‘I disagree with myself!’ Creative Thinking in a Key Stage 1 Community of Enquiry

Hanneke Maria Jones-Teuben

Doctor of Philosophy

School of Education, Communication and Language Sciences

March 2013

Abstract

In this study I have combined elements from the fields of creativity (Craft, 2002) and dialogic pedagogy (Wegerif, 2010) to explore to what extent creative thinking was developed in a series of Community of Enquiry sessions (Higgins et al., 2001; Lipman, 2003) held with a class of 19 children, aged five to seven.

The procedures of this Community of Enquiry were based on Lipman's (2003) Philosophy for Children programme, although the aim of the sessions was to encourage dialogue and thinking skills in a wider sense rather than engagement with 'recognisably philosophical' (Gregory, 2007: 60) issues.

The data, which mainly consist of the transcripts from 17 Enquiry sessions and field notes, were gathered while I was working with this class as both the class teacher and Community of Enquiry facilitator. Using a case-study approach and an interpretivist framework (Thomas, 2009), I carried out two complementary types of discourse analysis. In the first analysis, based on a Grounded Theory (Corbin & Strauss, 2008) approach, I categorised all 541 pupil contributions according to degrees of perceived creative thinking and other relevant elements, such as responsiveness to previous comments. In the second analysis, based on Conversation Analysis methods (ten Have, 2007), I investigated within eight of the enquiries how interactive processes, including those involving myself, related to elements of pupils' creative thinking.

Among the findings were a general rise in the quality of creative thinking as well as in the quantity and sophistication of pupil interaction. Evidence was found that the ability to disagree was a new form of expression for the pupils, whereas both collaboration and the opportunity to express disagreement were found to correlate with creative thinking categories. Processes were also identified in which ideas which had initially appeared to have been generated by individual children were, in fact, socially constructed.

However, using a sociocultural perspective (Wells, 1999), relatively large power differences within this Community of Enquiry were also identified, and in six mini-case studies the Community of Enquiry was found to be an easier forum for the expression of creative thinking for some pupils than for others (Lefstein, 2006). I also explored some of the complexities related to facilitating this Community of Enquiry. My conclusions include implications for theory, practice, policy and research.

This thesis is dedicated to the memory of Oom Servé Wijnands (1930 - 2012),

who knew how to ask questions, and who always encouraged me to ask my own.

Acknowledgements

Firstly I want to thank Francis Jones. Without his example I may not have started this study, without his support I may not have completed it, and without his company I would not have enjoyed it as much. I am also particularly grateful to him for all his help in the formatting and proofreading of this thesis.

Special thanks go to my three supervisors over the course of this study: Vivienne Baumfield, Steve Higgins and David Leat. Through their expertise, their encouragement to explore and their sensitive support they have, each in their own way, given me much inspiration and many examples of great teaching.

Thanks go also to those colleagues who through their own work and through our conversations have shed light on my enquiry: Wilma Barrow, Jennifer Bleazby, Darren Chetty, Gail Edwards, Darren Garside, Pat Hannam, Sara Liptai, James Nottingham, Heather Smith, Victoria Tsismenaki and Steve Walsh. I am also very grateful to Joanna Haynes and Sue Lyle for their thorough and perceptive reading of this thesis.

Further thanks go to the people and organisations who supported the research and made it possible: the parents and carers of the pupils in the study; colleagues and governors at the school in which the research was carried out; Averil Kirton; Jill Richardson; Fred Clark; Liz Todd; the Department for Education and Skills (DfES); and members of the ECLS Research Committee.

Many thanks go also to all those relatives and friends whose kindness and interest in this study have sustained me throughout the journey, especially Charlie, Fons and Elly, Lina, Ro, Gijsbertje, Sandra, Maria, Tony, Deborah and Arlene.

But, of course, my biggest thanks go to the 19 young people who were the participants in the Community of Enquiry in this study. Although their real names cannot be mentioned here, my memory of each of them will always be very special, and I hope that their creativity is recognised wherever they go.

Table of Contents

List of figures

List of tables within the text

Chapter 1. Introduction

In this chapter I give some preliminary background information in order to contextualise my study. I then give the definitions of creative thinking and the Community of Enquiry which I have used in this study. This will be followed by the presentation of my research questions, and, finally, an outline of the thesis.

1.1 Background, context and development

My interest in the Community of Enquiry was first awakened some fifteen years ago. At that time the school at which I was working as a class teacher became involved in a collaborative research project of a small number of local schools with Newcastle University, which had a focus on children's questions in the Community of Enquiry (Baumfield & Mroz, 2002). This came at a time when my professional morale was at a rather low point: due to the demands of what Ball (2003) calls 'performativity', I felt that the externally set targets, assessments, inspections and tests which both my pupils and I were continuously subjected to, seemed to leave few opportunities for reflection on educational values and aims, and for the enjoyment of teaching and learning. However, this all changed as the project developed. I remember Vivienne Baumfield taking my class for a demonstration Community of Enquiry session, and seeing with delight the genuine cognitive and affective engagement with which my class responded. The classroom evidence and discussions with colleagues held during this research project formed a turning point which reconnected me with the professional enthusiasm and passion I had had when I first trained as a teacher. As Haynes (2009c: 28) has commented,

> When children are provided with genuine space to express their ideas, their thinking and talking can help to change the classroom from a place of instruction into a place where education is possible.

As a result, dialogue and enquiry became a key part of my classroom practice and I became, I believe, a more engaging and more engaged teacher *in spite* of the regulatory context surrounding me. When I decided some years later to register for a research degree, it was thus not surprising that, in negotiation with Vivienne Baumfield, I chose to focus my study on the Community of Enquiry. I have, I believe, always been interested in creativity, and, studied creative therapy before my training as a primary teacher. Throughout my teaching career I have been fascinated by the power of the imagination, and the development of creativity in the students I taught has always been one of my main aims and pleasures as a teacher. The claim that creative thinking is developed within the Community of Enquiry (Lipman et al., 1980; Fisher, 1995, 2000; Lipman, 2003) therefore appeared to be an ideal topic for my investigation.

The data on which my case study is based were collected while I was teaching a mixed-age class of 19 Year 1 and Year 2 children aged five to seven, whom I will describe in more detail in the Methodology chapter. Twenty-one Community of Enquiry sessions were held between September

and July, and 17 of these provided the data for my research. The details of these will, of course, also be described in later chapters.

It was my plan to complete the study at M.Phil. level. However, on being offered my current post at Newcastle University in 2004, I was given the opportunity to transfer my study to PhD level. For a few years other research commitments prevented me from making progress on it, but since 2008 I have been able to return to the study, and to complete it in the intervening years.

1.2 Definitions

In the Literature Review and Methodology chapters I will explore various notions of *creative thinking* and *the Community of Enquiry* and suggest that both of these concepts are contentious and very much open to interpretation. Here, however, in order to give the reader a preliminary understanding of the meaning which I have given to them, I will give the definition of creative thinking and a description of the Community of Enquiry which I have used throughout this study.

I use 'the generation of ideas which are both novel and valuable in the given context' (Sternberg, 1999; Cropley, 2001) as a working definition of creative thinking.

The model of the Community of Enquiry which I use in this study is based on the 'community of inquiry' which Matthew Lipman developed within the framework of his Philosophy for Children programme (Lipman, 1991). A Community of Enquiry session would consecutively involve: the presentation of a stimulus; the formation of participants' questions; participants choosing a question to discuss; a collaborative dialogic enquiry; and, finally, a debrief. The approach used in this study is based on the adaptation of Lipman's format developed by colleagues at Newcastle University (Higgins et al., 2001; Baumfield & Mroz, 2002). Within this adaptation, there is no emphasis on *philosophical* topics of discussion (Gregory, 2007: 60), and the facilitator does not specifically aim to encourage *philosophical* dialogue and thought, as would be the case in Philosophy for Children. I use the phrase 'community of enquiry' written in lower case, to describe the generic use of the term and its use in the Philosophy for Children model. The term 'Community of Enquiry' with capitalised initials is used to indicate the specific approach used as the focus of this study.

1.3 The research questions

The main research question which I chose to investigate within this study is formulated as follows:

To what extent did this Community of Enquiry encourage and develop creative thinking?

The main research question generated the following eight sub-questions:

1. What is creative thinking for children aged 5-7?
2. What is creative thinking in a Community of Enquiry context?
3. To what extent could evidence be found that creative thinking was developed within this Community of Enquiry?:

a. To what extent could evidence be found that creative thinking was developed for the group as a whole?
b. Was there any difference in the creative thinking developed in specific groups, such as Year 1 compared to Year 2; or boys compared to girls?
c. To what extent could evidence be found that creative thinking was developed for individual children?

4. To what extent could evidence be found that creative thinking was developed within the social interaction processes of the Community of Enquiry?
5. What role did language play?
6. What factors either encouraged or hindered creative thinking?
7. What was my role as the teacher in encouraging/developing creative thinking?
8. Was creative thinking primarily a social or an individual process?

1.4 Outline of this thesis

The Literature Review, Chapter 2, is presented in three parts, with a respective focus on creative thinking, learning though dialogue, and the socio-cultural theoretical framework which is at the heart of much of this study.

This is followed by the Methodology chapter, Chapter 3, in which I present the methodological framework; and both the classroom methods and research methods used. A third part of this chapter focuses on the two types of discourse analysis which I used to investigate the enquiry transcripts.

The Findings chapter, Chapter 4, is divided into two parts. In the first section I discuss the creative thinking of individual pupils, whereas in the second section I focus on the creative thinking which was evident within the social interaction of the enquiry sessions.

In the Discussion chapter, Chapter 5, I will first explore some of the general findings from this study. I will then present six mini-case studies to exemplify issues which had appeared both in the practice of the enquiries and in the literature. Finally, I will discuss my facilitation of this Community of Enquiry.

Finally, in the Conclusions, Chapter 6, I will present a brief overview, and the answers to the research questions. I will also explore some of the limitations of this study, and suggest implications for theory, practice, policy and research, before I present my concluding remarks.

Chapter 2. Literature Review

Introduction

In this chapter I explore a range of literature to situate my work. It is divided into two main sections, which represent the two key elements of this study.

Section 2.1 is titled 'Creative Thinking'. The term 'creative thinking' could be defined as the type of thinking in which creative thoughts are generated. So what do we mean with the term *creative?* What is creativity, and, importantly for this study, what do we know about *social* creativity and the factors which can support or stifle it? What is known about the creativity of young children? In sections 2.1.1 - 2.1.4, I will explore these fundamental questions. Building on this discussion, I will then, in subsection 2.1.5, turn to the cognitive area of creative *thinking* to complete and clarify my understanding of the term.

The Community of Enquiry in the sense in which I have used it in this study, is one of a range of classroom approaches in which dialogue is central to learning (Mercer, 2000; Higgins et al., 2001; Alexander, 2006). Section 2.2, titled 'Learning through Dialogue', consists of two subsections: in order to situate the Community of Enquiry, I will discuss notions and objectives of such forms of dialogic pedagogy in section 2.2.1, before I discuss, in section 2.2.2, the Community of Enquiry's philosophical roots in pragmatism; its pedagogical background in Philosophy for Children (Lipman, 2003); and the particular approach I used in the classroom in this study.

In section 2.3 I will explore socio-cultural theory as a framework for this study. As the work of Vygotsky has informed many of the dialogic pedagogies discussed earlier, it provides an important framework for understanding classroom dialogue. After discussing some of the main features of Vygotsky's work in section 2.3.1, I raise a few questions with reference to this study in section 2.3.2. Finally, in section 2.3.3 I will explore a number of approaches and models developed in later socio-cultural theory, some of which appear to offer some answers to my questions and are used as tools for analysis in this study.

2.1 Creative thinking

2.1.1 *Creativity*

> Absolutely everything around us that was created by the hand of man, the entire world of human culture, as distinct from the world of nature, all this is the product of human imagination and of creation based on this imagination. (Vygotsky, [1967] 2004)

Creativity has been described by Csikszentmihalyi (1999: 320) as 'the engine that drives cultural evolution', but the term is not easily conceptualised (Craft, 2006: 341). Runco and Sakamoto (1999: 62) describe creativity as 'the most complex of human behaviours' and Amabile (1996: 19) describes it as 'something we do not know enough about to define it in a precise and universally applicable way'. In fact, an explicit definition of what is meant with creativity is missing in many creativity

research studies (John-Steiner, 2000; Sawyer et al., 2003; Miell & Littleton, 2004). Although creativity can be seen as a multidisciplinary concept (Alves et al., 2007), much of the research in creativity has taken place in the psychological domain (Mayer, 1999; Sternberg, 1999; Craft, 2002). Within this, much of the research has focused on personal and individual creativity. As *social* creativity is a key element of my study, I will discuss this in a separate part of this section.

Definitions of creativity

Vygotsky ([1967] 2004: 12), whose career, according to Moran and John-Steiner (2003: 61), was 'framed by work on creativity' and whose work I will explore in more detail in Section 2.3 of this Literature Review, describes creativity as 'the ability to combine the old in new ways'. However, Sternberg and Lubart (1999: 3) state that creativity is not just the ability to produce something which is novel (i.e. original, unexpected), but the creative product must also be *appropriate* (i.e. valuable or useful). This combination of original and valuable (or useful, appropriate, etc.) is similar to the definition used by most other researchers in the field (Amabile, 1996; Mayer, 1999: 449; Cropley, 2001; Craft, 2005). In a similar vein Bruner (1979) speaks of 'effective surprise'. There are, however, significant differences in the emphases scholars have included within their definitions. Whereas Sternberg and Lubart (1999: 3) emphasise the ability to create original and *appropriate* work, Amabile (1996: 35,36) focuses the definition on novel and *useful* products, and ones which are the result of heuristic rather than algorithmic tasks, i.e. tasks for which the process by which they are completed is not known beforehand. Importantly for this study based on children's questions and enquiry, many creativity researchers have highlighted the importance for creativity of problem *finding* and enquiry (Csikszentmihalyi, 1994: 138; Runco & Sakamoto, 1999: 84; Sternberg & Lubart, 1999; Craft, 2000: 5). Many authors also point at the importance in creative processes of the imagination (Craft, 2005: 18; Vygotsky, [1967] 2004); unconscious thought (Craft, 2000; Cropley, 2001); enjoyment (Csikszentmihalyi, 1997: 109; Fumoto et al., 2012: 24); and play (Amabile, 1996: 410; Cropley, 2001: 60; Banaji et al., 2010).

Cropley (2001: 69), who argues that creativity is globally seen as a major force for economic and social development and modernisation, includes the additional criterion of 'ethical' in his definition, as he argues that the word 'creative' is not used to describe selfish, destructive or criminal behaviour. This perspective, however, is rather unique. Although many authors in the field write about creativity as a phenomenon which is generally to be encouraged (De Bono, 1993; Csikszentmihalyi, 1997; Sternberg, 1999; Sawyer, 2007), they do not explicitly include an ethical dimension. Various authors, on the other hand, point at the potential dangers of creativity, such as the destruction of our global environment as a result of capitalism (Craft, 2008b: 22); our unbridled creative advances in science and technology (Csikszentmihalyi, 1996: 5; Craft, 2005); and our obsession with the new (Claxton et al., 2008; Craft, 2008b). However, as Bannerman (2008: 141) points out, creativity can also help us to 'imagine new paradigms' which can bring about social change, and solutions to the problems it has generated. He (ibid.), Craft and others have strongly argued that creativity is only desirable if it is combined with *wisdom* (Craft, 2005, 2006; Craft et al., 2008a).

If we accept 'original' and 'valuable' to be essential criteria of creativity, operationalisation of this definition, and judgments made on the basis of it, are highly problematic. Firstly, whom should the creative work or idea be *new* to, in order to be classified as creative? To the intended 'audience', or to the person who produces it? Boden (1990, in Banaji et al., 2010: 53) has answered this question with the distinction between two forms or creativity: 'P-creativity' is defined as psychological creativity, where an idea is novel to the person who had the idea, but not necessarily to others - similar to Dewey's concept of originality of thought (Dewey, [1916] 1966), where a familiar thought is used in a new context. Conversely, in 'H-creativity' or historical creativity, an idea is acknowledged as new and domain-changing. Clearly, the children's ideas explored in this study could be expected to be P-creative, rather than H-creative: it is unlikely that their thinking would be domain-changing. Of course, the judgement of this kind of creativity will be highly interpretative, as I will discuss in the Methodology chapter.

The term *valuable* is equally problematic: judgements of value are, in the case of 'Big C' creativity (Gardner, 1993; Nickerson, 1999) or the creativity of geniuses, not value-neutral (Craft et al., 2008b) but ethical and political in nature, and subject to cultural and historical perspectives. And who is to judge the value or quality of a piece of work or a thought – the person who created it; experts in the field; a specific audience; or the market? Similarly, which criteria of value should be used? Amabile and Csikszentmihalyi have both devised conceptual solutions to these issues, and both have based it in a social context. Amabile (1996: 34) explains that in empirical research a contextual definition based on clearly subjective criteria needs to be used, based on consensual criteria drawn up by 'appropriate observers', or experts in the field. In her research Amabile has shown how teams of such appropriate observers can judge the relative creativity of pieces of work with a level of reliability (Amabile, 1996). Amabile's emphasis on appropriate observers bears some relation to Csikszentmihalyi's 'systems view of creativity' (Csikszentmihalyi, 1988, in Feldman et al., 1994: 21; Csikszentmihalyi, 1996, 1999: 316). In this model, creativity is an interplay between *domain* (or culture, based on the existing rules and representation of the domain)*,* the *field* (the social context in and by which the creative work is judged, which may be similar to Amabile's (1996) 'appropriate observers'), and the *individual.* According to Csikszentmihalyi, creativity thus happens when an individual makes a change in a domain, if it is accepted by the field. However, Csikszentmihalyi's view of creativity is of 'Big C' nature, and thus not applicable to the data in this study. It remains that the criterion *valuable*, too, is highly problematic and its judgement is highly interpretative. This will be discussed further in Section 3.1.2 of the Methodology chapter.

Types of creativity

Boden's distinction between H- and P- creativity (1990, in Banaji et al., 2010: 53) bears some resemblance to Craft's (2001) distinction between 'little c creativity' and 'big C creativity or high creativity'. Little c creativity represents the creativity which is used in solving everyday problems (Vygotsky, [1967] 2004), and which lies at the heart of every action which is outside the routine or ordinary (Gardner, 1993; Craft, 2001; Sawyer et al., 2003), whereas 'big creativity' (Feldman et al., 1994: 2) and 'big C' or 'high' (Csikszentmihalyi, 1997) creativity refers to the kind of ground-breaking

creativity which transforms a domain, or changes the world (Feldman et al., 1994). I will use Craft's notion of 'little c creativity (LCC)' or 'possibility thinking' in this study. Craft (2001: 56-58) has identified the following nine necessary features of possibility thinking or LCC: self-determination and direction, innovation, action, development, depth, risk, being imaginative, posing questions and play.

Finally, creativity affects not only the body of products, knowledge and ideas, but it can also be apparent in the social interaction (Mercer & Littleton, 2007) in which these ideas are constructed, and in the language used in this process (Carter, 2004). Thus, apart from creativity in children's ideas, any observed creativity in their interaction and language will also be discussed.

2.1.2 *Creativity research*

Craft (2002: 1) describes how an interest in 'divine inspiration' existed in Greek, Judaic, Christian and Muslim traditions for centuries, but that, since the enlightenment, ideas were increasingly seen as originating in the human mind. She goes on to describe how early studies in creativity took place from the late 19th century, but that this early view of creativity focused on artists and the arts: It was only in the 1950s that science and other disciplines started, too, to be seen as domains of creativity (ibid.). In a number of ways the 1950s marked the renewal of creativity research, especially in the USA, as following the launch of Sputnik in 1957, creativity came to be seen as the key to world dominance (Cropley, 2001; R. Jones & Wyse, 2004). The creativity research which took place in the US at that time was based in the psychology domain, and aimed to define and measure creativity, focusing on the predictability within individuals of genius and giftedness (Feldman et al., 1994; Craft et al., 2001; R. Jones & Wyse, 2004). Craft (2002: 5) suggests that three main lines of research were followed since the 1950s – *personality*, *cognition* and the *stimulation* of creativity – each drawing on psychoanalytic, cognitive, behaviourist and humanistic psychology. I describe some findings from each line of research in the next three sections.

Personality research

Personality research focuses on the lives of well-known creative individuals. Findings from this research have revealed a number of characteristics which seem to be shared by large numbers of highly creative people. Such characteristics include strong motivation, endurance, intellectual curiosity, commitment, openness to impressions and complexity, and high sensitivity (Cropley, 2001). With reference to my interest in this study of the *individua*l and the *social* (research question 8), the following characteristics were also found: independence, desire for self-realisation, strong sense of self, and strong self-confidence (Brolin, 1992, in Craft, 2002: 5). Cropley (2001: 60), who Banaji et al. (2010: 51) argue has a positivistic and psychometric perspective on creativity, reports similar findings, and includes two characteristics which he describes as 'less positive': a lack of concern for social norms, and antisocial attitudes.

Cognition-based research

Craft (2002: 6) points out that within the *cognition* strand of creativity research, there have been two major lines of enquiry: *psychometrics* and *psychodynamics*.

Psychometrics

Psychometrics aims to measure creativity. Banaji et al. (2010) mention that although some qualitative work in psychometrics has taken place, many researchers apply 'positivistic testing methods to measure creativity, creative personality scales and other psychometric data'. A major figure in the psychometric study of creativity is Torrance, who first developed his Torrance Tests of Creative Thinking (TTCT) in the early 1960s, largely based on Guildford's 'Structure of Intellect' model (Guildford, 1967; Feldman et al., 1994: 7; Sternberg & Grigorenko, 2000-1; Moseley et al., 2005: 197). As I used one of the Torrance (1992) tests 'Thinking Creatively with Pictures' (Torrance et al., 1992), to gather some of the data for this study, I will discuss Torrance's test in a little more depth here, and return to this in further chapters. Torrance identifies five major components of creativity: *Fluency*, or the quantity of ideas generated; O*riginality*, or the 'unusualness' of the responses made; A*bstractedness of Titles* which indicates the ability to synthesise and organise; *Elaboration*, which is seen as an indication of imagination and exposition; and *Resistance to Premature Closure*, which is believed to indicate the creative person's ability to 'delay closure long enough to make the mental leap that makes possible original ideas' (Torrance et al., 1992: 14). With reference to Torrance's view of originality, it is interesting to consider Dewey's ([1916] 1966) comment that the measurement of originality as the extent to which it diverges from the normal is futile and only serves to produce eccentricity, in other words: novelty rather than creativity. He added:

> Only silly folk identify creative originality with the extraordinary and fanciful
>
> (Dewey, [1916] 1966)

Craft (2002) has mentioned that the Torrance Tests have been criticised for measuring intelligence rather than creativity, for lacking reliability and for de-contextualising creativity. Other critics (Feldman et al., 1994; Sawyer, 2003b; R. Jones & Wyse, 2004: 3) have remarked that these tests have not been able to reliably predict or determine creativity.

Psychodynamics

In *Psychodynamics,* the interaction between conscious and unconscious mental and emotional processes is studied (Craft, 2002: 6). Csikszentmihalyi (1997; Fumoto et al., 2012: 24) has identified elements of the process of creativity experienced by the creative individual in 'flow'. These include the individual having a clear goal, concentration on and absorption into the task, a lack of fear of failure, being intrinsically motivated and rewarded by the action, having no self-consciousness, receiving direct and immediate feedback, perceiving a balance between challenge and skills, and a sense of control over the situation. I will discuss some further findings from psychodynamic research in section 2.1.5.

