into the acting/ performance side very well and some groups found the script writing a barrier – whereas others worked effectively to complete and work on script' 'Cos I loved performing' 'I liked the performance because it was very fun when we were doing the instruments and practising them and the costumes' 'the music and costume really helped performance, if we had performed without any of those would it have been as fun – No x6) 'I like performing, I'm really good at performing' 'It was really fun when we done the play.. XX was so funny on it because his acting was really funny' 'I liked it, it was fun and we got to act' 'we get to act stuff out and show what we can do' 'Everyone did a good play and I looked forward to seeing what it was going to be' 'I liked we got to dress up and perform' 'we learned a lot of stuff…like stage directions'
RQ3	Perseverance, stamina and motivation	Laurel Ref Diary Maple Focus gp AC Obs- Maple	'Perseverance not good – lack of ability to organise themselves and see the role though.. lack of listening to each other' After lunch, lack of structure, really struggled, the role cards didn't work and a real lack of stamina and motivation to push through' 'It was fun because we got to do the performance and we got to wear different, like things and then perform' 'Lack of motivation – lots of its' not important because everything is done for them'

RQ3	Connect to WAGOLL	Maple Ref Diary	'they could connect to the WAGOLL and see how planning fitted into the play-script' 'although some groups used the WAGOLLs in different ways some ignored them completely 'XX totally saw the connection and used the plan to inform the play-script'
RQ3	Connecting ideas	AC Laurel Obs	'X and X – at first mutually exclusive ideas but with help were able to bring those apparently opposite ideas together'
RQ2?	Impact of difference	Maple Ref Diary Maple Focus gp Laurel Focus Gp	'during focus group the impact of me as visitor came through and also the whole performance and costume / musical instruments as factors' '..whenever a new person comes I try harder' 'when we have visitors I always get better ideas' 'I liked working with a new visitor' 'we get to do things that we don't get to do' 'I would give it a 5 because erm we got to do some more things that we haven't been doing before' 'we never get to dress up and do acting in front of the class and like make up a story on playscripts' 'because we did something more fun than we do so I had better ideas than I normally would have in **my real writing** 'It's something new for me and I want to be good at it'
RQ3	inflexibility	AC Laurel Obs	'they did know what they wanted to do but an inflexibility to compromise'
RQ3	Embracing pretence	AC Laurel Obs	'all quite good at embracing pretence'
RQ1	Out of comfort zone	DF laurel Obs	'children putting themselves out of their comfort zones'
RQ1/3	Use your imagination	Maple Focus Gp	'I enjoyed writing the playscripts because you had to use your imagination and create the world you wanted'
RQ1	Autonomy	Maple Focus Gp Laurel Focus Gp	'I like the part where we got to write our own scripts' 'you got to write about the kind of things you wanted, like raindrops' 'we got to do it about anything we want – as long as it's got something to do with rain' ' I liked it we got to pick what kind of ending' 'we got to pick what kind of story we had and we didn't have to write much'
RQ2	Amount of writing	Maple Focus Gp	'Because we didn't have to do that much writing' 'we didn't have to do that much work, or writing, or thinking 'we didn't do that much writing we normally would do'
RQ2	Skills discourse	Maple Focus Gp Laurel Focus Gp	'usually I don't like to join up because it looks scruffy when I join up but today I tried to join up' 'Normally I would have done good writing but I didn't today, today was just some of the letters was going a bit wobbly'

	purpose	Maple Focus Gp	'normally I wouldn't have neat writing and I don't leave spaces but today I like left spaces and did the right full stops and made it neater' 'Because if we were going to write a play-script and we were going to use it I didn't want it to look scruffy'
RQ1	Getting challenged - thinking	Maple Focus Gp	'Getting challenged.. like you have to add in something about water, scientific fact and music bits… I do get challenged but that one was really like… I tried really hard to include those challenges

Note importance of domain specific knowledge – familiarity with play-scripts

Appendix D: Restructuring findings under research questions

Preparation for the model

Learning environment-Confidence – creative efficacy from knowledge and self-assurance to apply them – positive feedback on application

Autonomy and learner agency / involvement in decision-making process about learning

Training and motivation

Cognitive processing - Lack of Memory, recall and application cognitive load – influenced by social disadvantage

Creative thinking elements

Training in collaborative learning bore fruit but did not necessarily impact on writing

Complexity of cognitive writing processes and complexity of processes required to think creatively

Time – to apply

RQ1

From teachers' and children's perspectives, to what extent do opportunities to think creatively during the writing process influence children's work?

What were the opportunities?

Enjoyment, connection-making, idea creation, idea analysis, persistence, problem-solving, involving others through team working, using imagination, embracing pretence

To what extent did they influence work

Limited influence because of learning environment, lack of cognitive processing skills due to social disadvantage, complexity of skills for writing process.

Connections

a lack of connection between learning taking place during the writing process and the product

the challenge is helping learners make the connection between reading and writing, a mentor text and their own composition

Learners know what the building blocks are (mentor text, talk, drawing comic strip, modelling writing, team work) and how to use them on their own, what they cannot do is make connections between them to develop writing.

involving others through team working

barriers

It was evident that working in a team for the children in 6D was a barrier to learning rather than as a support tool.

positive social relationships in the classroom are a pre-requisite for effective collaborative learning – training needed in this

For 6H, observation with corroboration from interview data, team work was an opportunity to allow someone else to do the work

More able struggled here – co-operative learning

Positive influence

Learners co-constructing ideas helped the quality, amount and diversity of their thinking.

idea analysis took place with a social context

This co-operative learning strategy, data shows was positive in helping the children work together - the tangibility of something to wear, a role signifier gave them ownership.
Less able coped better with the group work – felt more included

The nature of the task.
Her work on engagement theory and facilitating higher level thinking suggests that an activity that builds thought, synthesis and evaluation different to traditional routine school activities can help build connections
purposeful transcription
Autonomy / freedom of task / learner agency

RQ2
From their viewpoint, to what extent do teachers' perspectives, personal experience and external factors such as school policy, influence their writing pedagogy and the development of children's creative thinking?

Influence of school's approach - passive recipients without opportunity to take risks in terms of writing, **SATs**,
open-ended nature of the task was challenging, the uncertainty of what was expected and lack of rigid structure was difficult for them to embrace
mentor text
instead of being a helpful support mentor text (WAGOLL) in fact another constraint to juggle or another layer of the problem to try and solve

Product- driven
this entry demonstrates a lack of the children's understanding of writing as a process
support tool of talk did influence the writing process, especially supporting those children who found the complex process of transcription too much for them
The one day approach helped focus on the process more effectively rather than the product at the end of each lesson approach

More able – **lack of flexibility** – less able composition raised and challenges of transcription

Skills discourse - writing amount?

Pedagogic environment - teachers

RQ3

From the teachers' and children's perspectives, how is creative thinking evidenced and how does this evidence influence writing process and product?

enjoyment – linked to motivation and task – performance, difference

Embracing pretence- deeper ideas but not translated into writing

children **develop ideas through understanding relationships** between new ideas and their related concepts

evidence of language appropriate to the genre, clear communication through stage direction for the actors and some humour through line repetition between actors;
Use of parenthesis, added detail (elaboration), genre specific language/character names – link to Wang, elaboration

lack of SELF REGULATION

Domain specific knowledge in order to be creative - Repertoire of basic skills and information

Elaboration and persistence as a challenge

Persistence and perseverance a real struggle to maintain – writing, thinking, organisation particularly those working below AREs

Why? Link back to the grey beginning