Research into the stimulation of creativity

The *stimulation* of creativity is, naturally, related to the field of education. Craft (2002: 7) points out that there has been a belief since the 1950s that creativity *can* be developed. Her highly cautious judgement in 2002 suggests, however, that there is very little evidence that creativity can be transferred into new contexts (ibid.). Nevertheless, she (Craft, 2009: 11) has suggested that the

stimulation of pupils' creativity *may* be supported by such pedagogic aims as, for example, the development of purposeful outcomes; development of pupils' motivation to be creative; development of subject knowledge; use of language which is stimulating and imaginative; the modelling of alternative solutions; and giving pupils time. Following the NACCCE report (1999) there has, in this country, been a plethora of books published to support practitioners in teaching for creativity in different subject areas (R. Jones & Wyse, 2004; Cowley, 2005; Wilson, 2009; Wegerif, 2010; Newton, 2012). However, Craft (2002: 8) has not only made the point that evidence of the transferability of creativity to other contexts is scarce, but also suggested (Craft, 2005, 2006; Craft et al., 2008a) that the stimulation of creativity in itself may not necessarily be desirable.

Since the 1980s there have been major changes of direction within creativity research, most of which are inter-related and important for my study. Firstly, the focus of research has shifted away from primarily individual perspectives to social and context-based approaches (Amabile, 1996; Csikszentmihalyi, 1999; Craft, 2002; Sawyer, 2006). Secondly, it has shifted away from measurable and product-based, to more process–oriented perspectives (Craft, 2002: 7; Sawyer, 2003b). Thirdly, a shift has taken place from a primarily cognitive focus to one which includes affective aspects (Amabile, 1996; Sternberg & Grigorenko, 2000-1; Moseley et al., 2005: 198; Fumoto et al., 2012: 24). Finally, the view that creativity is not the sole province of the genius, but that anyone has the potential to be creative, a view which was already aired by Vygotsky ([1967] 2004), has become increasingly recognised, and led to the distinction between 'big C' and 'little c' creativity (Craft, 2002), which I discussed earlier.

The changes in creativity research described above are, however, gradual. Although the notion of creativity is seen by many as apparent in all areas of human activity, the term continues to be strongly associated with the arts (John-Steiner, 2000b; Lipman, 2003; Ivinson, 2004; T. Sharp & Lutz, 2004; Storey & Joubert, 2004; Wirtanen & Littleton, 2004; Alexander, 2010; Banaji et al., 2010); attempts to measure creativity continue to be carried out (Michouroud & Lubart, 2002); and the outcomes of creativity and the lives of the gifted continue to intrigue us (John-Steiner, 2000; Lehrer, 2012).

Cropley and Cropley (2008: 356,357) have called the area of creativity 'a bundle of paradoxes', pointing at a range of contradictory findings from creativity research. These include such notions as 'creativity can be taught' vs. 'creativity cannot be taught'; 'creativity is inhibited by knowledge' vs. 'knowledge is necessary for creativity'; 'creativity requires openness and flexibility' vs. 'creativity requires clear goals and purpose'; and 'the creative person is a loner' vs. 'the creative person is strongly affected by other people'. In this study, set in the social context of the Community of Enquiry, I explore a number of such contradictions, focusing on my pupils' 'little c creativity' (Craft, 2001, 2002). In this context, such creativity will be expressed as ideas which appear to be original and effective, the criteria for which will be discussed in the Methodology section.

2.1.3 *Social creativity*

Introduction

There are two main reasons why a social view of creativity is central to this study and warrants a specific section in this Literature Review. Firstly, as the community of enquiry is a social group in a process of social interaction (Haynes, 2002; Lipman, 2003), any creative thinking generated within it will intrinsically have been constructed socially. Furthermore, creativity and creative thinking may not only be generated *by* social processes but may also be seen *as* social processes in themselves. Secondly, and more generally, the social-cultural perspective (Vygotsky, 1978; Wells, 1999; Moran & John-Steiner, 2003; Mercer & Littleton, 2007) within which this study is largely based, identifies social interaction as the way in which individuals develop their identity through the tools and experiences available to them. If we regard the ability and drive to be creative as aspects of identity, it follows that creativity and the drive to be creative are also developed through social interaction.

As many authors have observed (Amabile, 1996; Jeffrey & Craft, 2001; Littleton et al., 2008), much creativity research has focused on the creativity of individuals, rather than on the social features of individual creativity, or indeed on social or group creativity. Amabile (1996: 81), for example, points out that 'social-psychological issues have been largely ignored' in the past. As mentioned in an earlier section, however, there has, since the 1980s, been an increasing interest in social aspects of creativity (Amabile, 1996; Paulus, 2000). In a growing number of contemporary studies, which John-Steiner (2000: 194) refers to as 'a new paradigm', *all* creative processes are seen as essentially social, collective and collaborative (John-Steiner, 2000; Miell & Littleton, 2004; Sawyer, 2006; Littleton et al., 2008).

Research in social creativity

Craft (2009: 10) summarises that the relationship between individual and collective work has been a topic for creativity research for over two decades, but that the relationship between individual and collective creativity is still not well-understood. The research Craft refers to here, however, (Amabile, 1996; John-Steiner, 2000; Miell & Littleton, 2004; Wegerif, 2005) has varied widely in range and focus. For example, the domain of creativity in these studies has ranged from the mainly artistic domain (John-Steiner, 2000b; Ivinson, 2004; T. Sharp & Lutz, 2004; Storey & Joubert, 2004; Wirtanen & Littleton, 2004) to science, technology and business (John-Steiner, 2000c; Henry, 2004; O'Hear & Sefton-Green, 2004). The context and conceptualisation of social creativity has ranged from 'Big C' or 'high' creativity', as in John-Steiner's work (2000), to 'little c creativity' (Craft, 2001, 2002) as expressed in the writing of Haikus by non-experts (Amabile, 1996) and the creation of ideas in classroom dialogue (Vass, 2004; Wegerif, 2005). The extent to which social aspects have been a focus of the research has also varied. For example, for some of this research the focus has been entirely on social aspects of creativity (Amabile, 1996; John-Steiner, 2000; Miell & Littleton, 2004), whereas for other work, social aspects have merely been one of a range of findings (Craft, 1997). Lastly, this research has varied widely in the research methods used: some of it is based on experimental/observational work (Amabile, 1996), whereas other work is qualitative and context-situated (Miell & Littleton, 2004; Moran & John-Steiner, 2004: 12). It is thus perhaps not surprising

that Craft comments that a perspective of creativity in which both the individual and the social are recognised (Craft, 2008a: 242, 2009: 10) is in need of further development. I hope that my study may contribute to the further development of this perspective.

Despite, or perhaps because of its variety in discipline, focus and methodology (Grossen, 2008), research in social creativity has produced a rich range of findings, not of all of which are compatible. I will now discuss some observed features and processes which have been found to characterise social creativity and some of the factors which have been found to influence, stimulate or hinder social creativity. As caution needs to be taken in interpreting findings from such a variety of contexts and methodologies, brief descriptions will be given to situate the work and point out the relevance to my study.

Littleton and Miell (2004) point out that in contemporary approaches there is a focus on studying the *processes* rather than *products* of collaborative creativity, such as in the work of John-Steiner. John-Steiner, a researcher who situates her work in the socio-cultural and feminist perspective, used a case study approach to investigate the processes involved in a large number of successful long-term collaborative partnerships, such as that of Marie and Pierre Curie; Jean Paul Sartre and Simone de Beauvoir; and Pablo Picasso and Georges Braque (John-Steiner, 2000). There are a number of reasons why it might be argued that John-Steiner's work has little relevance to a classroom Community of Enquiry. Firstly, although these collaborations were not limited to the artistic domain, they all resulted in major cultural and scientific breakthroughs. We are dealing here thus with partnerships in 'high creativity' or 'big C creativity', rather than the 'little c creativity' (Craft, 2002) we can expect to see in the Community of Enquiry**.** Furthermore, the collaborating partners were autonomous adult peers who had chosen to work together, and often worked in pairs, rather than schoolchildren working in a class-size group with a teacher-facilitator. Despite these differences, however, many of the features John-Steiner (2000) identified in collaborative creativity relate to creative processes in the Community of Enquiry: she explains how knowledge is co-constructed in what she calls 'thought communities' as participants engage in interdependent intellectual and emotional processes. As a result, according to John-Steiner, in many of the partnerships ideas were generated and developed *because* the individual creative persons worked in collaboration rather than in isolation. In other words, in collaborative creativity, a whole is generated which is greater in quality, if not in quantity, than the sum of its creative parts (Moran & John-Steiner, 2004: 17). This idea has been reiterated frequently (Miell & Littleton, 2004; Sawyer, 2007; Johnson, 2010).

This finding, however, is not shared by all authors. Paulus, an environmental psychologist studying group creativity in organisational brainstorming activities under mostly experimental conditions, found little evidence that interactive groups are better at generating ideas than people working in isolation (Paulus, 2000: 244; N. W. Kohn & Smith, 2010). However, there are a number of reasons why we need to consider findings from such research with caution. Firstly, Paulus based his operational definition of creativity on Guildford's (1967) notion of Fluency, a concept related to *Divergent Production* (Guildford, 1967; Fisher, 1995: 40; Sternberg & O'Hara, 1999). Sternberg and O'Hara (1999: 252) have described this as 'a broad search for information and the generation of numerous

answers to problems'. Paulus (2000) has argued that his notion of fluency correlates highly with other aspects of creativity, but this correlation has been disputed (Plucker & Renzulli, 1999: 41; Sternberg & Grigorenko, 2000-1: 314). The results of Paulus' brainstorming experiments can thus be said not to meet the criteria of 'creative' as they are not evaluated, recognised (N. W. Kohn & Smith, 2010) and deemed 'valuable' (Amabile, 1996; Csikszentmihalyi, 1999; Sternberg, 1999; Cropley, 2001; Sawyer, 2007). Secondly, the mere *generation* of ideas rather than the careful consideration, development and co-construction of ideas (Moran & John-Steiner, 2004) by a randomly and temporarily assigned group on an externally allocated topic is far removed from the purposes of the Community of Enquiry (Baumfield & Mroz, 2002; Lipman, 2003). This would imply that findings from brainstorming experiments could only be expected to be of very little relevance to my study. However, some findings from research on brainstorming (Paulus, 2000; N. W. Kohn & Smith, 2010) seem to have a degree of relevance to the Community of Enquiry. These include 'cognitive interference' (Paulus, 2000), which I will discuss later in this section.

The affective in social creativity

Results from brainstorming research relating to the number of ideas generated in a short time (Paulus, 2000; N. W. Kohn & Smith, 2010) do not actually *contradict* those from socio-cultural research based on real-life collaborations: Moran, John Steiner (Moran & John-Steiner, 2004) and Sawyer (2007) have all commented that effective collaboration requires *time,* which is not available in such research as Paulus' [1]. However, once time is given and collaborative creativity is under way, Moran and John-Steiner (2004) found that it can generate motivation, 'multiplicative excitement, self-discipline and intrinsic motivation'. John-Steiner (2000: 23) found that in some collaborations creativity was shared to such an extent that it was not known who in the partnership had been responsible for a particular idea. She uses the word 'appropriation' (Bakhtin in Wertsch, 1998) to describe the process during which people in collaborative relationships use each other's words for their own intentions, creating new meanings:

> In collaborative endeavors (sic), mutual appropriation is a result of sustained engagement during which partners hear, struggle with, and reach for each other's thoughts and ideas. This is not only a cognitive process. It is a good example of both intellectual and emotional appropriation.
> (John-Steiner, 2000: 199)

John-Steiner thus highlights the *affective* aspect of social creativity, a focus which also features in the work of a number of other researchers (Amabile, 1996; Tikhomirov, 1999; Moran & John-Steiner, 2004; Eteläpelto & Lahti, 2008; Fumoto et al., 2012), and which Vygotsky put like this:

> The intellectual and the emotional are equally necessary for an act of creation. Feeling as well as thought drives human creativity. (Vygotsky, [1967] 2004: 21)

Moran and John-Steiner (2004: 11) have commented that such aspects as identity and motivation 'have been particularly understudied in our individual, cognitive-focused age'. With Moran, John-Steiner (ibid.) defines collaboration as distinct from other forms of interaction and cooperation, in that

[1] Nor, it could be argued, is much time for reflection available in dialogic situations, such as the Community of Enquiry in this study.

in collaboration a ‘shared vision of something new and useful’ is created. This, they say, is realised through ‘an intricate blending of skill, temperaments, effort and sometimes personalities’. In Moran and John-Steiner’s view, it is thus important that collaborators are not a homogenous group, but that they are individuals with different perspectives, needs and talents, which they refer to as ‘complementarity’. This view has some similarities with Lipman’s views on the community of inquiry (Lipman, 2003), as well as with Dewey’s ([1916] 1966) views on democratic communities, and will be discussed in relation to the notion of dialogue in section 2.2 of this chapter. Moran and John-Steiner acknowledge that tensions between collaborators often exist, but not in the sense that these are problematic. On the contrary, they identify the differences between collaborators as the foundation of collaboration, and see collaboration as ‘the fruitful cultivation of tension’ (Moran & John-Steiner, 2004: 12), a notion referred to by Sennett (2012: 19) as ‘dialogic’.

However, social differences do, of course, not always lead to success. All of John-Steiner’s subjects (John-Steiner, 2000) had successful creative partnerships, but not all collaborative or cooperative partnerships, including communities of enquiry, are successful. Moran and John-Steiner report how various researchers have found that collaboration can lead to such problems as lowered performance, anxiety, conformity of thought, imbalance in workload, and personality clashes (Moran & John-Steiner, 2004: 19) As Loveless points out, ‘The creativity of individuals can flourish or be stifled within the communities in which they act’ (Loveless, 2009: 25). I will discuss some of the factors which impact on social creativity in the section below.

Factors identified

So which are the factors which influence social creativity? Amabile has studied this field for over 30 years (Amabile, 1996). Again, a number of caveats need to be taken into account when considering Amabile’s work. In contrast to John-Steiner, she did not work from a socio-cultural perspective, and studied social influences on individual creativity, rather than the creativity of groups. Also, although Amabile worked with non-experts as subjects, the creative tasks set were, especially in her earlier work, limited to the artistic/expressive domains, which potentially affects the relevance of Amabile’s findings for my study. Additionally, her research, like studies on brainstorming (Paulus, 2000; N. W. Kohn & Smith, 2010), was largely carried out in experimental studies, rather than through case study approaches. As a result, their subject groups do not have the ecological validity (Morgan & Thomas, 1997) which both John-Steiner’s partnerships, characterised by shared expertise, autonomy, complementarity and commitment, and the Community of Enquiry in this study, can draw on. A ‘shared history’, which was identified by Eteläpelto and Lahti (2008) as the most important factor for creative collaboration or ‘emergence’ (Moran & John-Steiner, 2004), is apparent in the Community of Enquiry in this study, but notably absent in experimental groups. Finally, Fumoto et al. (2012: 23) comment that Amabile’s work does not take enough account of the affective elements of creativity. Nonetheless, Amabile’s work is generally seen as highly influential by many in the field of social creativity (Sternberg, 1999; Craft, 2000; Paulus, 2000; Sawyer et al., 2003; Moran & John-Steiner, 2004). She put forward a ‘componential model of creativity’ (Amabile, 1996: 113, originally 1983), in which she emphasised the role of, primarily, intrinsic motivation in the creative process, and social-

environmental influences on creativity. Many other authors (Moran & John-Steiner, 2004; Storey & Joubert, 2004; Sawyer, 2007; Vygotsky, [1967] 2004) have also highlighted the importance of intrinsic motivation, which Ryan and Deci have described as 'self-regulation that transforms social values into personal values so that the locus of effort comes from inside the person' (Ryan and Deci, 2000, in Moran & John-Steiner, 2004: 16). Vygotsky ([1967] 2004: 29) wrote that 'the presence of needs or drives triggers the working of the imagination'. Amabile (1996) has suggested that *intrinsic* motivation is critically important to creativity, but that *extrinsic* motivation can also be beneficial at certain stages of the creative process.

Positive factors

Amongst factors which Amabile (1996: 120) identified as having a *positive* influence on creativity in group situations were the following, each of which is related to intrinsic motivation, and has potential relevance for the Community of Enquiry: *autonomy or a sense of control; perceived importance or urgency of the work; optimal challenge; a high level of interest in the task set; high levels of cooperation and collaboration; sufficient task structure; a high level of constructive challenge by others; co-worker skill diversity*; and *co-worker openness to new ideas*. Other such factors identified by Amabile (ibid.), which seem to have less relevance to the Community of Enquiry, included *recognition/reward that confirms competence; high-level encouragement towards innovation; rigid status structures; and competition with outside organisations*. Despite the differences between their domains and research methods, there seems to be a fairly high level of similarity between the factors identified by Amabile and those described by other researchers (John-Steiner, 2000; Paulus, 2000; Moran & John-Steiner, 2004; Sawyer, 2007). For example, most of John-Steiner's and Sawyer's subjects were *autonomous* in their choice to carry out their work, had extremely high levels of *interes*t, *collaborated* successfully, and were continuously and constructively *challenged* by their 'complementary' partner. The significance of complementarity - mentioned by Amabile (1996), John-Steiner (2000) and Moran and John-Steiner (2004) - is somewhat disputed by Paulus, as he reports that in some studies diversity had been reported to *inhibit* creativity (Paulus, 2000: 239). However, the benefits of heterogeneous groups are also echoed by Eteläpelto and Lahti in their study into the creative collaboration of a long-term learning community of ten trainee teachers (Eteläpelto & Lahti, 2008). Findings from Eteläpelto and Lahti's study are highly relevant to my work, as their study was also carried out over a relatively long-term period in an educational setting, although their subject group consisted of young adults instead of children. Like Moran and John-Steiner, Eteläpelto and Lahti (2008) found that emotional and affective aspects were highly significant for the creativity of the learning community they observed: they identified emotional involvement as an important resource for collaborative creativity. Similarly, Moran & John-Steiner (2004: 21) point out *sharing* and *trust* as the two critical underlying factors for collaborative creative work. In another study on classroom creativity, Wegerif (2005: 233) comments that 'creative play with words and ideas assumes an orientation of mutual trust and support where each participant knows that what he or she says will be accepted'. This is summarised in the following quote by Waldo Emerson:

> A friend is one before whom I may think aloud (in Durham, 2001: 8).

Like Moran and Johan-Steiner (2004), Eteläpelto and Lahti (2008) stressed that successful collaborations were never without tensions, but they observed that in the most creative learning situations high levels of both complementarity and inclusiveness in the students' dialogue were apparent.

Negative factors

Factors which affect social creativity *negatively* have also been identified by Amabile (1996: 120). Amongst these, with some relevance to the Community of Enquiry, were expectations of, and actual, critical evaluations. This relates to the necessity of mutual trust and support mentioned above (Wegerif, 2005; Eteläpelto & Lahti, 2008). Amabile (1996: 120) further identified as negative: *restricted choice, surveillance, competition within the organisation, lack of communication*, and *rigid procedures*. A comparison with John-Steiner's (2000) case study approach is not productive here, as John-Steiner limited her studies to *successful* collaborations. However, with Moran, John-Steiner (Moran & John-Steiner, 2004: 19,20) identifies four main issues which may obstruct creative collaboration: *impatience, ownership, unfriendliness* and *conflict*, which will be discussed shortly. Paulus' (2000: 242) work on idea-generation shows some similarities with Amabile's points regarding critical evaluations: amongst the factors which he identified as leading to low creativity in groups were *social inhibition, social anxiety,* and *downward comparison*. Interestingly, as evaluation is not an element of brainstorming experiments (N. W. Kohn & Smith, 2010), he points out that 'though there may be no overt reaction, individuals may still be concerned about the private reactions of others' (Paulus, 2000: 241). This tacit behaviour relates to the points Morgan and Thomas (1997) make about group communication and behaviour. Writing from a psychodynamic perspective, they point out that when individuals in groups unconsciously feel anxious or defensive, attempts to control or dissipate anxiety can influence interaction of the groups as a whole, and lead to the emergence of set and involuntary roles (Morgan & Thomas, 1997: 78). Some elements of this process are reflected in Eteläpelto and Lahti's study (2008: 226), who found that the lowest levels of creativity coincided with an emotionally charged atmosphere. In these instances they reported that very little 'mutual care-taking' took place, along with high levels of disputational talk, aimed at invalidating opposing views. Furthermore, they found that unequal power relations acted as an obstacle for collaborative creativity (ibid.). A factor Paulus (2000: 241), rather uniquely, identifies as a negative factor affecting group creativity is 'cognitive interference':

> When others are talking in groups it is not possible to share one's ideas. This time constraint in groups may also lead participants to forget ideas while waiting to share them or decide that they are no longer relevant. Group discussions may also involve task-irrelevant behaviours when some group members tell stories related to ideas or needlessly elaborate their ideas. The cognitive demands of attending to the ideas presented by others while attempting to generate one's own ideas may further lower individual productivity.

Although it needs to be remembered that Paulus' operational definition of creativity differs from that of most researchers, and that his research methods are experimental, these observations seem to have direct relevance to at least some situations which were observed in this Community of Enquiry. The

class-size of a Community of Enquiry, which is larger than that of most other research subject groups and many other dialogic group activities (Mercer, 2000), is a major factor relating to this issue.

Conflict and creativity

Finally, conflict has been identified as a positive influence on collaborative creativity by some (Paulus, 2000; Craft, 2008a), and by others as negative (Eteläpelto & Lahti, 2008). Grossen (2008: 248) has argued that conflict is an important issue which has been ignored in socio-cultural studies of collaborative creativity, pointing out the importance of 'socio-cognitive conflict'. In my view, it is necessary here to distinguish between social and cognitive conflicts. *Cognitive* conflict seems to be a necessary element of creative thinking: creativity is generally associated with engagement with a problem (Sternberg, 1999), and according to Piaget (Wood, 1998; Adey et al., 2002), changes in understanding are the result of conceptual or cognitive conflicts. Similarly, as John-Steiner (2000) has pointed out, creativity in collaborative relationships is often the result of the cognitive challenges which partners pose each other. Moran and Steiner (2004: 20) argue that in successful collaborations conflict is used to deepen understanding and to avoid 'groupthink' (Janis, 1982). However, this is different from *social* conflict: in order to benefit from these conflicts and tensions, an atmosphere of mutual trust and 'mutual vulnerability' (Storey & Joubert, 2004) needs to be apparent, as we have seen that defensiveness and anxiety can be detrimental to collaborative creativity (Amabile, 1996; Eteläpelto & Lahti, 2008).

Social creativity and education

In educational settings, teachers can play an important role in constructing a balance between power and participation, and a climate of mutual trust in which tensions and conflicts can be conducive to creativity (Moran & John-Steiner, 2004; Craft, 2008a; Eteläpelto & Lahti, 2008). As Craft (2008a: 242) comments, 'recognising differences between pupils whilst also building trust is a major element of teacher expertise' and coincides with the learning community's shared history (Eteläpelto & Lahti, 2008). Teachers can also aim to provide the right level of cognitive challenge and model openness to new ideas (Amabile, 1996: 120). However, as Craft et al (2007: 146) point out, teachers' power and authority can also, often unintentionally, undermine pupil and group agency. As we have seen that autonomy (i.e. collaboration without a previously and externally appointed 'leader') has been mentioned as an important factor for collaborative creativity (Amabile, 1996; Storey & Joubert, 2004: 51; Sawyer, 2007), we can wonder to what extent optimum collaborative creativity can be realised in traditional educational settings. It could be argued that in the Community of Enquiry pupils have a relatively large amount of autonomy, as they formulate and choose the question discussed, and the enquiry consists of their collaboration (Higgins et al., 2001; Haynes, 2002; Chandley & Sutcliffe, 2010). But, as Craft (2008a) points out, teachers wishing to encourage collaborative creativity have to 'negotiate a very delicate balance'. The Discussion chapter will explore to what extent I, in my role as facilitator, managed to strike this balance.

2.1.4 *Children's creativity*

> We should emphasize the particular importance of cultivating creativity in school-age children. The entire future of humanity will be attained through the creative imagination.
>
> (Vygotsky, [1967] 2004)

Csikszentmihalyi and others speak from a 'Big C' creativity System perspective (1999), when they state that children 'cannot be creative' (Csikszentmihalyi, Fedman, Nakamura in Sawyer et al., 2003: 220,223). However, from the 'little c' perspective (Gardner, 1993: 38; Craft, 2001; Sawyer, 2003a) which I am using in this study, it is clear that even very young children *can* be creative, although Fumoto et al. (2012: 25) suggest that this is dependent on social, cognitive, emotional and motivational factors. Paley (1981) has described some powerful examples of the imaginative and creative thinking of young children. As Vygotsky ([1967] 2004: 11) put it: '..it is easy to see that the creative processes are already fully manifest in earliest childhood'. However, according to Vygotsky, children's creative imagination is different from that of adults, as Moran points out (Sawyer et al., 2003: 223, 224). In Vygotsky's ([1967] 2004) perspective, creative activity in both children and adults is generated by the association between the imagination and four aspects of reality: personal experience; reported reality achieved through social interaction; the interplay between creativity and the emotions; and products of imagination which have become reality. He argues that, as children have had fewer experiences of these four elements of reality, their interests are simpler, and their relationship to the environment is less subtle, complex and diverse than that of adults. This, according to Alexander (2010: 96), is similar to the contemporary findings from neuroscientific research in the field of learning, which show that the difference between child and adult learners is not the structure of the brain at different ages, but children's relative lack of experience and self-regulation. As a result, Vygotsky remarked that children's creativity is poorer, not richer than that of adults, contrary to popular belief (Vygotsky, [1967] 2004). On the basis of this, he argued that...

> …if we want to build a relatively strong foundation for a child's creativity, what we must do is broaden the experiences we provide him with. All else being equal, the more a child sees, hears, and experiences, the more he knows and assimilates, the more elements of reality he will have in his experience, and the more productive will be the operation of his imagination.
>
> ([1967] 2004: 15)

Vygotsky argued that the development of reasoning starts later than the development of the imagination and thus that there is an early phase during which children's imagination is greater than their reasoning ([1967] 2004). According to Moran and John-Steiner, Vygotsky thus believed that imagination becomes 'intellectualised' (2003: 61). Relating Vygotsky's model of the development of children's imagination into a stage- and age-related model, Rosenblatt and Winner (1988, in Cropley, 2001: 91) have identified three phases of children's creativity: the preconventional stage (up to 6-8 years), the conventional phase (from 6-8 years until 10-12) and finally the postconventional phase (from 12 into adulthood). According to this model, effective novelty, or real creativity, can only be produced in this last, postconventional stage. This would suggest that children in the preconventional and conventional stages, and thus the pupils I worked with in this study, produce novelty which is spontaneous and shows emotional involvement, but is 'ignorant of the constraints of the external world' (Rosenblatt and Winner, 1988, in Cropley, 2001: 91), and therefore limited in its effectiveness.

However, Vygotsky (1978, in Moran & John-Steiner, 2003) himself argued against the value stage theories:

> Our concept of development implies a rejection of the frequently held view that cognitive development results from the gradual accumulation of separate changes. We believe that child development is a complex dialectical process characterized by periodicity, unevenness in the development of different functions, metamorphosis or qualitative transformation of one from into the other, intertwining of external and internal factors, and adaptive processes that overcome impediments that the child encounters.
>
> (Vygotsky, 1978, in Moran & John-Steiner, 2003)

Any stage theory, whether at an ontogenetic (Wells, 1999: 5) level, as in stage theories of development, or at a microgenetic level (ibid.), which I will discuss in the section on creative thinking , is open to criticism: as Sawyer (2003a: 29) points out, such stages are constructs, they may overlap, and they can't be universalised.

Vygotsky and Piaget on children's creativity

Rosenblatt and Winner's (1988, in Cropley, 2001: 91) stage model bears some resemblance to Piaget's theory of developmental stages (Wood, 1998), and it is useful to compare Vygotsky and Piaget's views on children's creativity. Like Vygotsky, Piaget saw children's creativity as highly important. Sawyer points out that according to Piaget children 'invent rather than discover' new ideas (Sawyer, 2003a: 32). For Piaget, the process of *learning* thus involves acts of *creative thinking*. According to Feldman (1999: 183), it was Piaget's ultimate, but ultimately unachieved, goal to explain 'novelty of thought' – the ability of a child's thinking to reach a 'novel' or higher stage when it was not able to think at that level prior to reaching it. Piaget called this the 'mystery of the stages' (Feldman, 1999: 183). Daniels (2001: 32) points out that this *learning paradox* is a complex problem for all forms of constructivism. Moran and John-Steiner (2003: 69) have reported Ayman-Nolley's (1999, in Moran & John-Steiner, 2003: 69) view that Vygotsky and Piaget both saw play as 'a symbolic capacity-building process that leads to creative imagination'. However, they point at a vital difference: according to Vygotsky, the imagination is *internalised play* which is developed once it is linked to inner speech (ibid. 2003: 71) and further developed in social interaction; whereas according to Piaget, play is *externalised imagination* which has spontaneously arisen in playing alone (Moran & John-Steiner, 2003: 69). I will return to elements of Vygotskyan and Piagetian learning theory, and discuss Moran and John-Steiner's socio-cultural model of creativity in section 2.3 of this Chapter.

Education policy

Despite the suggestion by some authors that children cannot be creative (Csikszentmihalyi in Sawyer et al., 2003: 220), the development of children's creativity has become a widely accepted element of education policy (NACCCE, 1999; QCA, 2000b; Jeffrey & Craft, 2001; Craft, 2002; R. Jones & Wyse, 2004; Wilson, 2009; Alexander, 2010; Banaji et al., 2010; Fumoto et al., 2012). Craft and others (Craft et al., 2008a; Craft, 2009) have argued for the necessity to develop creativity within a 'wisdom' framework. As Craft (2006: 343) has defined wisdom as 'appropriate action taking account of multiple forms of understanding and knowledge, and taking account of the multiple needs and perspectives; 'It could be argued that the social context of a reflective, dialogic Community of Enquiry (Lipman, 2003)

could provide just such a framework. I will return to this and other points raised in this section in the Discussion and Conclusions chapters.

2.1.5 *Creative thinking*

Having discussed notions of the term *creative* by exploring creativity, social creativity and children's creativity, I will now discuss notions of creative *thinking,* which Fumoto et al. (2012: 28) suggest is at the heart of all creativity. I explore this by looking at the generation of creative thoughts in two different but complementary ways. Firstly, I will explore notions of creative thinking as 'thinking creatively', which could be described as a type of thinking which is creative in itself, in other words, thinking in which creative ideas are generated. Secondly, under the heading of 'thinking in creativity', I will explore the cognitive elements, or psychodynamics (Craft, 2002: 6), which have been identified as part of creative processes.

Thinking creatively

Tikhomirov (1999: 349) points out that in creative activity both a new product and the mental image, or idea, of that product are created. Creative thinking generates *ideas* which are 'novel' and *'*of value'*,* according to many of the authors who have written about creative thinking (Fisher, 1995; Nickerson, 1999; Lipman, 2003; Moseley et al., 2005; Fumoto et al., 2012). The focus on *creative thinking in a Community of Enquiry* in my study originated in Matthew Lipman's claim that creative thinking, along with *critical* and *caring* thinking, is developed in the community of inquiry (sic) (Fisher, 1998; Lipman, 2003; Moseley et al., 2005). For this reason I will first look at Lipman's view of creative thinking, which, as Moseley et al. have commented, resembles Bloom's (1956, in Moseley et al., 2005: 158) concept of *synthesis*. Lipman (2003: 248,249) states that creative thinking 'fosters problematicity'; calls it the 'moving spirit of problem solving', and describes it as 'that minimal element of idiosyncratic judgment in every artist's work'.

> Creative thinkers are never so happy as when they have been let loose, like bulls in china shops, to smash to smithereens the bric-a-brac of the world (Lipman, 2003: 254)

Whilst these descriptions provoke interesting images and to some extent help to conceptualise creative thinking, they are not particularly helpful in getting a clear understanding of Lipman's meaning. With more detail and clarity, he (2003: 245,246) has characterised creative thinking by the following twelve elements, which, he stresses, is not a definitive list: *Originality* (novel thinking); *Productivity* (thinking which leads to effective outcomes); *Imagination* (the ability to envisage unknown possibilities); *Independence* (to think for oneself, to be inquisitive and to be reflective); *Experimentation* (to be guided by hypotheses rather by than rules, in thinking); *Holism* (thinking which is focused on an emerging whole); *Expression* (creative thinking reveals both the topic of thought and the thinker); S*elf-transcendence* (the striving to go beyond previous achievements); *Surprise* (thinking which 'defies understanding', generating astonishment and wonder)*, Generativity* (the ability to stimulate further creativity*); Maieuticity* (thought and action which is calculated to bring out the best in others); and *Inventiveness* (problem solving). Lipman (2003) further discusses such characteristics of creativity as defiance and rule-breaking, and metaphorical thinking. Two interesting points could be raised here. Firstly, although many of Lipman's elements concur with the *original* (new, surprising,

etc.) criterion discussed previously, he does not link this with the *valuable (appropriate, worthwhile, valued)* criterion which many authors also use to define creativity. Secondly, many of Lipman's metaphors of creative thinking are associated with the arts. Although this helps to understand his meanings, it is another example of how creativity continues to be associated primarily with the artistic domain.

Other definitions have been provided by Nickerson (1999: 397-399). He defines creative thinking as 'expansive, innovative, inventive, unconstrained thinking, which is related to exploration and idea generation', and goes on to describe it as 'daring, uninhibited, fanciful, imaginative, free-spirited, unpredictable and revolutionary'. He points out that creative thinking generates original ideas, innovative approaches to problems, and new perspectives. In contrast, Nickerson points out, *critical* thinking is, amongst other things, disciplined, logical, practical, dependable and conservative (Nickerson, 1999). However, like Lipman (2003), Nickerson stresses that creative and critical thinking are interdependent - effective critical thinking involves creative thinking, and vice versa; *good* thinking includes both creative and critical thinking (Fisher, 1995: 64; Nickerson, 1999: 397-399; Lipman, 2003); and the polarisation of critical versus creative thinking is an oversimplification (Fisher, 1995: 33). With some resemblance to Torrance's categories discussed previously (Torrance et al., 1992), Fisher (1995: 29-64) has identified fluency, flexibility, originality and elaboration as elements of creative thinking.

Thinking *in* creativity

I will now look at the second meaning of creative thinking, as I defined it in the opening paragraph to this section: the cognitive elements that are involved in creativity. As an aspect of cognitive psychology, this too has mostly been looked at from an individual, rather than a social, and socially situated, perspective (Craft, 2002: 6).

Cropley (2001: 51) reports that many highly creative people have commented that their work was 'obvious', and required little thinking. This might imply that creativity can exist without creative thinking. However, I would argue that creativity involves thinking which may not be entirely *conscious*. Smith (1992: 9) uses the term *thinking* to describe 'anything that the brain does, even those things that are done unconsciously, habitually or instinctively'. However, in my view, the inclusion of such mental activities as dreaming or controlling neurological systems would render the term *thinking* meaningless. On the other hand, it is clear that many forms of mental activity, such as imagining and remembering, involve unconscious processes. Applied to creative thinking, Sawyer (2003a) refers to this as *preconsciousness*, to indicate that it is just 'below the surface of awareness'.

Sawyer (2003a: 23) describes how creativity is seen by some as a staged process. *Preparation, Incubation, Illumination* and *Verification* were first identified by Graham Wallas in the 1920s. This model bears some resemblance to Craft's (2000: 33) 'Creativity Cycle', which involves *Preparation, Letting Go, Assimilation*, C*ompletion,* leading again to *Preparation*. It is also not dissimilar to Vygotsky's model of *Disassociation, Association and Crystallisation* ([1967] 2004: 27,28), and Petty's (in Moseley et al., 2005: 175) 'six-phase model of the creative process', involving *inspiration,*

clarification, distillation, incubation, perspiration and *evaluation*. Describing Wallas' staged model, Sawyer (2003a: 23) points out that the *incubation* period is both the most essential and the most obscure of the creativity process stages. Involving preconsciousness, the incubation period is marked by a delay between the preparation of materials and the moment of insight. Sawyer (ibid.) explains that at this stage, 'elements are hypothesized to combine and certain combinations are hypothesized to emerge into consciousness', but he adds that the precise nature of this process is still unknown. Craft (2000: 33) describes this stage of 'Letting Go' as 'surrendering control and letting the unconscious give us ideas'. In stage theories, unconscious incubation is followed by the 'creative insight' – Wallas' 'Illumination' - at which point, according to Sawyer (2003a: 26), novelty is created by the association and recombination of existing elements. Craft (2000: 33) describes this stage of 'Germination' as 'finalising ideas without really knowing how'. In relation to the Community of Enquiry and other social contexts, a stage theory of creativity is problematic: whereas an individual problem solver with plenty of time may well be aware of each of these as distinct stages, in the fast social interaction process of a group discussion, there is, for example, no time for a delayed incubation stage (Moseley et al., 2005: 175) unless it is deliberately built into the process. As Rothenberg (1979, in Sawyer, 2003a: 28) put it: 'these phases or functions alternate - sometimes extremely rapidly - from start to finish'[2]. Sawyer points out that stage theories of creativity have been much criticised for a number of reasons. Firstly, some have argued that the four stages overlap or are parallel elements of a holistic process (Vinacke, Wallas in Sawyer, 2003a: 28). Secondly, it has been stressed by many that these phases are abstractions which do not reflect the creative process (Arieti, Rothenberg in Sawyer, 2003a: 28). Finally, Gruber (in Sawyer, 2003a: 29) argues that creativity is unique for each individual, and that universal stages cannot be applied. Although the existence of individual stages of creative thinking has thus been called into question, and although, according to Feldman (1999: 183), creativity research may 'still be a long way off from really understanding cognitive breakthroughs', few authors have argued with the essential *elements* of the stages identified by Wallas. For example, Vygotsky ([1967] 2004: 9) defined imagination, or the basis of all creative activity, as our brain's ability to combine elements. Similarly Boden (1990, in Banaji et al., 2010: 53) sees creativity as the 'linking together of existing associations, patterns and ideas in various ways'. In contrast to the many authors who see the creative thinking process as mysterious (Sawyer, 2003a), Boden has argued that creative thinking processes can be simulated via Artificial Intelligence, are clear and can be scrutinised (Boden, 2004; Banaji et al., 2010: 53). In conclusion, according to cognitive psychology, creative thinking seems to involve the gathering, recombination and evaluation of ideas or concepts, as a complex process which is, in parts, unconscious.

A summary: creative thinking in this study

The understanding of both types of creative thinking which I have identified, together with the features of creativity (Sternberg & Lubart, 1999; Sawyer et al., 2003), social creativity and children's creativity discussed earlier, have provided me with some tools for the potential identification of the creative thinking of individual children in this study. However, according to Vygotsky's cultural-historical

[2] Methodologically, I would also be unable to identify such stages in my research.

perspective which I will discuss in the next part of this chapter, 'creative thinking' is not something that is situated strictly within individuals:

> Mind is no longer to be located entirely inside the head. Higher psychological functions are transactions that include the biological individual, the cultural mediational artifacts, and the culturally structured social and natural environments of which persons are a part.
> (Cole & Wertsch, 1996: 253)

As I have described in earlier sub-sections of this Section of the Literature review, *creativity* in all contexts is increasingly seen as social and collaborative. On the basis of this, it could be argued that creative *thinking*, too, is a potentially social and collaborative process. Thus, it could be feasible that in collaborative creative thinking situations such as the Community of Enquiry sessions in this study, different features of idea-generation (as discussed in the previous section) may be seen to be carried out by different people. This might explain John-Steiner's notion (2000: 23) of shared responsibility for, and shared ownership of, new ideas generated in collaboration.

Craft (2008a) has called for more research into social creativity, and Sawyer (2003a: 37) has argued for more microgenetic research in this area. I hope that this thesis can make a contribution in this field, with a particular focus on the creative thinking of young children.

2.2 Learning through dialogue

> Not only is social life identical with communication, but all communication … is educative. To be a recipient of a communication is to have an enlarged and changed experience. One shares in what another has thought and felt … has his own attitude modified. Nor is the one who communicates left unaffected. (Dewey, [1916] 1966: 8-9)

The Community of Enquiry is a classroom approach in which dialogue is central to learning (Mercer, 2000; Higgins et al., 2001; Alexander, 2006). In section 2.2.1, I will provide a brief exploration of *learning* and *dialogue,* and discuss a range of dialogue-based classroom approaches. In section 2.2.2 I will then turn to the Community of Enquiry, to discuss its philosophical roots in pragmatism and its pedagogical background in Philosophy for Children (Lipman, 2003), before clarifying the approach I used in the classroom in this study.

2.2.1 *Classroom dialogue*

Classroom approaches based on dialogue are, to a large extent, based on the Vygotskyan notion that language is both a cultural tool for social interaction and a psychological tool for individual thinking (Vygotsky, 1978, in Mercer, 2002: 142). In other words, social interaction (Alexander, 2010: 90) and the use and development of language are seen as closely related to cognitive development and learning (Wood, 1998; Mercer, 2002: 141; Moseley, 2005: 311; Wolfe & Alexander, 2008: 15; Vygotsky, [1934] 1986). I will discuss the relationships between learning and interaction in Vygotskyan theory in section 2.3.1 – but what, for now, do we mean with the terms *learning* and *dialogue*?

Learning

In this study I use the conceptualisation of learning which Mercer and Littleton (2007: 3, after Watkins, 2003) have put forward as 'ways in which people make sense of the world both individually, build knowledge with others, become able to solve problems and take on new perspectives', rather than memorisation. This view of learning has similarities with what James and Gipps (1998) have described as *deep learning.* They (James & Gipps, 1998: 287) identify four elements in this learning process: 'an intention to develop personal understanding; active interaction with the content, particularly in relating new ideas to previous knowledge and experience; linking ideas together using integrating principles; and relating evidence to conclusions'. The 'new perspective' element of Mercer and Littleton's definition, and the 'relating and linking ideas' elements of James and Gipps' model, are strikingly close to views of creativity, and particularly creative thinking, which I have described in an earlier section: both creativity and 'deep' learning involve making new connections, and 'seeing things' in a new light. Dewey ([1916] 1966) also sees learning as very close to original thought. In his perspective, *interest* and *the search for meaning* are of vital importance: If we come across new information and perceive this as the next step in our search for meaning, we perceive this as an original thought. Similarly, Bruner ([1960] 2003: 48) identifies three stages in learning: acquisition, transformation and evaluation, in which transformation involves 'manipulating knowledge to make it fit new tasks'. Similar to Piaget's view of 'acts of creative thinking*'* as being essential to learning (Sawyer, 2003a: 32), learning in this sense always involves an element of creative thinking. However, although I see creative thinking as part of learning, it is not synonymous with, and does not *always* lead to learning in the sense I have discussed: an idea which is new, and in its context effective, might not necessarily help us to 'make sense of the world' (Mercer & Littleton, 2007: 3), or link up with other ideas and lead to well-evidenced conclusions (James & Gipps, 1998).

Piaget's constructivist perspective is seen by many authors on learning theory as 'not incompatible' (Alexander, 2010: 95) with, and to some extent, complementary to, that of Vygotsky's (Cole & Wertsch, 1996; Wood, 1998; Mercer & Littleton, 2007): Vygotsky himself ([1934] 1986: 12) acknowledged that 'psychology owes a great deal to Jean Piaget', and contrary to some beliefs, Piaget recognised the value of interaction and peer interaction (Piaget & Inhelder, 1978: 150; Cole & Wertsch, 1996):

> There is no longer any need to choose between the primacy of the social or that of the intellect: collective intellect is the social equilibrium resulting from the interplay of the operations that enter into all cooperation.
>
> (Piaget, 1970, in Cole & Wertsch, 1996)

Furthermore, Piaget's work on socio-cognitive conflict (Perret-Clermont, 1980) has on-going relevance for contemporary research (Adey, 2004; Mercer & Littleton, 2007: 12; Grossen, 2008), including this study. Simultaneously, cognitive challenge, a concept not dissimilar to Piaget's 'cognitive conflict', is also highly important in the Vygotskyan framework (Stoll Dalton & Tharp, 2002; Mercer & Littleton, 2007). Again, there are links with creativity here: cognitive challenge has been seen as essential for creativity by a number of researchers in the field (Runco & Sakamoto, 1999: 84; Craft, 2000: 5).

Finally, along with these cognitive views of learning, learning is also used to describe a development of skills, such as in Mercer and Littleton's definition of *dialogue* below. In my study I will thus also explore *skills* which the pupils may learn in the Community of Enquiry.

Dialogue

Dialogue is described by Mercer and Littleton as 'a process in which children learn to use language as a tool for reasoning, learning and working collaboratively' (Mercer & Littleton, 2007). Such skills are seen as desirable outcomes in the current National Curriculum (QCA, 2000a) and few educationalists would argue with the view that language is a tool in obtaining them. However, in approaches based on dialogue, dialogue is a *central* part of teaching and learning, as classroom interaction patterns shift away from the usual Initiation-Response-Evaluation (IRE) pattern (Mehan, 1979; A. D. Edwards & Westgate, 1994; Burbules, 2001). Instead, as Nystrand points out:

> …dialogic instruction involves fewer teacher questions and more conversational turns as teachers and students alike contribute their ideas to a discussion in which their understandings evolve… dialogic instruction is less prescripted since the actual conduct, direction and scope of the discussion depend on what students as well as teachers contribute and especially on their interaction. (Nystrand, 1997: 17)

Wolfe and Alexander (2008: 12) have commented that in classroom approaches based on dialogue 'sharing of information and joint-decision making is required rather than merely encouraged', and that the quality, rather than the mere occurrence, of interaction is seen as of vital importance (Mercer, 2002; Alexander, 2006; Mercer & Littleton, 2007; Wolfe & Alexander, 2008). Wegerif (2006) points out that the word 'dialogic' has to be used with caution, and Sennett describes this as follows.

> 'Dialogic' is a word coined by the Russian literary critic Mikhail Bakhtin to name a discussion which does not resolve itself by finding common ground.
> (2012: 19)

Using this phrase, Alexander (2006: 28) has described five essential features of 'dialogic teaching', all of which apply to a greater or lesser extent to the Community of Enquiry: dialogic teaching is *collective* in the sense that teachers and learners work together on learning tasks; *reciprocal* in the sense that teachers and learners listen to each other; *supportive* in the sense that learners communicate freely without fear or embarrassment; *cumulative* in the sense that teachers and children 'build on their own and each other's ideas'; and *purposeful* in the sense that teaching is planned with specific educational goals in view. The last feature is, arguably, least applicable to the Community of Enquiry, as, although it has *aims*, specific narrowly-defined curriculum goals are often not planned for individual sessions by the facilitator, due to the self-regulatory (Moseley et al., 2005: 14) and democratic nature of a Community of Enquiry.

Lefstein (2006: 3,4) has described five 'traditions of the dialogical ideal': as mentioned before (Mercer & Littleton, 2007), dialogue is firstly seen as *a pattern of communication* and secondly as *a means of learning*. Thirdly, Lefstein points out that dialogue implies an epistemological stance: through dialogue *knowledge is itself formed in dialogue* (Lefstein, 2006: 5). This perspective relates to Engeström's (2010) views on the formation of knowledge through activity. As a fourth 'tradition', Lefstein (2006: 5)

mentions '*dialogue as a critical orientation toward content*', pointing toward the questioning and potentially subversive aspect of dialogue, which is relevant to both the Curriculum of Enquiry (Lipman, 2003) and creativity (Craft, 2000). Wegerif (in Mercer & Littleton, 2007: 134) describes this as 'opening and maintaining a dialogic space of reflection in which children can jointly pursue creative solutions to problems'. Finally Lefstein (2006: 6) points out that whereas the four 'traditions' of dialogue described above relate to cognition, the fifth view of dialogue is concerned with dialogue as a *relation*, in which it is 'a meeting of body, emotion and extra-intellectual interests'. This affective aspect is, as I have discussed in section 2.1.3, highly important in social creativity (Amabile, 1996; Miell & Littleton, 2004; Eteläpelto & Lahti, 2008).

Dialogic pedagogy

There are a number of different teaching approaches which could be described as 'dialogic' (Wolfe & Alexander, 2008: 12), each with their own goals and emphasis. In order to conceptualise these different dialogic teaching approaches, we can allocate each one on the basis of its main goals and emphasis to one or more of Lefstein's five 'traditions of the dialogical ideal' (Lefstein, 2006) which I discussed in the previous section:

1. communication;
2. learning;
3. forming knowledge;
4. critical orientation; and
5. relation

In Exploratory Talk (Mercer, 2000, 2002; Rojas-Drummond et al., 2006; Mercer & Littleton, 2007), in which the focus is on small group interaction through what Mercer (2000) calls the Intermental Development Zone, the greatest emphasis is on *learning* and *communication*, or Lefstein's (Lefstein, 2006) first two traditions of the dialogic ideal. In Dialogic Teaching (Alexander, 2006; Lefstein, 2006) the main emphasis may be said to lie in *communication, learning* and *forming knowledge*, or the first three traditions. The pedagogy of Paolo Freire ([1970] 2000) could also be classified as aiming specifically for *learning* and *forming knowledge*, but also on *critical orientation*. Freire's pedagogy could thus be allocated to the second, third and fourth tradition. 'Thinking skills' approaches such as those advocated by Baumfield, Higgins and Leat (Baumfield & Higgins, 1998; Higgins et al., 2001; Leat & Higgins, 2002; Baumfield, 2004; H. Jones, 2008b) have their emphasis primarily on *communication, learning*, metacognition and *forming knowledge*, thus relating to Lefstein's first, second and third tradition. Finally, the main emphasis of enquiry-based methods such as the Mantle of the Expert (Heathcote, 1984), Philosophy for/with Children (Lipman et al., 1980; Haynes, 2002; Lipman, 2003) and the Community of Enquiry approach used in this study (Higgins et al., 2001; Baumfield & Mroz, 2002; H. Jones, 2004) could be said to be on *communicating*, *critical orientation* and *relation*, or the first, fourth and fifth tradition as identified by Lefstein (Lefstein, 2006). .

Apart from Lefstein's five traditions, it could also be argued that a main goal of dialogic pedagogies is the introduction of pupils to the concept and experience of 'dialogic space' (Haynes, 2007, 2009a)

(Wegerif, 2005, 2010) in which dispute and disagreement are tolerated without leading to hostility and confrontation, and participants are free to express their views. Referring to the word 'dialogic', Richard Sennett writes:

> Though no shared agreements may be reached, through the process of exchange people may become more aware of their own views and expand their understanding of one another
> (Sennett, 2012)

In dialogic teaching approaches divergent views are thus encouraged. In this, such approaches differ strongly from standard classroom talk, which tends to be convergent in character. I will return to the topic of dialogic space in section 5.2.3 of the Discussion chapter,

Criticisms

Burbules (2000, 2001) and Lefstein (2006) have both provided a powerful critique of classroom dialogue as a decontextualised ideal. Burbules points out that dialogue can be experienced as highly discriminatory by participants from marginalised backgrounds: the apparent equality and openness of dialogue is contradicted by the power of the more privileged, in dialogue as much as in other forms of discourse. For these participants, dialogue can actually restrict self-expression and communication (Burbules, 2000: 1). The aspect of dialogue relating to emotional relationships in particular contributes, according to Lefstein, to complexities inherent in dialogic approaches:

> … discourse is rarely the cooperative, orderly and attentive affair commonly evoked by the word ''dialogue''. Indeed… dialogue is also implicated with competition, argument, struggle to be heard, persuasion, ''ego'' and – like other social arenas – power relations. (2006: 6).

Quoting Habermas (1990) and Wellmer (1971), Lefstein continues:

> dialogue is also a context of domination and as such precisely no dialogue… (2006: 6)

Lefstein (2006) argues for a pragmatic view, which acknowledges the limitations and tensions inherent in each of the perspectives he has described. In the Discussion section of my thesis I will return to Lefstein's and Burbules' arguments on the basis of the findings from this study.

2.2.2 *The Community of Enquiry*

The term *community of inquiry/enquiry* is used by authors from a range of different contexts (Daniels, 2001: 122; Baumfield & Mroz, 2002; Wells, 2002: 200-202; Garrison & Neiman, 2003: 22; Lipman, 2003; Pardales & Girod, 2006). The specific meaning of the term I use in this study is based on Matthew Lipman's Philosophy for Children's programme (Lipman, 2003). In this section I will first discuss the pragmatist *community of inquiry* roots of the Community of Enquiry, after which I will turn to Philosophy for Children, and finally describe the specific approach I used in this study.

The influence of pragmatism

The Community of Enquiry has its origins in the ideas of Charles Sanders Peirce (1839-1914), and those of other pragmatists (R. J. Bernstein, 1991: 328). In the pragmatist perspective, the meaning of ideas is exclusively established through their practical consequences (Garrison & Neiman, 2003: 21).

According to Pardales and Girod (2006: 300), Peirce developed the notion of the *community of inquiry* as a reaction to Cartesian philosophy, in which universal doubt, seen as the basis of knowledge and ideas, is held in the consciousness of *individuals*. As a scientist and a philosopher, Peirce argued that theories are developed as communities of experts in the field probe and criticise them, and 'create doubt in the mind of the author himself' (Peirce, 1955, in Pardales & Girod, 2006: 301). In other words, a theory is 'on probation' (ibid.) until agreement on its validity has been reached by a community of experts. This notion of a group of experts judging ideas and hypotheses, or *critical community* (R. J. Bernstein, 1991: 328), is, as Pardales and Girod (2006) point out, at the heart of Peirce's views of the c*ommunity of inquiry*. It also has strong resemblances to a 'systems view of creativity' (Csikszentmihalyi, 1999) and the judgement of creativity by experts in a certain field (Amabile, 1996), as well as to social creativity processes identified by John-Steiner (2000b). Furthermore, Vygotsky ([1934] 1986: 48) commented that 'it is the 'collision' of our thought with the thought of others that engenders doubt and calls for verification'. Although there is some suggestion that Peirce assumed that in the c*ommunity of inquiry* knowledge of the 'real' can be achieved (Pardales & Girod, 2006), Colapietro states that it was Peirce's view that:

> …even the most securely established beliefs of any finite community at any actual stage of its ongoing history are open to revision: what the members of such a community hold and what reality holds can never be identified, except provisionally.
>
> (Colapietro, 2006: 302)

A number of other pragmatists also influenced the development of Lipman's community of inquiry approach. In accordance with Peirce's notions of communities of inquirers, Peirce, Holmes, James and Dewey shared the view that ideas are socially constructed, dependent on the environment in which ideas are constructed, and contingent (Menand, 2001: XI). Garrison and Neiman point at pluralism as one of the ideas put forward by pragmatism (2003: 22), and Bernstein (1991) talks of 'engaged fallibilistic pluralism':

> ... it means taking our own fallibility seriously - resolving that however much we are committed to our own styles of thinking, we are willing to listen to others without denying or suppressing the otherness of the other. (R. J. Bernstein, 1991: 336)

This notion has clear relevance for the dialogic spirit of the Community of Enquiry, and has some concordance with the Bakhtin's notions of multi-voicedness (Wegerif, 2006; Engeström & Sannino, 2010: 5). Lipman was particularly influenced in his development of the community of inquiry by the educational ideas of John Dewey (Lipman, 1998; Haynes, 2002; Lipman, 2003: 36; Chandley & Sutcliffe, 2010). Dewey, according to Bernstein, 'explored the social and political consequence of the idea of community for understanding the moral idea of democracy' (R. J. Bernstein, 1991: 328)[3]. In line with Dewey's views, the community of inquiry is a social learning situation in which democracy is simultaneously the aim, the content and the teaching method (Dewey, 1897, [1916] 1966). In other words, Lipman's community of inquiry does not only teach skills which pupils will be able to use in the future, but it treats children as citizens acting in the present. Furthermore, the community of enquiry

[3] Initials given in my references indicate that in my bibliography there are other authors with the same surname.

engages in a collaborative search for meaning, and importantly, as the topics of discussion are formulated and chosen by the community, we might expect there to be high levels of interest, intrinsic motivation (Amabile, 1996; A. Kohn, 1999) and engagement (Dewey, 1897; Pardales & Girod, 2006; Dewey, [1916] 1966). However, the community of enquiry is open to Burbules' (2000) and Lefstein's (2006) criticism of dialogue. Already in 1962, Bruner wrote about Dewey's *My Pedagogic Creed* (1897):

> … the very wholesomeness – the optimism, the pragmatism, the acceptance of man's harmonious continuity with society – leaves one uneasy. For in the two thirds of a century between 1897 and today, there has been a profound change not only in our conception of nature but also of society and the world of social institutions… (Bruner, 1979)

Yet, as Bernstein (1991) has suggested, pragmatist ideas are seen by their advocates as imperfect and contingent and subject to development by their very nature. It is in this critical spirit that I have aimed to carry out this study.

Lipman (1991) was also clearly influenced by Vygotskyan theory, which I will discuss later in this part of the Literature Review. There is evidence that Dewey and Vygotsky were strongly influenced by each other's thinking (Glassman, 2001), and a number of authors (Popkewitz, 1998, in Daniels, 2001: 5; Glassman, 2001; Bleazby, 2006a) have discussed similarities between them. Glassmann (2001) has described some interesting differences between the views of these two highly influential figures, but pointed out that they shared the pragmatic view that all teaching and learning is conditional and contingent, and depends on social history, experience, culture and human inquiry. Furthermore, and with relevance to my research question 8 about the individual/social perspective, Bleazby (2006a) has pointed out that Dewey and Vygotsky agreed on a strong rejection of a dualism between these notions.

Philosophy for Children

The Philosophy for Children (P4C) programme was developed by Matthew Lipman and a team of his colleagues at Montclair State University since the late 1960s (Lipman et al., 1980; Fisher, 1995: 156; A. M. Sharp, 1995; Lipman, 2003), and is, in its methods, to a large extent based on the work of Vygotsky, Peirce and Dewey (Lipman, 1991; Gregory, 2007; Chandley & Sutcliffe, 2010: 11). The main purpose of P4C is the development of higher-order thinking skills:

> The main purpose of a program in philosophy for children is to help children learn how to think for themselves. (Lipman et al., 1980: 53)

These skills were later identified by Lipman (2003; Moseley et al., 2005: 157; McGregor, 2007) as critical, caring and *creative thinking*. Lipman (1995; A. M. Sharp, 1995; Lipman, 2003; Haynes, 2007) saw these skills as essential for the development of *reasonableness* and an 'ethical consciousness' in individuals (Lipman et al., 1980; McGregor, 2007), and *democracy* in society as a whole. Other authors have added the element of *collaborative thinking* (Chandley & Sutcliffe, 2010) to Lipman's triad of skills. According to Lipman (1991, in Moseley et al., 2005) enquiry, reasoning, information-

organising and the ability to apply meaning from one system to another are the most important skills to be developed in education.

In P4C participants form a community of enquiry. In educational settings this usually consists of the whole class, with the teacher acting as facilitator. This community of enquiry engages in collaborative Socratic dialogue which is philosophical in content (Fisher, 1995; Murris & Haynes, 2000; Haynes, 2002). Importantly, the participants' questions are central to the enquiry, based on Dewey's observation that

> Demand for the solution of a perplexity is the steadying and guiding factor in the entire process of reflection. (Dewey, [1910] 1997: 11)

Lipman and his team produced a range of materials for work with pupils aged 3 and upwards (Fisher, 1998; Sutcliffe & al, 2007: 46), and P4C is now practised in over 60 countries in the world (Sigurborsdottir, 1998; Bleazby, 2006a; Hannam & Echeverria, 2009; Nottingham et al., 2009). P4C has been recognised in the UK as a method for teaching thinking skills for a number of years (Coles, 1995; Sprod, 1995; Leat, 1999; Higgins et al., 2001; Leat & Higgins, 2002; Trickey & Topping, 2004; Higgins et al., 2005; H. Jones, 2008b), although Moseley et al. (2005: 26, after Fisher, 1998) point out that 'it can be better described as a pedagogy to support thinking *and judgement* rather than a thinking skills programme'. In the UK, the principles and format of Lipman's approach are used more frequently than the original textbook materials: the approach has been adapted in a range of ways, and is covered by a number of names, e.g. Community of Philosophical Inquiry (McCall, 2009); Philosophical Enquiry (Trickey & Topping, 2004); Philosophical Inquiry (Topping & Trickey, 2007a, 2007b); philosophy with children (Haynes, 2002, 2007) and Philosophy for/with Children (Chandley & Sutcliffe, 2010), or what McCall calls 'the SAPERE approach' (McCall, 2009: 106). A main adaptation was Murris' (1992; Murris & Haynes, 2000; Haynes, 2007; Haynes & Murris, 2012) introduction of the use of picture books as a stimulus for enquiry, rather than Lipman's programme resources. This approach has been adopted by many P4C practitioners in the UK, and extended to the use of a wide variety of stimuli (Nottingham et al., 2009; Chandley & Sutcliffe, 2010).

The general format of a P4C enquiry, which was to a large extent used in the Community of Enquiry sessions in my study, is as follows: the group, which usually consists of the whole class and teacher, are seated in a circle. To start with, a thought-provoking stimulus, often in the shape of a story, is presented by the facilitator, after which the participants are given time to reflect on the issues it raises. In small groups or pairs, participants then formulate questions which are shared with the group. In P4C 'proper' the facilitator encourages participants to ask questions of a specifically philosophical nature. Next, one of these questions is chosen for discussion by the group as a whole. The facilitator then guides the group in dialogic enquiry focused on the chosen question, and the session is often closed with a 'last words Round' and/or debrief (Higgins et al., 2001; Chandley & Sutcliffe, 2010). The objective of the sessions is not to reach consensus, but, as McGregor (2007) points out, 'to encourage thinking by interpreting, exploring ideas, proposing ideas, agreeing and disagreeing, and posing questions'. In the enquiry participants build on each other's arguments through agreement and

disagreement, and use of the terms 'I agree with... because...' and 'I disagree with… because..' is often explicitly encouraged by the facilitator (Higgins et al., 2001). To achieve an open and constructive dialogue, it is essential that rules are established and that a climate of trust, respect and open-mindedness is created within the community of enquiry, in which all participants feel confident that what they will say is accepted (Haynes, 2002: 66; Alexander, 2006; Haynes, 2007). Pardales and Girod (2006) remark that this is only likely to be realised by teachers who have both experience and interest in the development of a group of this kind. Trust and confidence have, as I discussed in section 2.1.3 of this chapter, been identified as fundamental conditions for collaborative creativity (Amabile, 1996; John-Steiner, 2000; Miell & Littleton, 2004).

A range of benefits of P4C has been identified (Higgins et al., 2005; Moseley et al., 2005; Chandley & Sutcliffe, 2010). These include cognitive gains (Trickey & Topping, 2004; Topping & Trickey, 2007a); and the development of critical reasoning and dialogue skills, as well as social and emotional skills (Sigurborsdottir, 1998; Topping & Trickey, 2007b; H. Jones, 2008b, 2010). However, P4C is not without its critics. According to Robinson (1995), there are those who feel that abstract philosophical thought is not a worthwhile and achievable activity for children. Ecclestone and Hayes (2009) have commented that P4C is one of a range of educational methods which makes pupils too self-absorbed and obsessed with emotions, a claim refuted by Haynes (Murris et al., 2009). Barrow has argued that P4C facilitators are not always able to tolerate 'the perplexity and discomfort of genuinely open dialogue' (Barrow, 2010), and Alexander (2006: 32) has argued that the 'Socratic method' is not dialogic, as it 'elicits what is already known'. Similarly, Baumfield (2001b) has argued that an emphasis on *philosophical* enquiry is a deviation from Peirce's and Dewey's original notion of the community of inquiry, as pupils may be guided towards the (philosophical) interest of the teacher, rather than following their own (group) interest. The latter observation was the main rationale for the alternative approach used in my study, which I discuss in the next section.

The Community of Enquiry approach used in this study

In my study I used the format and general procedures of a P4C session described in the session above, and strived to create a Community of Enquiry with the same affective intentions as Haynes has described (2002). However, following Baumfield's (2001b) advice, I did *not* encourage the pupils to choose philosophical questions, and the enquiries were not of a specifically philosophical nature, either in their content or their method. This decision, which implied a relatively low level of facilitator intervention, was made on the basis that this approach would allow the enquiries to primarily follow the interests of the pupils. In this approach pupils' own ideas would thus determine the flow of the dialogue more than is, arguably, possible with higher levels of teacher intervention – in the form of, for example, inviting *philosophical* questions, probing responses and asking sub-questions – as is the case in the facilitation of P4C sessions, It could be said that this approach was closer to Peirce's original meaning of the community of enquiry as discussed earlier in this section, and that in this approach the conceptual integrity of the community of enquiry was highly respected (Baumfield, 2001b). I thus aimed to follow the interests of the pupils and to give them opportunities to share their thoughts (Dewey, 1897) without feeling that these had to be of a particularly philosophical nature.

This, in my view, would provide a rare opportunity for my pupils to 'set the agenda' and to engage in a more genuine dialogic enquiry. This approach is similar to that described by Higgins et al. (2001) and Baumfield and Mroz (2002). As I have mentioned in the Introduction chapter, Baumfield and Mroz's study marked the beginning of both my professional engagement with the Community of Enquiry, and my academic engagement in education research. In their study, Baumfield and Mroz (2002) found that the Community of Enquiry increased pupil motivation. They also observed that pupils began to see their own questions as important, and identified an improvement in pupils' listening and reading comprehension, as well as in their ability to produce reasoned arguments. Furthermore, they identified pupils' questions as a diagnostic tool for the teacher.

On the basis of my discussion of *learning* earlier in Section 1.2.1 (Mercer & Littleton, 2007: 3), learning in such Communities of Enquiry can relate to a number of aspects. Through dialogue, participants can collaboratively 'make sense of the world and take on new perspectives' (Mercer & Littleton, 2007: 3). As a result, it can aid their conceptual development (Wood, 1998), and they can learn and develop such skills as problem solving (Mercer & Littleton, 2007: 3), reasoning (Higgins et al., 2001), negotiating and other forms of social interaction. The formation of judgements (Lipman, 2003), language skills (Whitehead, 2010), and the imagination (Craft et al., 2001) may also be developed, as well as cultural understandings – for example, the conventions and discourse relating to the meaning of fictional narratives.

2.3 A socio-cultural framework

2.3.1 *Vygotsky's work*

Like many other educators (Wood, 1998; Wells & Claxton, 2002; Bruner, 2006; Mercer & Littleton, 2007; Alexander, 2010), Matthew Lipman was strongly influenced by the work of Lev Semenovich Vygotsky, and this influence shaped Lipman's development of the community of inquiry (Lipman, 1991, 2003). In this section I will explore the theoretical framework provided by Vygotsky, and how creativity is viewed within that.

The developmental framework referred to as socio-cultural theory (Wells, 1999; Daniels, 2001; Wells & Claxton, 2002; Moran & John-Steiner, 2003; Lefstein, 2006; Mercer & Littleton, 2007) largely originates in the work of Vygotsky, and in aspects of earlier cultural-historical theory by which Vygotsky himself was influenced (Moran & John-Steiner, 2003). Cole and Wertsch (1996: 251) point out that cultural-historical psychology is based on the notion that the achievements of our predecessors are reified in the cultural environment in which we live and that this has a profound influence on our psychological processes. They trace the origins of this theory back to Hegel and Marx, but also point out Dewey as a cultural-historical theorist. With reference to research question 8, relating to the relationship between the individual and the social, it can be pointed out that for Vygotsky and cultural-theorists generally, the social world is ultimately superior to the individual perspective:

> Society is the bearer of the cultural heritage, without which the development of mind is impossible.
> (Cole & Wertsch, 1996: 253).

This is not to say that Vygotsky sees the two as oppositional. In fact, Cole and Wertsch (1996: 254) comment that in Vygotsky's work the relationship between the individual and the social environment is dynamic to the extent that his work 'calls the very boundary between social and individual into question'. As Vygotsky himself put it:

> Our speech, that is, all our utterances (including creative works) is filled with others' words, varying degrees of otherness or varying degrees of 'our-own-ness'..
> (1986, in Wells, 1999)

In the Russian cultural-historical tradition, theorists have, according to Cole and Wertsch (1996: 252), put much emphasis on the *cultural medium*. According to this view, what makes humans human is their need and ability to use artifacts, or tools, to mediate their actions and to arrange for the appropriation of these forms of mediation, which I will discuss in the next section, by successive generations. This view permeates Vygotsky's work, which focussed primarily on development as a dialectical and social process, with language as the primary form of mediation (Vygotsky, 1978; Wells, 1999). Cole and Wertsch (1996: 252) point out that Vygotsky's emphasis on *cultural mediation* is the most important difference between the work of Vygotsky and that of Piaget. Moran and John-Steiner (2003: 65) describe how in Vygotsky's framework all mental functions are initially experienced in social interaction: we know about, and co-construct, the world through transforming the information we receive through our interaction with the speech and actions of others.

Moran and John-Steiner point out that *change over time* is the key to understanding Vygotsky's framework (2003: 62, 66). Change is seen in three timescales: a microgenetic timescale which is situated within short-term activities; an ontogenetic timescale which is situated across an individual's life; and a socio-cultural historical timescale, situated in the development over time in a particular culture. Wells (1999: 5) mentions that Vygotsky also specified a fourth timescale, that of phylogenesis, or development in the process of human evolution, but points out that most recent work in the Vygotskyan tradition has focused on microgenetic and ontogenetic analysis of development (ibid.). In this study, pupils' creative thinking will be viewed both from a microgenetic perspective, which will focus on the momentary changes during Community of Enquiry sessions, and from an ontogenetic or temporal (Mercer, 2008a) perspective, in which I will look at the changes that occurred over the school year.

Mediation and internalisation

As individuals synthesise the influences of those around them through cultural mediation, these, according to Vygotsky, become the basis on which the individuals construct their new concepts and mental strategies (Moran & John-Steiner, 2003: 65). This cultural mediation happens through the use of *tools*, *signs and artefacts.* Daniels (2001: 15) points out that Vygotsky described psychological tools as 'devices for mastering mental processes' which were of a social and artificial (rather than natural) nature, including language; 'number systems; mnemonic techniques; symbol systems; works of art;

writing; diagrams; maps; all sorts of conventional signs'. Thus, psychological tools are used to influence our own thinking and behaviour and that of others. Psychological tools which are used In the Community of Enquiry are first and foremost the language used (Wells, 1999: 7; Moran & John-Steiner, 2003: 66; Lefstein, 2006), as Vygotsky([1934] 1986: 6) put much emphasis on the interrelatedness between thought and speech. Kozulin (1986: XXX) points out that language and speech, according to Vygotsky, are simultaneously a tool for the development of other mental functions, and develop as such functions themselves. Both Cole and Wertsch (1996: 252) and Wells (1999) refer to language as 'the tool of tools'.

The language used in the Community of Enquiry includes specific vocabulary related to collaborative cognitive processes such as *ask, question, think, disagree/ agree, why, because, idea*, etc., but also all other forms of language used and their meanings (Cole & Wertsch, 1996: 252; Vygotsky, 1987, in Wells, 1999; Carter, 2004; Alexander, 2006; Whitehead, 2010) as well as non-verbal forms of communication (Bruner, 2006: 121; Whitehead, 2010: 103-106). The actual structure and procedure of a Community of Enquiry session, can, I believe, also be seen as a psychological tool, as can books and other narratives used as stimuli at the start of the sessions.

Inner speech (Wells, 1999: 7; Vygotsky, [1934] 1986) is another important element in Vygotskyan theory. Speech, according to Vygotsky, is first experienced in interaction with others. Consequently, the functions of speech are increasingly internalised through the use of internal, symbolic, and psychological functions (Moran & John-Steiner, 2003: 63) and become a method for self-directed mental activity. However, Wells (1999: 117) cautions that the term *internalisation* is misleading, as it suggests that the function in question is transferred from *outside* to *inside* the learner, and that this is a mechanical and sequential process. Instead, Wells stresses, the process of *appropriation* involves a gradual but active construction by the learner of the behaviour and words of others, and a growing ability to act independently. The individual personality as embodied 'social mind' is the result of this continuing process (Moran & John-Steiner, 2003: 63). The development of children's higher mental functions, including creative thinking, or *imagination* as Vygotsky referred to it ([1967] 2004), is thus based on children's ability to learn interaction through the use of various sign systems, primarily language (Vygotsky, [1967] 2004). Moran and John-Steiner (2003: 66) further point out that the development of higher mental functions is never completed, but that these develop and interact with other higher mental functions into adulthood. As the functions develop, so do the relationships between them, and it is this which leads to increased flexibility and complexity of thought. Connections can be drawn here to the development of creativity discussed in section 2.1.5 , in which creativity was seen as the ability to make connections and reassemble information.

The zone of proximal development

One of the foundations in Vygotsky's argument is the zone of proximal development (Wood, 1998: 98; Mercer, 2008a; Vygotsky, [1934] 1986: 187), or ZPD (Daniels, 2001), which Cole and Wertsch (1996) define as 'the distance between the level of actual development and the more advanced level of potential development that comes into existence in interaction between more and less capable participants'. In the ZPD someone with a lower level of skills learns by collaborating and interacting

with someone with a higher level of those particular skills. Daniels (2001: 59) argues that Vygotsky did not specify whether within this collaboration *scaffolding* is negotiated or, as a one-way process, presented to the novice by the higher skilled participant. In some ways, the Community of Enquiry can be seen as a joint and dynamic zone of proximal development. In relation to any of the areas of learning in the Community of Enquiry which I discussed in an earlier section, each of the participants may offer and receive *scaffoldin*g to and from a varying number of co-participants, with participants feasibly acting as both less and more capable than other participants simultaneously (Brown et al., 1996, in Daniels, 2001: 119). The Community of Enquiry thus seems to illustrate Wertsch's point (1998, in Daniels, 2001: 80) that mediated action often serves multiple goals, but that goals and roles can conflict with each other. In accordance with previously discussed findings from research in social creativity (Miell & Littleton, 2004; Eteläpelto & Lahti, 2008), Miller (2004: 306) points out the importance of personal and relational aspects in the zone of proximal development. Similarly, Mercer and Littleton (2007) mention that collaboration in classrooms can often be 'unproductive and inequitable', and that, once again, an atmosphere of mutual trust and respect is essential for successful collaboration (Haynes, 2002: 66, 2007; Mercer & Littleton, 2007: 32, 33).

Creativity from a Vygotskyan perspective

Moran and John-Steiner (2003: 62) have described Vygotsky's career as 'framed by work on creativity'. They point out that he studied creativity both at the beginning and end of his short life and produced a synthesis between such aspects as aesthetics, experience, emotion and creativity as social experiences. Vygotsky regarded creativity, or imagination, as fundamental both to the development of individuals and to human development ([1967] 2004), and, along with change, saw creativity as an intrinsic characteristic of all action and interaction (Wells, 1999: 43). Moran and John-Steiner (2003: 62) have identified similarities between Vygotsky's views on creativity and Csikszentmihalyi's systems model in which the individual, the domain and the field are combined (Csikszentmihalyi, 1999). Thus, Vygotsky's theory on the interchange between interpersonal activities and intrapersonal activities offers an explanation of the dynamic impact which the elements of Csikszentmihalyi's model have on each other. Daniels (2001: 36) explains the concept of dialectics as a system in which internal contradictions drive development. Using this concept, Moran and John-Steiner point at the dialectic interrelatedness of development, which involves internalisation, and creativity, which involves externalisation. As I mentioned in the previous section, Vygotsky saw internalisation as the active engagement with, and transformation and reorganisation of, existing cultural information and ideas. This contrasts with externalisation, which is, according to Moran and John-Steiner, the 'construction and synthesis of emotion-based meanings and cognitive symbols'. These creative products, in turn, become part of the culture, knowledge and belief system (Engeström, 1999: 26). Moran and John Steiner thus see externalisation as 'close to Western psychology's notion of creativity' (Moran & John-Steiner, 2003: 63), see Figure 1.

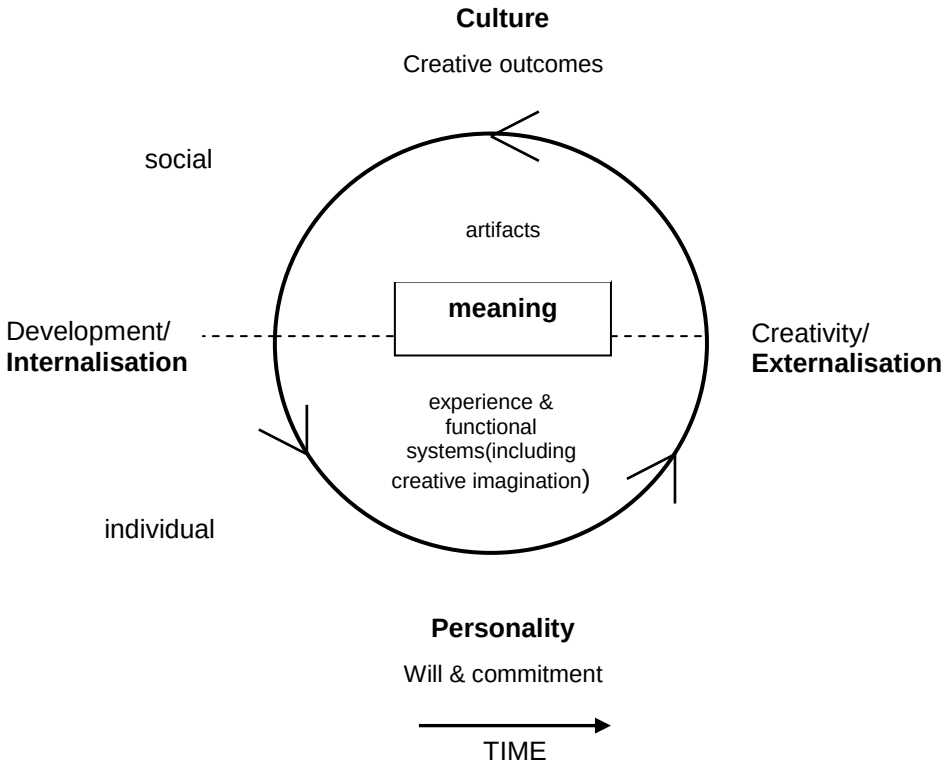


Figure 1: 'A visual representation of Vygotsky's dialectical conception of development and creativity' (Moran & John-Steiner, 2003: 64)[4]

Although I agree with Moran and John-Steiner (2003: 63) that there appears to be a resemblance between creativity in the sense discussed in section 2.1 and externalisation, there are a few differences. Firstly, Moran and John-Steiner's concept of creativity is of the 'H' rather than 'P' category (Boden, 2004: 2) and evidently product-orientated (Moran & John-Steiner, 2004). If we take a 'P' and process-orientated view instead, it could be said that creativity is not necessarily externalised (Nickerson, 1999: 396; Tikhomirov, 1999: 349): We can arguably have an original, and in our view effective thought - in other words, learn (Dewey, [1916] 1966) - without expressing that thought into words. Secondly, if we *do* make the external creation of a creative product conditional, as in the empirical elements of this study where the data necessarily consists of expressed thoughts, it could be argued that it is the combination of internalisation and externalisation, rather than externalisation per se, which is similar to such views of creativity as Wallas has described as Incubation and Illumination (Sawyer, 2003a: 26), and which I discussed in section 2.1.5. A final, essential, difference between the view of creativity provided by cognitive psychology, as discussed in section 2.1.5, and that of Moran and John-Steiner's model is the fundamental role of social mediation in the socio-cultural model. Having identified the Community of Enquiry as a joint and dynamic zone of proximal development in this section, I believe that Moran and John-Steiner's model will be a useful tool to

[4] reproduced with permission from the publisher

explore the creative processes within this Community of Enquiry, and I will return to this model in Section 127 of the Discussion chapter, referring to it as a dialectical 'wheel of creativity'.

2.3.2 *Some questions*

Vygotsky's theoretical framework has provided us with very valuable insights into the development of mental functions, including creative thinking, through social interaction processes. However, as Daniels (2001: 86) has pointed out, early socio-cultural work focused primarily on individuals in their mediated environment and took little account of the *social structures* which affect the activity. As the Community of Enquiry is primarily a social structure, some processes are not explained in this model: what, for example, drives the 'Will and Commitment' of Moran and John-Steiner's model, in other words what may have compelled even very young participants in a Community of Enquiry to dialogically and collaboratively explore one issue for thirty minutes or more? What socio-cultural influences from outside the Community of Enquiry may have influenced the creative thinking which took place within it? And what role did power relationships (Burbules, 2000; Lefstein, 2006) play in either advancing or obstructing creative thinking (Mercer & Littleton, 2007: 33)? In order to seek possible answers to these questions, I will now turn to one of the theoretical frameworks developed from Vygotsky's work.

2.3.3 *Some answers from later socio-cultural work*

Daniels points out that post-Vygotskyan studies have evolved in three directions: as approaches which focus on mediated action, particularly language and agency; as situated and distributed learning models, such as the work carried out by Lave and Wenger; and cultural-historical activity theory (Daniels, 2001).

Expanded mediation

Work related to activity theory (Engeström, 2001; Engeström & Sannino, 2010) in particular seems to have relevance in answering the questions I posed in the previous section: it recognises goal-orientation as an important principle of activities; it situates activities in a wide social-cultural context; and it acknowledges power differences by commenting on such elements as *community, rules,* and *division of labour.*

Engeström et al. (1999: 20), have defined activity theory as follows:

> …an interdisciplinary approach to human sciences that originates in the cultural-historical psychology initiated by Vygotsky, Leont'ev and Luria. It takes the object-oriented, artifact-mediated collective activity system as its unit of analysis, thus bridging the gulf between the individual subject and the societal structure… (Engeström et al., 1999: i)

However, activity theory thus focuses on collective activity systems which develop over lengthy periods (Daniels, 2001: 86). Although we could regard the Community of Enquiry as a small-scale collective activity system, as my focus is not on change to the system as a whole, activity theory itself is not an appropriate theoretical framework for my study. Nevertheless, some elements related to Engeström's work appear to be highly relevant, and I will explore these in the next sections.

The first generation of activity theory was developed by Leont'ev, who added the notion of O*bject* (Leont'ev, 1982, in Daniels, 2001: 123, 2004) to Vygotosky's earlier concept of s*ubject* and *mediation*, to form a triangular model

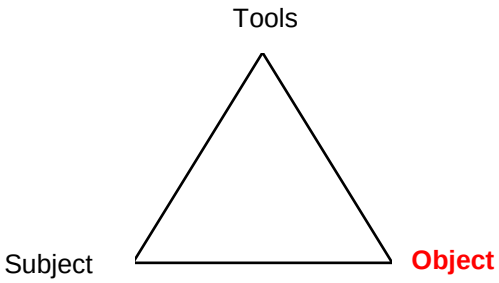


Figure 2: First generation activity theory model (Leont'ev, 1982, in Daniels, 2001: 123, 2004)

As *object* represents the goals and motivation with which a subject would engage in mediation, the model thus brought an *activity* perspective to socio-cultural theory. Engeström (1999, in Daniels, 2001: 88) has extended this perspective by identifying *community, rules,* and *division of labour* as further components of an activity system and presented this in a 'General model of an activity system' (1987, in Engeström & Sannino, 2010: 6): see Figure 3. This is a dynamic model: it is the dialectic interaction between all components of the system which develops the activity, and contradiction is seen as 'the driving force of transformation' (Engeström & Sannino, 2010: 5).

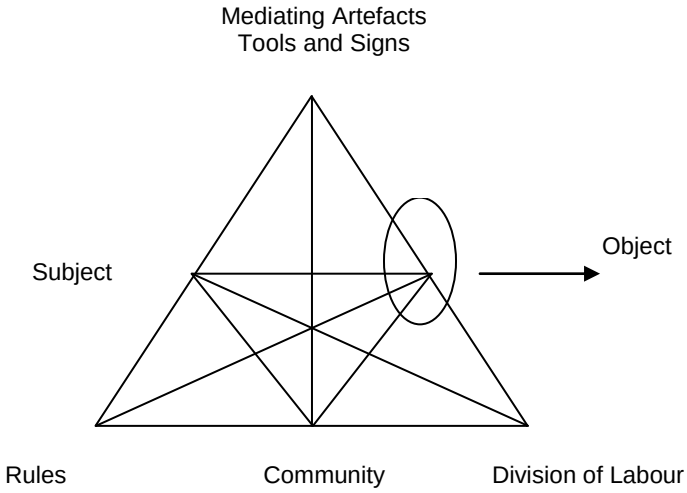


Figure 3: 'Conceptual model of an activity system' ((Engeström, 1987, in Engeström & Sannino, 2010; Daniels, 2001)

Engeström's model and the Community of Enquiry

As I will draw on this model, which Wells refers to as an 'expanded triangle of mediated action' (1999: 250), extensively in the Discussion Chapter, I will discuss each component of the model here, with reference to the Community of Enquiry. In doing so, however, I must stress that in my interpretation I

deviate from the notions intended in activity theory. Instead of viewing the Community of Enquiry as a collective, systemic process with a long-tem object or motive (Daniels, 2001: 86; Engeström & Sannino, 2010), I will focus mainly on the observable actions of individuals within the Community of Enquiry (Leont'ev, 1978, in Daniels, 2001: 86; Leont'ev, 1981, in Engeström & Sannino, 2010: 4)

Subject (Engeström & Sannino, 2010) stands for the individual, the 'embodied social mind' (Moran & John-Steiner, 2003: 63) with its multiple identities (Jenkins, 2004), or any subgroup whose perspective is chosen as the focus of analysis. In my use of the model in this study I will use *Subject* as a representation of individual pupils.

Object is, arguably, one of the most complex aspects in this model. It is defined by Engeström and Sannino (2010: 6) as the 'problem space at which the activity is directed', and '…an invitation to interpretation, personal sense making and transformation' – in other words, the goals and motivation (Amabile, 1996; John-Steiner, 2000; Boden, 2004) of the activity (Daniels, 2001). In the Community of Enquiry this could be interpreted as a range of motivating factors: firstly, it could be the enquiry itself, i.e. the drive to find an answer to the chosen question. Secondly, this motivation may originate in a comment made during the discussion which challenges further thought (Engeström & Sannino, 2010). Taking Engeström's and Sannino's (2010: 5) notion of contradiction as 'the driving force of transformation' to a microgenetic level, a challenging comment made during an enquiry may stimulate critical (Mercer & Littleton, 2007) and creative thinking in others (Moran & John-Steiner, 2003). Finally, motivation may originate in any other personal or social factors (Haynes, 2002), such as enjoyment in taking part in discussions. The notion of *Object* is also related to that of *Outcome* (Engeström & Sannino, 2010). In the Community of Enquiry we could conceive of this as a development of dialogic interaction (Wegerif, 2010) and, potentially creative, thinking (Lipman, 2003).

Instruments are Vygotsky's tools and signs, discussed in section 2.3.1 (Daniels, 2001: 15).

C*ommunity* stands for the individuals and subgroups who share the same general object. In the Community of Enquiry this could mean the group of participants as a whole, but also the various communities to which the participants belong and which impact upon them, for example pupils' family background (Vernon-Feagans, 1996; Wood, 1998; Bruner, 2006; Alexander, 2010).

Division of Labour in Engeström's model refers to both division of tasks *and* division of power and status. In the Community of Enquiry this could apply to the roles of facilitator and participants, but also to the power differentials between teacher and pupils, and pupils amongst each other (Mercer, 2000: 95), which may result from inequalities in a wider socio-cultural context (Burbules, 2000; Lefstein, 2006). Microgenetically, *Division of Labour* could also refer to the fast-changing roles of speaker and listeners (Walsh, 2006).

Finally, *Rules* refer to the 'explicit and implicit regulations, norms and conventions and standards that constrain actions of the activity system' (Engeström & Sannino, 2010: 6). Applied to the Community of Enquiry, this would resemble the conventions used (Fisher, 1998; Haynes, 2002; Mercer, 2002;

Lefstein, 2006: 3) as well as explicit and implicit school rules of behaviour (Alexander, 2006), and the wider educational context within which the school was situated.

One final element from Engeström's work is of direct relevance to my study: Engeström and Sannino acknowledge Bakhtin's notion of *multi-voicedness* (Matusov & Hayes, 2002: 245; Bakhtin, 1982, in Engeström & Sannino, 2010: 5) in the development of activity systems, meaning that conflicting and complementary voices within the community must be involved (ibid.). This, of course, is very similar to the ideas of both Dewey ([1916] 1966) and Lipman (2003), and essential to the character and success of a Community of Enquiry, and to notions of both dialogue and collaborative creativity discussed in this Chapter.

In summary, elements originating in activity theory may provide additional and valuable conceptual tools to explore features of the Community of Enquiry, and I will return to 'expanded mediation' (Wells, 1999: 250) in the Discussion chapter.

Conclusions to the Literature Review

In Sections 2.1 and 2.2 of this chapter I have discussed key aspects related to creative thinking, and to the Community of Enquiry, and in Section 2.3 I have explored some aspects of socio-cultural theory as a theoretical framework against which these key topics may be understood, and investigated.

The literature consulted will, of course, inform the further stages of my enquiry, and in the Discussion and Conclusions chapters I will address, for example, to what extent the pupils were able to think effectively (Rosenblatt and Winner, 1988, in Cropley, 2001: 91) and creatively (Paley, 1981; Craft, 2002; Csikszentmihalyi, Fedman, Nakamura in Sawyer et al., 2003: 220,223), and to what extent that thinking was distinct from, or similar to, the creative thinking of adults (Sawyer et al., 2003: 223, 224; Vygotsky, [1967] 2004). I will discuss the role of a number of factors identified as positive, such as intrinsic motivation (Amabile, 1996) and trust, support, tensions, complementarity and inclusiveness (Moran & John-Steiner, 2004; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008), as well as some of the factors identified as having a potentially negative impact, such as critical evaluations, social inhibitions and anxiety (Amabile, 1996: 120; Paulus, 2000: 241); unfriendliness (Moran & John-Steiner, 2004: 19,20) and unequal power relations (Burbules, 2000; Lefstein, 2006; Eteläpelto & Lahti, 2008: 226). In regarding my role in encouraging developing creative thinking, I will consider to what extent I achieved a balance between power and participation, and a climate of mutual trust in which tensions and conflicts could stimulate creativity (Moran & John-Steiner, 2004; Craft, 2008a; Eteläpelto & Lahti, 2008). I will also consider the effectiveness in my analysis of such conceptual tools from socio-cultural theory as the zone of proximal development (Wood, 1998: 98; Mercer, 2008a); and Moran and John-Steiner 's (2003: 63) and Engeström's (Engeström & Sannino, 2010) models.

Having thus explored some of the key issues within the literature, I will now, in the Methodology chapter that follows, discuss my methodological framework and the methods I used in the research.

Chapter 3. Methodology

Introduction

This chapter contains three main sections. In section 3.1, titled 'Methodological foundations', I discuss the conceptual choices and processes which underpin my study. Here, I explore the design of the research, my ontological and epistemological perspectives, my standpoints; ethical considerations, and issues related to reliability and validity in this study. In section 3.2, titled 'Methods', I discuss the practical elements of the research. Here, I describe such factors as the context in which the study was set, the Community of Enquiry sessions and what they entailed, the range of data gathered, and my working definition of creative thinking. This is then followed by section 3.3, titled 'Analysis of the transcripts'. Here I discuss the two types of discourse analysis which I used to investigate the creative thinking in the enquiry dialogues: the analysis of categorised responses and the analysis based on Conversation Analysis methods. I will present both in some detail, as it is these two sets of discourse analysis which have provided the core of the findings in my study.

3.1 Methodological foundations

3.1.1 *The research frame*

This is a case study. Yin describes case studies as the research method used when a studied phenomenon is seen from within a unique context or 'unit of analysis' from which it cannot easily be distinguished (1993: 3). Thomas (2011: 16) uses the terms 'subject' and 'object' to describe these as two interdependent elements of case studies. In this view, the subject of my study is creative thinking in a dialogic context such as the Community of Enquiry, whereas my object is *this* Community of Enquiry.

Similar to Thomas' description (2009: 115), Cohen et al. describe the purpose of case studies, with a high degree of relevance to my approach, as follows:

> To portray, analyse and interpret the uniqueness of real individuals and situations through accessible accounts; to catch the complexity and situatedness of behaviour; to contribute to action and intervention; and to present and represent reality – to give a sense of 'being there'.
>
> (2003: 79)

A number of types of case study have been identified. Both Yin and Thomas mention exploratory case studies alongside descriptive (Yin, 1993) and explanatory (Thomas, 2011) models. However, Yin and Thomas have considerably different views on the general purpose of case studies: Yin takes a positivist approach, shunning, for example, ethnography (1993: 46, 47), and advocates that case studies are a form of empirical enquiry, and that they should follow scientific methods in order to be able to produce outcomes which can be generalised in relation to theory (Yin, 1993: 39). However, as Freebody (2003: 84) points out, the potential to

generalise and draw theoretical conclusions from case studies is contentious: in contrast to Yin, Thomas is highly critical of overstated notions of theory in social science (Thomas, 2007), and, by taking a much more eclectic view than Yin, argues that ethnographic and interpretivist approaches can naturally be combined with case studies (2011: 124). He also argues that research in the social sciences cannot and should not follow those of natural-science research, and states repeatedly that we *cannot*, or rather need not, generalise from case studies (Thomas, 2007, 2009: 100), although he appears to have modified that view slightly in later work (2011: 108,110)}:

> ... How many more (things that only happen once) do we have to study before we can say that we can generalise? This depends on a great many factors, not least the adequacy of your sample as a representative sample. … (2011: 109)

So if, according to Thomas, generalisation from case studies is problematic, what, to him, is their purpose? Firstly, Thomas has argued (2007) that, due to the huge numbers of unpredictable variables in social science research, the validity of generalisation in *any* form is debatable in the social sciences, and that case study research is no exception in this. Instead, he uses Peirce's term *abduction,* defined as a 'loose generalisation in local circumstances' (2011: 212) and the term *phronesis*, or practical knowledge, to demonstrate the value of case studies. Finally, Thomas argues – that providing that the research is carried out carefully, with attention to research design, direction and argument – case studies can 'provide sparkling insight and analysis that is unrivalled by any other kind of research' (2011: 217). Flyvbjerg (2001, 2006) agrees with Thomas that we deduce predictive theories from any type of social science research and that phronesis, or 'practical judgment' (Haynes, 2007: 37) is of prime importance in case studies; but, on the other hand, Flyvbjerg does not dismiss the potential for generalisation from case studies:

> One can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods. But formal generalization is overvalued as a source of scientific development, whereas ''the force of example'' is underestimated. (2006: 228)

I am drawn to Flyvbjerg's (2006) 'force of example' perspective on case studies, which he has exemplified with a number of specific case studies in both the natural and social sciences, in which our understanding of phenomena was developed through the use of case studies. I therefore believe that some of the findings from this study may develop our understanding of some aspects of creative thinking, especially that of young children, in contexts such as the Community of Enquiry, even though the results themselves will only directly refer to this study.

Using Thomas' (2011) definitions, my case study was, certainly in the initial stages, *intrinsic* (2011: 98) in the sense that I had no ulterior motive other than my own personal curiosity and the wish to carry out the research. Although I hoped that it would ultimately be awarded with a research degree, this was neither of direct perceived benefit, nor an external expectation. My case study is also *explanatory* (ibid.: 101) in the sense that I set out to gain a deep

understanding aimed at *testing a theory* (ibid.: 115), namely Lipman's (2003) claim that creative thinking is developed in the Community of Enquiry. Finally, it could be seen as a *nested* case study (Thomas: 153), in that each of the facilitated 19 enquiries could be seen as a separate unit of analysis (Thomas, 2011: 16), but that creative thinking in this emergent Community of Enquiry as a whole was the object of the study.

Thomas points out that research 'design frames', such as case study, action research, comparative research, ethnography, evaluation and experiment are not exclusive: they can be used in combination with each other (Thomas, 2009: 100), providing that design frames used are based in the same paradigm (ibid.: 141). In my case study, which is based in the interpretivist paradigm (as I will explain in the next section), there is a degree of similarity with other design frames. For example, there is some resemblance to action research: the data were gathered during my practice as a teacher, and to some extent depended on a processes of 'reflection-in-action and reflection-on-action' (Schön, 1996). And even though my aim was not primarily to *change* this practice (Cohen et al., 2003: 227; Thomas, 2009: 112), the assumption can be made that there was both an underlying desire to improve my practice (or at least for it not to become *less* effective), and that my practice changed as a result of the research. Similarly, there are some similarities with ethnography, as I was a participant observer, and tried to 'see outside myself' (Thomas, 2009: 119) in order to fully understand the creative thinking in this Community of Enquiry, particularly in the analysis based on Conversation Analysis methods (see part 2 of this chapter). Finally, the study also has aspects of a longitudinal study, as it looked at pupils' development of creative thinking over the 10-month period in which the 21 Community of Enquiry sessions were held. This is particularly significant if we consider that this period constituted around 15% of the lifetime of the pupils involved.

3.1.2 *Ontological and epistemological aspects of this study*

Ontology and epistemology are essential elements of social science research, which determine our methodological framework (Grix, 2002: 176; Cohen et al., 2003: 5). The focus of ontology is the nature of reality, about what 'is', or as Stainton-Rogers (2006: 79) puts it: 'Ontology is about the nature of the world - what it consists of, what entities operate within it, and how they interrelate to each other'. Epistemology, on the other hand, focuses on knowledge, on what and how we can know, and how we can know that. It is 'the study of the *nature of knowledge* – what counts as valid knowledge, and 'how it can be gained' (Stainton-Rogers, 2006: 79, original emphasis retained). Thomas (2009) has expressed the concern that an unquestioning use of these terms can lead to formulaic overstatements and, interestingly in the context of this study, can suppress elements of researchers' creativity (2007). I will therefore explore some of the ontological and epistemological issues within this study briefly and with caution.

Ontology

Ontologically, it could be argued that a number of elements in my data *could* be seen from an positivist perspective, which Cohen et al. (2003: 8) describe as a methodological stance which originates in the belief that all true knowledge is 'based on sense experience and can only be advanced by means of observation and experiment'. After all, some of my data *could* be examined with a level of objectivity and with aims similar to those which can be employed in the natural sciences: a certain number of sessions *did* take place, during which a certain number of pupils were present or absent, and during which they and I sat on chairs placed within a circle, etc. If we take Smith's view that it is not possible for people with a brain *not* to be thinking (Smith, 1992), we can also say that *thinking* will have taken place.

However, the two foci of my study, the concepts of creative thinking and that of the Community of Enquiry, are not only difficult to observe and to observe objectively, but also in themselves socially constructed: the identifiable existence of creative thinking depends on a number of definitions, assumptions and interpretations, some of which I discussed in the Literature Review of this study (Csikszentmihalyi, 1996; Fisher, 2000; Craft, 2001; Lipman, 2003). Using 'the generation of ideas which are both novel and valuable in the given context' (Sternberg, 1999; Cropley, 2001) as the definition of creative thinking, a number of questions can be asked in the context of the Community of Enquiry. What, for example, do we mean by a 'novel' idea, and which ideas are valuable? Csikszentmihalyi's (Sawyer et al., 2003: 220) notion that children are not capable of creativity serves here as evidence that interpretations would differ. The complexity is increased further if we consider that not only are conceptual understandings of the term 'creative thinking' socially constructed, but that creativity itself is the outcome of social interaction (John-Steiner, 2000; Moran & John-Steiner, 2004), and, furthermore, that I had been a participant in this study's interaction myself.

Similarly, with regard to the Community of Enquiry, this *could* be seen as the procedural form of participants seated in a circle, discussing a chosen questions with the aid of a facilitator, in which case it could be said that this had taken place and *was*, in fact, the setting or object (Thomas, 2011: 16) of this study. But understandings of the Community of Enquiry vary, too, and it could be argued that the Community of Enquiry sessions in this study only in part and at times approached Lipman's description of Communities of Inquiry (Lipman et al., 1980; Lipman, 2003). In other words, to what extent this Community of Enquiry had *existed* could be debated, and depends on interpretations and understandings. Furthermore, as I had been a member of this Community of Enquiry it would have been naïve to assume that I could take an objective view towards its processes and outcomes. An interpretivist understanding of the existence of creative thinking and the Community of Enquiry, in which the emphasis was on *understanding* rather than on explanation, was therefore appropriate. Thomas outlines the following elements of the interpretivist paradigm as follows:

- Knowledge is everywhere and is socially constructed.
- All kinds of information are valid and worthy of the name 'knowledge', even things 'of the mind'.
- Specific accounts inform each other.
- The act of trying to know should be conducted such that the knower's own value position is taken into account in the process. (2009: 73)

Thomas (2009) argues that that it is very important within an interpretivist methodology that analytical frameworks are set out clearly to ensure that a 'robust and balanced' approach is maintained, and in later sections of this chapter I will indicate what these consisted of in my study.

Epistemology

Having established that the *existence* of creative thinking in this Community of Enquiry could only be approached from an interpretivist perspective within the parameters of chosen understandings and definitions of 'novel' and 'valuable', as well as of 'the Community of Enquiry', it would follow that epistemologically I could only *know about* the creative thinking in this Community of Enquiry by taking an interpretivist approach, too. However, at times, creative thinking appeared to have outwardly observable and identifiable features, which might have indicated that a more positivist approach might have been appropriate. An example of this is presented in the following line from Enquiry 17:

Karl '[((jumps up)) AH! That gave me an idea!'

Here, Karl has clearly identified his own idea as new and of value, and he expresses his enthusiasm both in speech and by his action of jumping up. However, although actions such as Karl's were clearly very useful in signifying when pupils were aware of their own creative thinking, the analysis could not solely depend on them, as most ideas were stated *without* such obvious signs of pupils' self-awareness of the creativity involved. Therefore, observable, empirical and in-situ evidence could not be relied upon as the only source of data which could lead to knowledge, and an interpretivist approach was thus, again, more relevant. Having established this, I had to determine to whom ideas should appear, or be *known,* as novel and valuable: to the pupil generating it; to other members of the Community of Enquiry, including me in the role of facilitator as the 'field' of experts (Csikszentmihalyi, 1994), or to me in the role of researcher? The nature, aims and logistics of this study determined that I as a researcher, initially in discussion with my supervisor[5], would judge the creative thinking evident in this Community of Enquiry: not only were my opportunities to gather detailed pupil views limited, but it would also have been difficult to discuss and establish consistent criteria for their creative thinking with them, or indeed to rely on my in-action (Schön, 1996) responses. Having decided that the creative thinking evident in the study would be judged by

5 My thanks go to Steve Higgins for his time in helping me to develop frameworks for understanding creative thinking.

myself in my role as researcher, it was important to maximise the robustness (Thomas, 2009) and validity of my judgements. In order to do this, I set up analytical frameworks for each of my two major methods of analysis, through inductive reasoning processes. Using these methods and frameworks, which I will describe in sections 3.2 and 3.3, and which took into account pupils' views of their own and each other's ideas where observable, I was able to operationalise and identify forms and degrees of creative thinking, which I could then explore, discuss, understand and, within the parameters of this study, *know about*. All stages and processes of the study have been the subject of thorough and repeated cycles of my critical reflection.

Further points related to ontology and epistemology

My study is thus both ontologically and epistemologically situated in the interpretivist paradigm (Thomas, 2009: 76). However, the various methods I used in this study, which will be discussed in later sections of this chapter, do not all follow an equally interpretivist line: Grix has argued that methods can be seen as 'free from ontological and epistemological assumptions' (2002: 180), and my methods can be placed on a positivist-interpretivist continuum (Thomas, 2009: 83), which is also to a large extent chronological. Firstly, the Torrance Test of Creative Thinking (Torrance, 1990b) which provided a small and early part of the data, and which I will discuss in section 3.2.3, is based on the positivist view that children's capacity for creativity is fixed and can be determined through psychometric tests. On the continuum, this could be followed by my first discourse analysis of the transcript data, the analysis of categorised responses, in which I constructed, described and applied criteria categories. Both this and the outcomes from the Torrance test led to a quantitative data-set. Further towards the interpretivist end of this continuum, I took a much more qualitative approach in the second discourse analysis, which was based on methods originating in Conversation Analysis. As Thomas has pointed out:

> ..in the real world we use all kinds of reasoning to come to our conclusions about the evidence that we collect. It is not a question of one or the other. (2009: 80)

Whilst not denying the utmost importance of rational analysis and serious thought in education research, Thomas goes on to argue the value of serendipity, intuition and creativity in order to allow educational research to make progress. In this, he warns of the dangers of education research being too constrained by theory and the strict adherence to orthodox methods:

> Most advance in thought and practice comes not from paying due regard to what is established, from conforming to correct procedure. It comes from the dismissal of that existing thought - from rapture rather than conformity… Creative events (are) not only atheoretical, but in some cases anti-theoretical, with what might be called 'serendipitous noticing' inverting received theoretical understanding. They were made by the chance confluence of noticing something unusual and a human quality that one might call creative intuition. They certainly did not rely on the academic technology of rationalism, with its

> heavy emphasis on what-went-before and using the 'right' methods. … My fear is that theory encourages research in education too often to be research created in its own image, forever iterating its own findings and reiterating its own beliefs, obsessed with its procedures and locked in its own involuted literatures. (2007: 91-96)

Thomas' views reflect and, I believe, justify my eclectic, somewhat loose, but, possibly, 'creative' use of a range of teaching and research methods in this study: the Community of Enquiry in this study, for example, is not built fully according to Lipman's Philosophy for Children (Haynes, 2002; Lipman, 2003; SAPERE, 2007) guidelines, the research straddles the domains of cognitive and discursive psychology as much as it does education, and in the analyses I borrow from both Grounded Theory and Conversation Analysis methods, without using either fully and completely. Similarly, in the Discussion chapter I will return to, and draw on, a number of theoretical perspectives to explore the findings, but again will take some liberty with the original frameworks in which these were developed.

Finally, I must point out my ontological assumption that far more creative thinking took place than that which could be expressed, recorded and analysed. Firstly, it was clear from my teacher observations and the video recordings that many children who expressed the wish to get a turn in the dialogue by putting up their hands, were not able to get one. It seems reasonable to assume that many of these unexpressed thoughts would have been creative in the context of this study. Secondly, it is also likely that many creative thoughts were had during the dialogue, by children who did not feel the need or wish to share them with the group, or who believed they would not get the opportunity to do so. The thinking which *was* expressed and analysed can thus be assumed to have been only 'the tip of the iceberg'. There is no evidence of the nature of this 'hidden thinking' in the transcript data, and I will not explore it in the Findings chapter. However, in the Discussion chapter I will return to the important assumption that much creative thought was almost certainly generated, although it was, in the methods I used, epistemologically out-of-reach.

3.1.3 *My standpoints*

Although objectivity is, arguably of secondary importance in interpretivist studies, Thomas (2009: 110) points out that is essential for interpretivist researchers to make their position explicit, as it is this position which informs both their observations and their interpretations. This position or *standpoint* (G. Edwards, in press) includes a range of affective, social, cultural, biographical and ideological elements (Holliday, 2007; Thomas, 2009: 110) of the researcher's identity. In Edwards' defence of standpoint theory from a critical realist perspective in which objectivity *is* essential, and for which, as she points out, a reflexive and dialogical engagement with, often tacit, elements of standpoint is necessary, she writes:

> Given our standpoint, or structural location, neutrality in human knowing is impossible because the objects of our knowledge include the value-laden social structures and conventions *of which we are a part.*
> (G. Edwards, in press: 8, original emphasis retained)

I will now explore some of my, at times, contrasting positions in this study in order to maximise clarity and transparency. Although I have strived for consistency in such elements as notions of the Community of Enquiry and pupils' creative thinking, differing but interrelated standpoints of three of my identities (Jenkins, 2004) can be detected in this study: my standpoints as *teacher-facilitator*, my standpoints as *teacher-researcher* and my standpoints as *academic researcher*.

Firstly, my role as *teacher-facilitator* during the data gathering was not only informed by my earlier-mentioned enthusiasm to carry out this study, but also by my relationships with, and knowledge of, the pupils as their class teacher for four days per week[6]. As I had already been the Year 2 pupils' class teacher during the previous year, my relationships with that group were already well-established at the beginning of the year. Although I had not worked with the Year 1 pupils before, they, too, had quickly settled into the class. Of course, the strength and precise nature of my relationships varied between individual children, but I felt a degree of affection towards all of them, and enjoyed working with the class as a whole. My facilitation was also influenced by my understanding of research validity, which was, at the time, based on a rather positivist perspective: in order to avoid influencing the data I perhaps stimulated creative thinking in my overall teaching less during that year than I did in other years. My other professional duties also impacted on my facilitating practice. This was sometimes favourable, for example by being able to refer to other learning activities within the Community of Enquiry and vice versa. However, at times there were tensions between my different teacher responsibilities: the time and energy I could afford for the Community of Enquiry sessions was limited throughout the year, and especially in the Summer term, as the Year 2 pupils had to take the end-of-Key-Stage SATs tests. During this time fewer enquiries were held, a phenomenon which I have explored elsewhere (H. Jones, 2010). Finally, as the first analysis was initiated during the data-gathering year, my facilitation of enquiries was influenced by early findings identified in my role as teacher-researcher.

Secondly, as *teacher-researcher*, my role was, at times, also hampered by my other duties as the class teacher, for example, by the limited time available to gather additional data, through, for example, pupil interviews. On the other hand, I believe that my interpretations were helped not only by the observations and fieldnotes made after each session, but also informed by my knowledge and understanding of the pupils and their backgrounds through my class teacher role, for example in understanding pupils' recorded speech. In view of the importance of this issue for the research I will expand on this knowledge of the pupils at the end of this section, but in the context of my role as teacher-researcher it is evident that this knowledge made it possible for me to interpret pupils' intentions with more accuracy than I would have been able to if I had not known the pupils. Conversely, it could also be argued, that my understanding of the pupils may, at times, have led me to make prejudiced interpretations based on less than

[6] In order to carry out this study I was able to reduce my contract from a full-time to a .8 teaching contract, which enabled me to allocate one day a week to the research.

accurate observations. Finally, as teacher-researcher I was aware that I had an increasing desire for the study to be seen to have specifically positive outcomes by several groups of others. Firstly, this was an element of my relationships with parents, colleagues and fellow-governors, towards all of whom I felt a sense of gratitude for the support given to this research. Secondly, I started to be involved in the professional development of colleagues, both in the field of creativity and that of P4C during this period. As a result of this, I was also aware of the wish for my study to contribute to the body of evidence supporting the use and encouragement of both, in other teachers' classrooms.

In comparison, my interpretations of the data in my role as *academic researcher* since taking up my post at Newcastle University were informed by a greater distance from my own facilitating practice, the pupils, and the school context. This meant that I could take a more detached perspective although on the other hand, my memory of the enquiry sessions and the pupils became, as time went on, increasingly less reliable. My interpretations in my role as *academic researcher* were also informed by the earlier findings from my initial teacher-research, as well as by a developing understanding of the literature, in particular of social and socio-cultural understandings of creativity, and by my more active participation in academic 'communities of enquiry' with academic colleagues and students. With the change in my professional role, and as the desired outcome of this study changed from MPhil to PhD level, what had felt as an indulgence to me as a teacher-researcher changed to a, no less desirable, professional expectation. On the other hand, progress in the research was for some years hampered by the pressures of academic performance expectations: between 2004 and 2008 my progress in this study was halted due to intervening research projects and publications (H. Jones, 2008b; Moseley & Jones, 2008a, 2008b; H. Jones, 2010). This four-year pause in itself had an impact on the retrospective interpretations made after 2008.

Contrasting and at times conflicting positional elements thus, as an example of Hermans' (2001) internal dialogical relationships, did not only occur *within* my single identities, but also *between* them.

Finally, I will briefly expand on the considerable amount of knowledge of the pupils, afforded to me in my role as the class teacher, which I referred to earlier in this section: This meant that I did not only have in-depth knowledge of the pupils' attainment in the various curriculum areas, but also that I knew each child well personally, and had an understanding of their social position in the class; their likes; dislikes and a range of other personal information which they had shared with me. Through my contacts with the parents and carers, and having taught some of the pupils' older siblings, I also knew the family context of many of the pupils. Finally, as I lived in the catchment area of the school myself, I would regularly meet the pupils and their families outside school. I thus had the privilege of having a large amount of information about the pupils which I feel has deepened the quality of my analyses throughout this study. I will return to my knowledge of the pupils in section 3.2.1, which relates to the context of this study. Relevant details of individual pupils will be provided in section 4.1.2 of

the Findings chapter, and further background knowledge – essential to the conclusions of this study – of seven pupils in particular will be discussed in section 5.3 of the Discussion chapter.

3.1.4 *Ethical considerations*

The study was carried out within a framework of ethical guidelines (Cohen et al., 2003; BERA, 2011; Thomas, 2011; Walsh, 2011: 69). The Community of Enquiry was a recognised and established pedagogical approach which was within the remit of my work as a classroom teacher at this school, and, in discussion with the Head Teacher and governors, it was established that the children's experiences of the enquiries would neither be beyond the expectations of my regular classroom practice, nor in any way harmful. However, informed consent was clearly needed as the enquiries would be the basis for this research. Due to the pupils' age, I informed the parents in a letter about my study, and asked for consent from all parents and carers, which was obtained. Consent for the audio and video recordings was also in place, and reassurances were given that confidentiality and anonymity would be maintained. Some years after the research, provisional findings were shared with pupils and parents and carers, and received with interest. All pupils' names in this thesis are, of course, pseudonyms.

3.1.5 *Validity and reliability*

Based on his view that generalisation is not the main purpose of research in the social sciences, Thomas (2009: 106) has suggested that too much adherence to reliability and validity guidelines can be a distraction in interpretivist research. I agree with Thomas that an expectation of *reliability*, the notion that someone else carrying out a case study of this kind elsewhere would come up with the same findings, is not appropriate: the findings from this study will show my view of the creative thinking in this particular Community of Enquiry at the particular time and place in which I collected the data, and the notion of replication is not appropriate to my research frame. However, Thomas, along with many other authors who feel that generalised observations *can* be made from case studies (Yin, 1993; Cohen et al., 2003; Flyvbjerg, 2006), points out the importance of *rigour*, or what Holliday calls 'maintaining the principles of social science' (2007: 9). Holliday (ibid.) argues that to obtain this, the researcher needs to explain the rationale for the choice of social setting, the choice of research methods, the choice of foci, the dedication to and rigour of the fieldwork, and the 'overall need to articulate a judicious balance between opportunism and principle'. I have striven to meet these conditions summarised by Holliday in this thesis. These conditions could be called intra-rater validity, i.e. the outcomes and processes of the research meet the requirements set by the researcher themselves. However, validity was increased further by using inter-rater reliability (Cohen et al., 2003: 118): I am very grateful to one of my supervisors[7], who took the time to analyse some early samples of the data using the criteria from my first discourse

[7] Again, my thanks for this go to Steve Higgins.

analysis approach. The fact that his analysis was found to be more than 80% similar to my own, increased the validity of my further analysis. Similarly, I felt that the same supervisor's scoring of some of the Torrance Test papers moderated and validated my own scoring skills. Furthermore, samples from the second series of discourse analysis have also been read and commented on by various colleagues. The level of congruence between the findings from these two sets of analysis has, I believe, confirmed that there is a degree of rigour in the criteria I used, and validity in the data and data analysis.

3.2 Methods

3.2.1 *The context of this research*

The school in which my study is set was a small village school in a semi-rural area in the North-East of England, which had a population of pupils from mixed social and economic backgrounds. A relatively low percentage of the school's population received Free School Meals, and the number of pupils with learning difficulties and/or disabilities was also below the national average. All of the pupils in the study were of White British heritage. In the years leading up to the data-gathering year, the school had been involved in a number of research studies relating to the teaching of thinking skills (Baumfield & Mroz, 2002; H. Jones & Steele, 2002), of which the school's governing body had been very supportive.

The class which was the focus of study was a Key Stage 1, mixed-age group of 19 pupils aged between five and seven years old, consisting of eight Year 1 pupils and 11 Year 2 pupils. The Year 1 group was made up of five boys and three girls, whereas the Year 2 group pupils consisted of six boys and five girls. Two Year 1 boys in the class were on the Special Needs register as they required additional support in order to raise their achievement in reading and writing. Concerns related to specific social and emotional needs of a small number of Year 2 pupils were shared between staff and parents during the data-gathering year. Academically, however, most children achieved good academic results. The results of the SATs undertaken by the Year 2 children in May of the data gathering year, for example, indicated that the levels achieved for reading and mathematics were above the nationally expected level (see Appendix 3). One Year 2 pupil joined the class in February.

As I mentioned in a previous section, the Year 2 pupils had been in my class, and in this classroom, as Year 1 pupils during the previous year. In view of my earlier comments in section 3.1.3, relating to my knowledge of the pupils and how this has impacted on the analyses, findings and conclusions of this study, it is thus noteworthy that I knew the Year 2 pupils particularly well. During the previous year, I had introduced the Community of Enquiry to the class children during a brief pilot study. However, this had involved no more than three enquiries, which had been limited in scope and length. The Year 1 pupils were, at the beginning of the year, new to me and to the classroom. However, most of the Year 1 and

Year 2 children had already been familiar with each other since their joint time in the school's Early Years setting. As the year progressed, in my role of class teacher I came to have a large amount of knowledge of each of the children from both year groups through our classroom interactions, and my contacts with the pupils and their parents and carers, both within and outside the school, as mentioned earlier.

3.2.2 *The Community of Enquiry sessions*

I have described the general approach to the Community of Enquiry which I used in this study in the Literature Review (section 2.2.2). A total of 21 enquiries were carried out, 20 of which were recorded and 17 of which were transcribed and analysed. Most enquiries were held between October and July, usually on a Thursday afternoon, and all took place in the classroom in which we normally worked. There were small variations in the sessions. As stimuli, I used picture books, other fictional texts, a pupil's dream, an animated version of a picture book, and a poem (see Appendix 1). The length of the enquiries varied from 30 minutes to more than one hour. All of the 21 sessions were recorded using audio cassettes, apart from E 17 where this was not possible due to technical problems. During the sessions I was, of course, aware of the importance of the clarity of the recordings, and, for example, explicitly mentioned pupils' names when allocating turns to pupils to aid identification during the transcription process. In addition to the audio recordings, four enquiries were recorded on video[8].

In terms of the procedures, all enquiries started with a stimulus, followed by the formulation of questions by, usually, pairs of pupils. The questions were then shared with the class, after which one question was chosen. Two points need to be made regarding the questions raised. Firstly, although the formulation of questions can itself be the focus of investigations into creativity (Sternberg & O'Hara, 1999), I did not focus on the pupils' questions as a particular focus of this study. Secondly, in most of the enquiries the pupils voted for the question to be discussed, but in three enquiries (E5, E7 and E8) I, in my role as the facilitator, chose which question would be discussed. This deviates from the method advocated by most authors (Murris, 1992; Fisher, 1998; Haynes, 2002; SAPERE, 2010) and it can be assumed that this diminished a sense of shared ownership of the question by the Community. However, after questions had been chosen in the first few enquiries which I felt had not been very productive, I believed that, in the context of this study, it was warranted for me to choose questions which appeared to have the greatest potential for fruitful discussions and creative thinking, and discuss the quality of the questions with the pupils after the enquiries. From E9 the enquiry questions were, once again, chosen by the group. There were, of course, variations between the different enquiries. A major development during the series of enquiries was the fact that after enquiry 12, and on the suggestion of an observing colleague[9], I introduced the method of

[8] Again, I am indebted to Steve Higgins – this time for recording these four enquiries on video, and providing me with the tapes.

[9] I am grateful to Victoria Tsismenaki for her comments.

'a Round' which usually took place at the beginning of the dialogues, and which was intended to give a much greater number of pupils the opportunity to contribute to the discussions. Finally, most enquiries were completed with a short debrief, which had the aim of raising pupils' metacognitive awareness of the enquiry processes.

3.2.3 *The data*

The main data-set in this study is formed by the transcripts of the dialogue element of 17 of the 20 recorded Community of Enquiry sessions[10]. I was able to have the dialogues transcribed in a basic form, due to financial assistance in the form of a Best Practice Research Scholarship (Furlong & Salisbury, 2005). These transcripts formed the basis of the two types of discourse analysis which I will discuss in Section 3.3.

Additional data regarding the enquiries were formed by field notes which I kept after each enquiry, a number of which were informed by comments from observing colleagues. As I pointed out in Section 3.1.3, my knowledge and understanding of the pupils as their classroom teacher also informed the analyses and the discussion of the findings.

I also held interviews with a focus group of three boys and three girls after a small number of enquiries throughout the year. However, I did not find that the data from these interviews provided a large amount of information: most children gave one-syllable answers to the questions and seemed to find it very hard to express their reflections on the enquiry sessions. A number of reasons for this can be pointed out: very little time was available for these interviews; most of my questions were of a closed nature; young children can find it difficult to talk about relatively abstract experiences; and, perhaps, pupils were uncertain as to what was expected of them. With hindsight, I believe that it would have been beneficial to give a greater priority to the gathering of pupils' views (Todd, 2012).

Finally, as a way of triangulating the results of this study (Cohen et al., 2003) from my initial relatively positivist perspective, I carried out the Torrance Tests of Creative Thinking (TTCT) – 'Thinking Creatively with Pictures', Figural Forms A and B (Torrance, 1962, 1966, 1990b, 1990a; Torrance et al., 1992; Torrance, 1998) with the class in October and July (see Appendix 7). There are a number of caveats related to the Torrance Tests which I would like to point out. Firstly, the value of the TTCT, particularly in its use with children, has been questioned (Craft, 2002: 6; Almeida et al., 2008: 57). Secondly, in terms of the test results, it is important to remember that the scoring may have been influenced by the fact that I knew the children from a range of contexts, facilitated both the tests and the enquiries, and scored and analysed both sets of data. My understanding from any of these activities will, undoubtedly, have influenced my judgement in later ones. Thirdly, having scored each set of test booklets twice to heighten the validity of my judgement, the subjective nature of the

[10]The remaining three enquiries were not transcribed, since it was felt that the 17 transcribed dialogues would provide a sufficient representation of the enquiries held throughout the year.

scoring of the Torrance tests was apparent from the variation in my scoring of the same test. For example, although the average difference between my two scorings of Form B was no higher than 3 points for 16 pupils, there were differences of 18 and 20 points in my two scorings of the booklets of two other pupils. In the analysis of the data presented in the Findings chapter, I have only included the result of the second scoring of both Figural Form A and B. Fourthly, it is also likely that an improvement in results in Figural Form B could be explained by a greater familiarity with the task. Finally, even if the test results could be seen as a valid measure of creative thinking potential despite the concerns I have expressed above, changes in test results cannot be ascribed to the Community of Enquiry sessions: the 21 enquiries were only some of pupils' many experiences in and out of school between the October and July in which the tests were carried out. I will therefore see any patterns or similarities between the TTCT test and the categorised responses, at the most, as similarities in the observed behaviour of the pupils, rather than as causal. I will present the results from the Torrance Tests in section 4.1.3 in the Findings chapter, and present a further brief critique of the Torrance Test of Creative Thinking in section 6.4.4 of the Discussion chapter.

3.2.4 *Identifying creative thinking*

As I have mentioned, I defined creative thinking as the process in which ideas are generated which are both novel and valuable in a given context (Sternberg, 1999; Cropley, 2001). Creative ideas are thus those which are seen to be novel and valuable, and with reference to the Community of Enquiry in this study, this applies to those responses given and identified within the enquiry dialogue. However, the values of novelty and value are problematic in two respects: firstly, their identification in this research is dependent of the viewpoint and interpretation of me as the 'beholder'. The interpretivist perspective in which this research is located as a result, has been discussed in Section 3.1.2. Secondly, novelty and value are, of course, relative rather than absolute qualities, for which a continuum gives, perhaps the most 'realistic' representation. Figure 4 shows my perception that responses can, within a framework of applied criteria, be placed on two continua of both value and originality. According to the definition I have given above, only responses which could be located in the top right-hand corner would warrant the description of 'creative'. I will refer to this diagram in section 3.3 below, to describe how I used it to identify degrees of creative thinking in this Community of Enquiry.

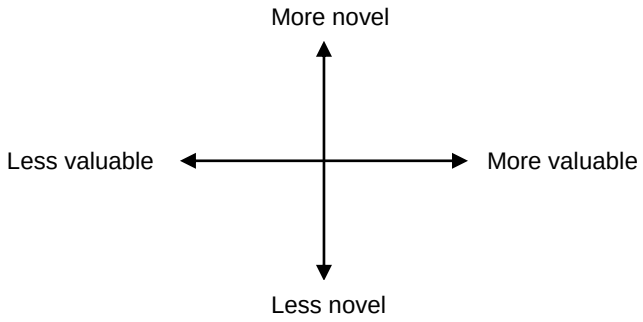


Figure 4: a creativity quadrant

3.3 Analysis of the transcripts

In this section I will describe my rationale for the two types of discourse analysis[11] which I used to investigate creative thinking within the enquiry dialogues, and discuss the methods used.

As was mentioned in Section 3.2.3, only the dialogue element of the enquiries was used for analysis: such Community of Enquiry procedures as my presentation of the stimulus, the formulation and airing of questions, and the choosing of the enquiry question (Sutcliffe & al,

[11] I use the lower-case term 'discourse analysis' 2001: 177) to indicate both series of analysis of the transcripts. This is distinct from the capitalised term 'Discourse Analysis' (Walsh, 2011) or DA, which I will discuss briefly in Section 3.3.2

2007) have not been included in the study. The two types of analysis both focus on classroom talk, but they are very distinct in character (A. D. Edwards & Westgate, 1994): The first type of analysis, which I named 'analysis of categorised responses', focuses on the categorisation of individual pupils' verbal responses in all 17 transcribed dialogue extracts. This analysis was first carried out before 2004, and will be described in section 3.3.1. The second type of discourse analysis, which will be described in section 3.3.2, was based on microgenetic methods, originating in Conversation Analysis (CA). I applied this to eight of the 17 transcripts in the period between 2008 and 2011.

3.3.1 *Analysis of categorised responses*

Introduction

The approach to this form of discourse analysis, in which I focused on individual children's responses as distinct and quantifiable outcomes which could be compared to those of others, was related to my professional practice at the time. During this first analysis I was still working as a class teacher, in the product-oriented culture in which measuring, extending and reporting individual pupils' outcomes was, and is, seen as extremely important (H. Jones, 2010), as is clear from *The national framework and the purposes of the National Curriculum:*

> The National Curriculum makes expectations for learning and attainment explicit to pupils, parents, teachers, governors, employers and the public, and establishes national standards for the performance of all pupils in the subjects it includes. These standards can be used to set targets for improvement, measure progress towards those targets, and monitor and compare performance between individuals, groups and schools.
>
> (DfES & QCA, 2000)

My choice to code and categorise individual pupils' individual responses was thus not dissimilar to the way I regularly assessed individual pupils' outcomes in National Curriculum subject areas. Similarly to summative assessment methods used within the National Curriculum framework, I set out to provide a data-set which was based on descriptive criteria, and which could be used quantitatively. To achieve this, I used a coding system, which, in contrast to some of the studies Edwards and Westgate refer to as systems-based, did not rely on fixed coding categories (A. D. Edwards & Westgate, 1994, Chapter 4; Walsh, 2011). Instead, in the process of analysis I provisionally drew up categories and category criteria, which I tested, developed and refined over a period of time, as a way of operationalising creative thinking in the Community of Enquiry. This method bears resemblance to a Grounded Theory (Corbin & Strauss, 2008) approach and to what Walsh (2011) refers to as ad hoc interaction analyses, whilst the response categories were designed in specific relation to the focus of my study. Walsh (2011: 80) identifies as advantages of *ad hoc* methods, in contrast to systems-based approaches, that researchers gain ownership of the research design process, and fast access to and understanding of the phenomena they are studying.

Once I had drawn up four main discrete categories to identify the degree of creativity in each response, and eight further additional categories - all of which I will discuss later in this section - I allocated those pupils' responses to them, which appeared, in my view, to have a level of distinct content[12]. Allocation especially to one of the four main categories was complex: although some responses clearly fitted the criteria of just one main category, many others, and especially those which were to some extent creative, had elements of more than one category, and I had to decide on a 'best fit'. In order to increase reliability and validity, I categorised all responses twice in the two-year period in which this analysis was carried out, and also asked one of my supervisors to categorise a sample of responses, as mentioned in Section 3.1.5. Although this process led to a level of confidence in the way the responses had been allocated, I am aware that this process is subjective: there will be a degree of variation between the allocations *I* opted for, and those which *other researchers* might have opted for, or which I might have opted for *at a different time*. Coming back to the results of this analysis after a number of years, there was a temptation to re-assess the total categorisation of responses once again. However, although I did question the validity of some of the earlier judgments made, I chose not to carry out a complete re-analysis for two reasons: firstly, a validation of a sample of allocations confirmed, on the whole, my earlier judgements, and secondly, if I had re-categorised the transcripts again, I did not feel that the new allocations would necessarily have had a greater and more permanent degree of validity than the original ones. It could be argued that because the categorisation was interpretative (Thomas, 2009) and at times 'fuzzy' (Moseley et al., 2005: 52), the data set produced does not lend itself easily for the level of quantitative analysis which I will discuss in the Findings chapter. However, I believe that the measures I have used to maximise validity do allow the use of a quantitative approach, provided that the reader remains aware of the interpretative and relative nature of the data, and of the boundaries within my categorisation framework.

In this analysis the term *response* refers to the spoken contribution of the pupil who was given, or took, a turn in the Community of Enquiry. This response starts when a pupil begins to speak, and ends either when they have finished, or when they are interrupted by someone else taking the turn. In this first discourse analysis, I only investigated pupil responses: my own were not categorised. The term *response* was chosen, as every pupil contribution was made in *response* to previous comments and, in general, to the chosen question or topic. It also relates to the term 'response' in the IRF sequence (A. D. Edwards & Westgate, 1994; Walsh, 2006).

In the description of the response categories which will now follow, I use initial capitals for the names of categorised responses, in order to make my allocation of responses explicit in the discussion in further chapters. For example, all responses are, to some extent, original, but when I mark them as 'Original', it identifies them as allocated to the category of Original

[12] Those comments, for example, in which pupils merely stated that they agreed with a previous speaker without further elaboration, were excluded from this analysis.

responses. An example of a categorised transcript (E14 - Catherine and the Lion), can be found in Appendix 4. The analyses were based on the actual words which were recognised in the basic transcripts: no account was taken of, for example, hesitations, unintelligible responses, or other sounds or gestures made. In the example transcript lines in this analysis, H refers to me as the facilitator.

The four main categories of responses

The first layer of this analysis consisted of the allocation of responses to either the *Reproductive*, or to one of three hierarchical *Productive* categories, which I will describe later in this section. In this process I made a judgement of the level of creative thinking of each response, informed by my early understanding of the literature of creativity and creative thinking (Torrance et al., 1992; Fisher, 1995; Sternberg, 1999; Cropley, 2001; Craft, 2002) and the definition of creative thinking as both novel and valuable in the given context (Sternberg, 1999; Cropley, 2001).

If a response had elements of two adjacent categories, I allocated it to the higher-level category. With those responses which had elements from more than two categories, I opted for the middle category as a 'best fit'. Below I will describe each category, and my rationale for the term used or any other connotations, criteria and examples.

1. Reproductive responses

Torrance (1992: 1) mentions that Burnham identified the difference between *reproductive* imagination and *productive* imagination in 1892, where the former involves memory and the reproduction of information. Weisberg (1999: 228) points out that, according to Gestalt psychology, reproductive thought relies on the reproduction of previously successful behaviour. I allocated all those responses to the Reproductive category, which I felt were not original beyond the re-phrasing level, e.g. which repeated a point which had already been mentioned during the same discussion. Reproductive responses thus fitted into the bottom two quadrants of the model of creativity presented earlier: despite the fact that no specific conceptual novelty was introduced in these responses, many were valuable in the context of the Community of Enquiry.

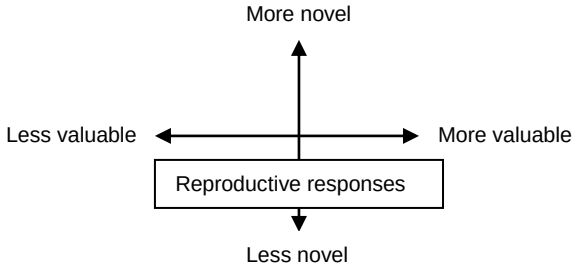


Figure 5: Reproductive responses

The following criteria and variations were included in this category:

- Explaining own response

  (E20)

  H: Right, (sounds puzzled) ok, ok…so Dan are you saying they would want to build in the forest?

  Dan: No, because there wouldn't be enough room.

- Reiterating a point that has been made by someone else during this enquiry, albeit in different words,:

  (E6)

  Liz: I disagree with Amy because the children had to go to bed

  …

  Beth: I agree with Liz because the children were in bed

- Quoting directly from the text:

  (E19)

  Faye: In the story it said they were lovely and warm.

- Answers to very closed questions posed by me:

  (E20)

  H: OK, the boy would like it to be there, OK, the hotels and things or the forest?

  Cath: The forest

- Closely quoting from the stimulus illustrations

  (E20)

  Neil Because there was three pictures of hotels and one of them said Star Hotel, so there must be hotels there now

- Closely quoting from comments made or questions asked earlier on in the session:

  (E14)

  Finn It's a good question because Lion wasn't.. he just wasn't anything at all like a Lion so she might have just been imagining things

  Cath I think she may be imagining it…

Productive Responses

All responses which were not coded as Reproductive, and which thus involved a degree of conceptual novelty, were coded as Productive responses and could be presented in the top half of the diagram below, but with varying degrees of perceived value. Torrance (1992: 1) points out that Burnham used the term *productive imagination*, in contrast to reproductive

imagination, to identify the thought processes involved in recombining original impressions to produce new whole concepts, and Cropley (2001: 33) and Weisberg (1999: 228) point out that in Gestalt psychology the term *productive thought* is given to the source of new insights and novelty of thinking.

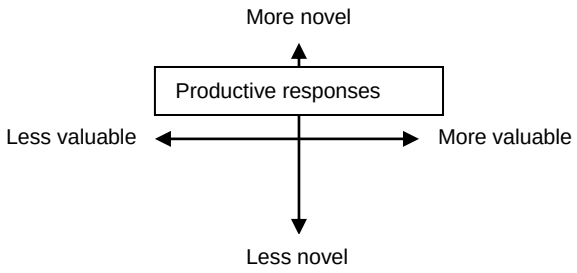


Figure 6: Productive responses

All responses categorised as Productive were allocated to one of the hierarchic subcategories of Tangential, Original and Reasoning responses, which I will describe below.

2. Tangential responses

The term Tangential was used in this study to code those responses which in an obvious way deviated from the main question. This is not to be confused with *divergence* and *divergent thinking,* or 'the ability to produce many ideas' (Gruber & Wallace, 1999: 95), a term which was first used by Guildford in contrast with convergent thinking (Sternberg, 1999; Weisberg, 1999; Cropley, 2001; Craft, 2002), and is seen as an important element of creativity (Amabile, 1996; Cropley, 2001). Although all responses coded as Tangential contained a degree of conceptual *novelty*, I judged their *value* in sustaining the enquiry process as weak. In terms of the model of creativity presented earlier, Tangential responses would thus fit into the top-left quadrant, making these responses Productive but not *creative.*

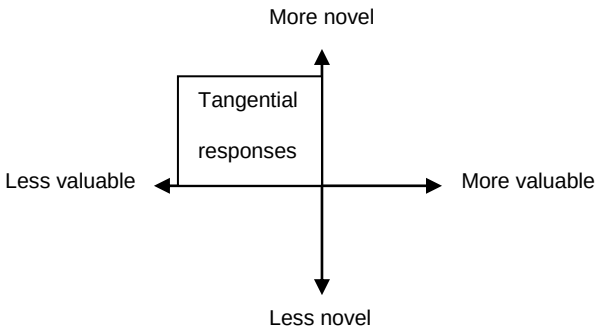


Figure 7: Tangential responses

I used the following criteria and descriptors to identify Tangential responses:

- Responses which seemed to be built on clearly flawed or playful logic:

  (E6)

  Dean (in talking about litter found in a field):

  > Yes, they might chuck a ball in. Well it's got red, what you knit with, like this: like our uniform, like what we all wear now. Here, this it's a red ball that you make it out of. My granny knits it, she has knitting needles and she makes all those jumpers…. You might kick a ball like that into a field and you might not know where it is. …A cow might lie on it, sit on it.

- Responses which clearly diverged from answering the main question.

  (E6, in response to Dean's comment above)

  Liz: I disagree with Dean because they might not have a Granny.

3. Original responses

Two Productive categories fitted in the *creative* top right-hand quadrant of the model of creativity, as the responses in both categories can be described as both novel and valuable. These are the Original and Reasoning categories, and the allocation of responses to either of these two categories was particularly difficult, as perceived value of a concept is, of course, highly ambiguous.

I used the term Original for those responses which had an element of novelty, and which I perceived to have *some* value and relevance in the context of the Community of Enquiry discussion in which they were expressed, often making connections with other domains or concepts.

My use of this term is different from that of Torrance (Torrance, 1966, 1990b) who uses it to identify statistically *unusual* responses, a concept which in the context of this study might be closer to that of Tangential responses. My use of the term is also different to that of many authors on the subject of creativity (Amabile, 1996; Sternberg, 1999; Weisberg, 1999; Cropley, 2001), who use the term *original* as more or less synonymous with *novel*, which, in this study can be applied to all Productive responses (the total of Tangential, Original and Reasoning responses).

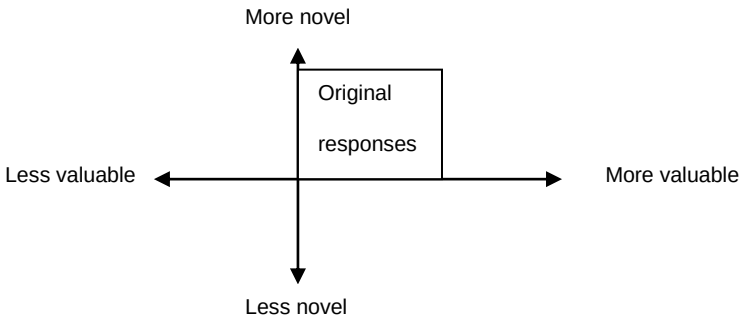


Figure 8: Original responses

Original responses met the following criteria:

- Responses which introduced a new concept by referring to the stimulus text or the illustrations, but by using inference, rather than by direct reference.

  (E8)

  Beth: Because it said in the story that there was some water there and it might have …sneaked round the bottom and come back up and…

- Responses which introduced a new concept, based on the speaker's imagination or use of logic, without being tangential, but without a base in highly informed and effective logic[13]:

  (E6)

  Beth: Grown-ups might have been playing in that field and they might still be up.

4. Reasoning responses

This coding was given to responses which introduced new concepts and which I judged as *highly* valuable in the context of the Community of Enquiry, due to the degree of inductive or deductive reasoning, or well-informed *critica*l thinking (Fisher, 2000: 42) contained in them. Lipman sees reasoning skills as highly important for, and as a highly important outcome of, the Community of Enquiry (Lipman, 2003: 43, 102), and defines the term 'reasoning' as follows:

> Reasoning is the process of ordering and coordinating what has been found out through the inquiry. It involves finding valid ways of extending and organizing what has been discovered or invented while retaining its truth. (Lipman, 2003: 184)

By his use of the terms *found out*, *discovered* and *invented,* Lipman implies that reasoning is related to creativity, but builds on creative outcomes by extending them further. Reasoning

[13] Such Original responses related to Vygotsky's ([1967] 2004) view that children's ability to be creative is limited by their relative lack of experiences and knowledge, as discussed in Section 2.1.4.

responses appeared to contain elements of the higher levels in Bloom's taxonomy of thinking skills: Analysis, Synthesis and Evaluation (Fisher, 2000: 43; Moseley et al., 2005: 50). Similarly, some of these responses might be categorised as the higher Relational and Extended abstract levels within the Structure of the Observed Learning Outcome (SOLO) taxonomy (Moseley et al., 2005: 306). However, I applied neither Bloom's nor the SOLO criteria formally in my categorisation. Although all criteria used to identify Original responses also could be applied to Reasoning responses, the two response groups are discrete. On the creativity quadrant, Reasoning responses can be placed in the same top right-hand quadrant, but towards the further end of the 'valuable' axis**.**

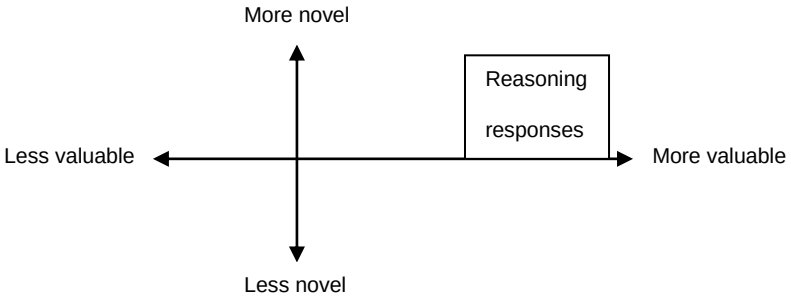


Figure 9: Reasoning responses

The term Reasoning is exemplified in the following range of responses:

- Responses based on more knowledge-based reasoning than those categorised as Original. With reference to the connections made as mentioned above for Originality, the connections made here are not only original, but have a higher degree of validity.

  (E20)

  Cath: I think the forest will still be there because if they'd wanted to destroy it they wouldn't have built the walkway in it and they wouldn't have let it, they wouldn't have let people go in it, they would have blocked it off.

- Questions children asked within the enquiry

  (E20)

  Liz: Why would anyone want to knock the forest down?

- *C*omments which addressed the essence of the question and which could have brought the discussion further (even if they were not taken up)

  (E20)

  Faye: You can easier eh build the houses somewhere else instead of the forest.

Additionally coded categorised responses

After coding each response as either Reproductive, Tangential, Original or Reasoning, in which process I identified degrees of *creative thinking*, I used a second set of coding criteria which could be said to have specific relevance to *the Community of Enquiry.* This was applied to additionally allocate the responses, where relevant, to one or more of the following additional categories: Responsive; Initiating, Speculative, Metacognitive and Procedural responses, and responses expressing Agreement or Disagreement.

Responsive Responses

In classroom approaches based on dialogue (Mercer, 2000; Lipman, 2003; Alexander, 2006), it is naturally essential that participants respond to each other's contributions. In order to explore the degree to which pupils responses were linked to each other's, each response was judged as to whether or not it was made in direct and explicit response to another pupil's. Reproductive, Tangential, Original and Reasoning responses thus might or might not also have been Responsive, as described in the following examples:

- In Responsive Reproductive responses, previous comments of another pupil were directly referred to and rephrased:

  (E19)

  Amy: I agree with Liz because if people came to buy something from the workshop they would have got more money.

- In Responsive Tangential, Original, or Reasoning responses either a new concept, an extension, or a further reason for agreement or disagreement would be introduced with direct reference to another pupil's contribution, as in:

-

  (E6) (after Beth had mentioned adults might be playing out)

  Keith: I agree with Beth, because some big kids and teenagers might still be playing out (coded as Responsive Original)

  (E15)

  Dan: I disagree with Karl, because he still could have said sorry when he was still a strong man (coded as Responsive Reasoning).

Initiating responses

This coding was given to responses which later responses were clearly built on, or explicitly referred to. They were those responses which Responsive responses where built on.

(E12)

Neil: I think they're about nineteen or something, (which was followed by...)

Faye: Why would Frog and Toad be nineteen because they look a bit old?

Speculative responses

In a further attempt to identify creative or 'possibility' thinking (Craft, 2002), I aimed to identify responses which indicated a degree of speculation. This coding was given to those responses in which the words *might, may* and *maybe* occurred

(E19)

Mark: They might have had a little bit of money.

In retrospect, it would have been useful to allocate a much wider range of responses to this category, such as those which included words as *perhaps* and *could,* or those which expressed a particularly speculative content in other ways.

Metacognitive responses

This coding was given to a range of responses which all, more or less explicitly, indicated a pupil's awareness of their own thinking (Higgins et al., 2001; Moseley et al., 2005)

(E18)

Finn: I disagree with myself!

Procedural responses

This coding was given to comments in which a suggestion was made to change the current process or activity, and similar to what Walsh calls the 'managerial mode' usually taken by teachers (Walsh, 2006) :

(E15):

Dan: Maybe if we looked at the book again…

Agreement and Disagreement

Finally, responses were identified which expressed clear agreement or Disagreement. There is, of course, some similarity between the responses expressing Agreement and Disagreement on the one hand, and the Responsive category mentioned earlier on the other. However, there is a difference in focus: all responses expressing agreement or disagreement were to some extent responsive, but not all Responsive comments agreement or disagreement.

Agreement

The coding 'Agreement' was used for responses which:

- expressed an explicit agreement with a previous comment, even if a different reason or extension was offered, such as in:

  (E12)

Mark: I agree with Gemma 'cause they might not have a house if they're a teenager.

Disagreement

- Responses which explicitly mention the phrase 'I disagree with…', referring to another child's comments.

  (E15)

  Keith: I disagree with Dan because strong people don't say sorry because they just beat them up

- Responses which clearly contradicted a previous point made:

  (E15)

  Finn: You can get very nice strong people

This completes the section of the methods I used in the analysis of categorised responses, the results of which will be discussed in the Findings chapter, section 4.1.1. In the next section I will turn to my second method of discourse analysis: that based on Conversation Analysis methods.

3.3.2 *Analysis based on Conversation Analysis (CA) methods*

Introduction

During and after the analysis of categorised responses described in the previous section, I realised that an analysis solely based on the words of individual pupils would not, in itself, provide an adequate picture of the creative thinking in this Community of Enquiry. This was due to my growing awareness of a set of interrelated factors:

Firstly, the Community of Enquiry is clearly an example of a *social* setting, so a social rather than an individually-based approach seemed appropriate. My awareness had also developed that creativity, even outside dialogic situations such as the Community of Enquiry, is primarily a social, rather than an individual phenomenon (Amabile, 1996; John-Steiner, 2000; Craft, 2002). Furthermore, as a result of my interest in socio-cultural theories of learning and creativity (John-Steiner, 2000; Daniels, 2001), I became interested in how the *social interaction* within the Community of Enquiry sessions related to creative thinking. In addition, I realised that although my own creative thinking was not the focus of this study, the omission of an analysis of my role within the social interaction was a serious shortcoming in the previous analysis.

Secondly, it also became clear that creativity *processes* as well as products can be investigated (Amabile, 1996; John-Steiner, 2000; Craft, 2002). As in this study the products of creativity could only be identified as ideas expressed during the process of dialogic interaction, it appeared crucial to include a focus on these processes of idea generation.

Finally, as Georgakopoulou and Goutsos (2001: 23) point out, people do not only communicate with words, but also with sounds and sentences, and with concepts, assumptions and propositions in specific socio-cultural environments. It was thus also apparent that my previous word-only analysis approach would be insufficient to capture the pupils' creative thinking. In other words, I needed to identify a complementary method to render and analyse the micro-analytic discourse and social interaction, in order to investigate the extent to which ideas were socially generated within this Community of Enquiry.

Georgakopoulou and Goutsos (2001: 181) point out that 'discourse analysis is not a strictly unified discipline with one or few dominant theories and methods of research'. Walsh (2011) identifies four approaches to the study of classroom discourse. Apart from system-based interaction analyses in which a number of pre-determined fixed categories are used (A. D. Edwards & Westgate, 1994), and the ad-hoc interaction analysis (Walsh, 2011) which has similarities to my analysis of categorised responses described in section 3.3.1, Walsh identifies two other approaches to the study of classroom discourse: Discourse Analysis (DA) approaches and conversation analysis (CA) approaches. He (ibid.) explains that the main aim of DA studies, based on the work of Sinclair and Coulthard (1975, in A. D. Edwards & Westgate, 1994; Georgakopoulou & Goutsos, 2001; Walsh, 2011) is to investigate how words and phrases function in context, by ascribing each utterance to a hierarchical function category (Wooffit, 2005: 43; Walsh, 2011: 81). However, Walsh points out that the classification of classroom talk in terms of pure structure and function is problematic, due to the many functions which a single speech act could represent. He also argues that DA does not adequately explain such factors as role relations, context and sociolinguistic norms. In contrast, Walsh (2011: 84) argues that Conversation Analysis or CA presents a more 'naturalistic' approach to the analysis of *talk-in-interaction* (Seedhouse, 2004; Schegloff, 1987 in Wooffit, 2005). As, for this reason, CA appeared to more suited to the focus of my enquiry discussed earlier in this section, I decided to draw on CA methods, rather than DA methodology to inform my second analysis. In making statements about both DA and CA, however, both Wooffit (2005: 39, 40) regarding DA, and Ten Have (2007: 5) regarding CA, have pointed out that definitions of CA and DA vary, and that a range of other kinds of empirical work are also understood under these terms: Georgakopoulou and Goutsos (2001: 177), for example, present the view that conversation analysis is a type of discourse analysis, which explains my generic use of the term in the introduction to section 3.3, page 54.

Conversation Analysis (CA)

Edwards and Westgate (1994: 27) point out that whereas DA approaches are primarily based in linguistics, CA, which was initially based on the work of Sacks, Schegloff and Jefferson (ten Have, 2007), originates in anthropology and ethnomethodology. Edwards and Westgate (1994: 27) explain that a primary concern for Conversation Analysis is the analysis of everyday talk, or as they put it, 'talk between equals', although the approach is also used in institutional, 'power-marked' settings based on power differentials, such as courtrooms and

classrooms. It is not that power differences are ignored, but rather than being presupposed, they are 'identified in how the talk is organised'. As Walsh points out:

> CA is based on the premise that social contexts are not static but are constantly being formed by the participants through their use of language and the ways in which turn-taking, openings and closures, sequencing of acts, and so on are locally managed. Interaction is examined in relation to meaning and context; the way in which actions are sequenced is central to the process.
>
> (Walsh, 2011: 84)

Conversation Analysis seemed to offer particular advantages as an approach to this analysis, as it examines how social contexts, or cultures (Carter, 2004: 78), are continuously created in and through social interaction, as Mercer (2000: 58) has also pointed out. This seemed particularly relevant to the Community Enquiry context, which can be described as constructed and negotiated through social interaction: even though the sessions are planned for by the teacher, take place in a classroom context and follow a set procedure (Sutcliffe & al, 2007), the actual shape which individual enquiries take and the interaction patterns which occur within a Community of Enquiry session are predetermined by the teacher to a lesser extent than is possible with lessons which are less based on pupil enquiry.

Seedhouse (2004: 12,13) lists the main aims of CA as follows: to categorise the organisation of social interaction; to trace how participants develop a shared understanding of the progress of the interaction; and to trace how they repeatedly shape and renew this context. In order to uncover these elements, CA practitioners use a highly detailed transcription system (see Appendix 5), which allows the analysis to be 'bottom-up and data-driven' (ibid. 15). In this ethnomethodological approach, the data is approached 'without any prior theoretical assumptions or assumptions that any background or contextual details are relevant' (ibid.). Wooffit (2005: 130) describes CA as mainly concerned with how participants themselves make sense of on-going interaction, and with participants' orientation. Seemingly from a different perspective, Ten Have puts the purpose of CA as 'not to explain *why* people act as they do, but *how* they do it' (2007: 9). Based on both Wooffit' and Ten Have's viewpoints, CA appeared to be able to provide some valuable insights into the social interaction processes within the Community of Enquiry dialogues. Furthermore, one of the domains to which this study is related is that of discursive psychology (DP). Wooffit (2005: 136) points out that the methodological overlap between CA and discursive analysis is considerable, and Ten Have (2007: 56) has argued that CA has had a large empirical impact on the development of discursive psychology. This appeared to provide another argument for drawing on CA methodology in this analysis.

However, there were two reasons why an actual or *pure* CA approach (ten Have, 2007) would not be sufficient, desirable or even possible: firstly, the object of my study was not the social interaction in itself (which would be the focus of a pure CA study), but the creative thinking which developed within it, and the relationship between the two. Edwards and Westgate have described this as the difference between us looking *at* and *through* the mirror of interaction (A. D. Edwards & Westgate, 1994: 134). In other words, my study is a case of *motivated*, rather

than CA's 'unmotivated looking' (Schlegloff, 1996b, in ten Have, 2007: 121). In doing this, it could also be argued that I take a 'factist' perspective (Pertti, 1995, in ten Have, 2007: 35), rather than CA's 'specimen' perspective:

> In this (factist) view, data are taken to be statements about or indications of states of affairs, such as events or inner states, outside the data themselves. Such statements can, therefore, be more or less true. It may be clear that CA is *not* taking a 'factist' perspective on its research materials... CA studies recordings of episodes of naturally occurring interaction. These are then to be considered as *specimens* of their kind, and not, in a *factist* vein, as either *statements about* or *reflections of* a reality out there
>
> (ten Have, 2007: 35,36)

Secondly, I had been a participant in the Community of Enquiry sessions, and as a class teacher I had a considerable amount of knowledge of the participants from contexts other than the Community of Enquiry. This meant that as a researcher I had a large amount of relevant context knowledge which would appear to be both impossible and unwise to ignore. This situation, which, arguably, gave my analysis more of an etic than an emic perspective - in other words, a view of the data from the outside rather than the inside (ten Have, 2007: 34) -, does not fit with pure CA principles (Seedhouse, 2004: 15; ten Have, 2007: 84).

As a result of my far from pure use of CA methodology, my approach may be described as an eclectic approach (A. D. Edwards & Westgate, 1994), which had some of the hallmarks of a variable (Walsh, 2006) or applied (ten Have, 2007) CA approach. The main Conversation Analysis principles I drew on were the aim to investigate talk in interaction, the overriding use of data-driven analysis, and the use of CA methods of transcription. I cannot claim that the transcript analyses followed further CA methodology, which would have included a much clearer focus on such interactional elements as turn taking, sequence allocation and organisation, and repair (ten Have, 2007: 122), all of which would have led to a deeper examination and understanding of the interactional organisation itself.

The method used in this analysis

Ten Have comments on five stages in CA analysis, put forward by Pomerantz and Fehr (Pomerantz and Fehr, 1997, in ten Have, 2007: 122-124). These are: selecting a sequence, characterising the turn-by-turn actions within that; reflecting on speakers' choices over those actions as well as the content of what they said; reflecting on the impact of timing and turn-taking onto actions and what was said; and finally (resulting in more of an applied than a pure CA approach (ten Have, 2007: 124)), reflecting on the actions in relation to roles, relationships and identities within the sequence. Although, as mentioned above, I cannot claim to have followed CA methodology fully, elements of each step presented by Pomerantz and Fehr were considered in my analysis, beginning with the selection of the transcripts. I selected a total of eight extracts of approximately 3-4 minutes in length, from four video-recorded and four audio-recorded Community of Enquiry sessions. These were chosen with the following aims:

a) The eight selected extracts were based on available video or audio data, which had already been transcribed and investigated for the purpose of the analysis of categorised responses, as described in Section 3.3.1;
b) The eight selected extracts would be spread regularly across the school year, from September to July;
c) The eight selected extracts would contain elements of social interaction and creative thinking which could, in some way, be said to be representative of the series of enquiries as a whole;
d) Each selected extract would represent a 3-4 minute example of talk in this Community of Enquiry, which contained some form of introduction, some conceptual development, and some form of conclusion, so that it could be understood as an entity by both me as the researcher and the reader;
e) The selected extracts would, collectively, include turns by as many pupils in the Community of Enquiry as possible;
f) The selected extracts were to represent individual pupils' turns which could to some extent be called representative of the types of statements made by that pupil;
g) Each selected extract would contain elements of social interaction and creative thinking which could, in some way, be said to be representative of the enquiry in which it occurred.
h) The eight selected extracts would represent a range of different stages of the enquiry dialogues, i.e. the beginning, the middle or the end.

Although pure CA practitioners at times also purposively select parts of transcribed data for their analysis (ten Have, 2007: 125), selection points such as those mentioned at points c, f and g above, show again my 'motivated' rather than 'unmotivated looking' (Schlegloff, 1996b, in ten Have, 2007: 121).

There were a number of ways in which findings from the analysis of categorised responses carried out earlier aided the selection of extracts for analysis based on CA methods. For example, through the analysis of categorised responses, I had an understanding of the types and occurrence of creative thought within individual enquiries (criterion c), of the pupils who would be most likely to be included in most transcript extracts (criterion e), and of the kind of creative thinking which might be called typical for individual pupils (criterion f).

After selection, I re-transcribed the extracts to take account not just of words, but also, where feasible, of sounds, stress, inaudible sounds or words, silences and overlapped speech and sounds (ten Have, 2007: 101-103). A key to the transcript conventions I used, based on those by Jefferson as developed by Ten Have (2007), has been included as Appendix 5. The

difference between the transcript style used in my analysis of categorised responses and that used in the current analysis can be seen in the following examples from Enquiry 14[14].

Sample transcript analysis of categorised responses:

H: But if she was sleepwalking with the lion, Beth, did she sleepwalk all the way to school?

Pupil: she wouldn't know where she was going.

H: …. it would be hard to get to school. Beth I'm interested in knowing if she sleepwalked all the way to school was Lion walking with her when she was sleepwalking?

Beth: Yes.

H: So if that was true would that make Lion real or not Beth?

Beth: Well she might have been dreaming about the lion and in her sleepwalking.

Sample of the same extract, using a CA-based approach to the transcript:

1	T:	But if she was sleepwalking with the lion, Beth,
2	Beth	[mmm?
3	T:	did she sleepwalk all the way to school?
4	Beth:	ehm well ( )
5	Ken:	=but how would she know where she was going?=
6	T:	= (to Ken) º she wouldn't watch where she was going? It hhh would be hard to get to school! º Beth I'm interested in knowing if she sleepwalked all the way to school was Lion wal walking with her whi while she was sleepwalking?
7	Beth:	Yes ((sounds hesitant))
8	T:	Ahh?=
9	( )	=Ahh!=
10	T:	So if that was true would that make Lion real or not Beth?
11	Beth:	Well she might have been eh <u>dreaming</u> about the lion and in sleepwalking.

Ten Have states that 'transcripts are unavoidably incomplete, selective renderings of the recordings' (2007: 31). In other words, although the CA-based transcripts presented a more complete picture of the actions and what was said (Pomerantz and Fehr, 1997, in ten Have, 2007: 122-124) than the more basic transcripts used in the previously described analysis of categorised responses, no transcript could ever completely represent the reality of the recorded enquiries. Instead, my transcripts were based on what I could perceive in the recordings, and, either consciously or unconsciously, what I judged to be of value in the context of this study.

[14] A complete transcript of this enquiry using the analysis of categorised responses can be found in the Appendices as Appendix 4. An extract from it which has been analysed using CA methods as described in this section, is presented and discussed as Extract 6 in the Findings chapter.

During and after completion of the extract transcripts, I went through a process of 'noticing' (Mason, 2002) and reflection both on the interaction and turn-taking (Pomerantz and Fehr, 1997, in ten Have, 2007: 122-124) and on the ideas generated by the pupils. Finally, I recorded my observations for each extract in an analysis summary. In the relevant section of the next chapter, I will present these extracts, and my observations related to both the interaction and creative thinking.

Chapter summary

In this chapter I have thus explored the methodological principles underlying this research and identified the interpretivist stance which I have taken. I have also provided an overview of the methods used, and the details of the two types of discourse analysis which I have applied. I will now turn to the Findings chapter, in which I will present the outcomes from this research.

Chapter 4. Findings

Introduction

In this chapter I present the findings from my study in two main sections: In Section 4.1 focus on creative thinking as developed and expressed by *individual pupils*, whereas in section 4.2 I focus on the creative thinking which was evident in *social interaction*. In section I 4.3 draw some preliminary links between the findings from both major sets of discourse analysis, discussed in sections 4.1.1 and 4.2

Throughout this chapter, I have abbreviated the word 'enquiry' as 'E'. E20, for example, indicates Enquiry 20. An overview of details of the 17 transcribed and analysed enquiries is presented as Appendix 1. Appendix 2 (an overview of the categorised responses) and Appendix 3 (an overview of the categorised responses made by individual pupils) will also be drawn upon in the following section.

4.1 The creative thinking of individual pupils

In section 4.1.1 I discuss my findings from the analysis of categorised responses in terms of the development of responses, and in section 4.1.2 I present some brief details of the individual pupils based on my knowledge of them as their class teacher, and the categorised responses made by them . As I discussed in the Methodology chapter, this was the first main dataset in this study. This section is followed by section 4.1.3, in which I discuss pupil results from the Torrance Test of Creative Thinking (Torrance, 1990b), and put these into the context of the findings from section 4.1.1 and 4.1.2.

4.1.1 *Findings from the analysis of categorised responses*

As discussed in the Methodology chapter (section 3.3.1), responses were initially categorised as either Reproductive (non-novel), or Productive. All *Productive* responses were then coded as Tangential, Original or Reasoning. Additionally, a second level of categorisation of the responses was carried out, allocating them, where relevant, to such categories as Responsive, Initiating, Speculative, Metacognitive, Procedural, and expressing either Agreement or Disagreement.

In this section I focus on the findings related to the responses categories. I give an overview of the numbers of recorded and categorised responses; to what extent and how any of these developed during the year; and the results of an investigation into any correlations between the various categories. Looking at some of the pupil groupings, I will also describe the impact of gender and year group on these responses.

A sample transcript of this analysis, from E 14, can be found as Appendix 4.

The categorised responses

A summary of the data presented in this section can be found in the appendices (Appendix 2).

Reproductive and Productive Responses: totals and percentages

A total of 541 pupil responses was categorised in the 17 transcribed Community of Enquiry sessions.

As can be seen in Figure 10, the number of categorised responses varied from nine in E4 to 65 in E15, and rose during the year: the average number of responses per enquiry rose from 21 in E1- E12, to 44 in E13-21. This was to some extent the result of the fact that after E12 the 'Round' strategy was used, which gave all pupils the opportunity to make at least one response during each Enquiry.

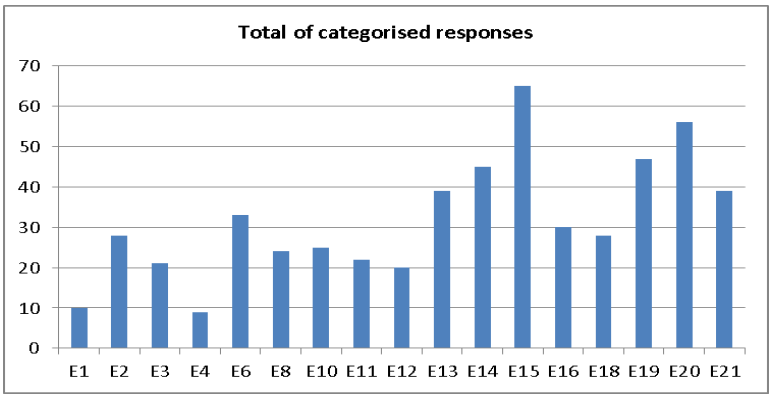


Figure 10: Total numbers of categorised responses

Table 1 below shows that 228 of the total of 541 categorised responses were found to be Reproductive, and 313 Productive, which indicates that in 58% of all categorised responses there had been a level of creative thinking involving the introduction of a new concept ('Productive').

	All categorised responses	**Reproductive responses**	**Productive responses**
Totals	541	228 (42% of total)	313 (58% of total)

Table 1: Total of responses - Reproductive and Productive

Productive Responses

Of the 313 *Productive* responses, 9 were categorised as Tangential, 230 as Original and 74 as Reasoning. Figure 11 gives an overview of these responses across the 17 transcribed enquiries. It is clear from this graph that there was a large degree of variation in the types of responses made in each enquiry.

Tangential responses were only made in Enquiries E6, E15, E18 and E19. These numbers are, compared to the other responses, very small, and they do not particularly seem to mark a trend. This type of response was only made by a very small number of children: six of the nine comments categorised as Tangential comments were made by only two children.

The 230 Original responses varied between four and 28 responses per Enquiry. Despite these sharp fluctuations, there appeared to be a rise in the occurrence of Original responses, although as mentioned before in relation to the total number of responses, this might have been related to the general rise in responses, and in part due to the introduction of 'Rounds' after E12.

The 74 responses categorised as Reasoning also varied between the Enquiries, between 0 and 13. As in Original responses, there appeared to be a rise in this response in the second half of the series of Enquiries.

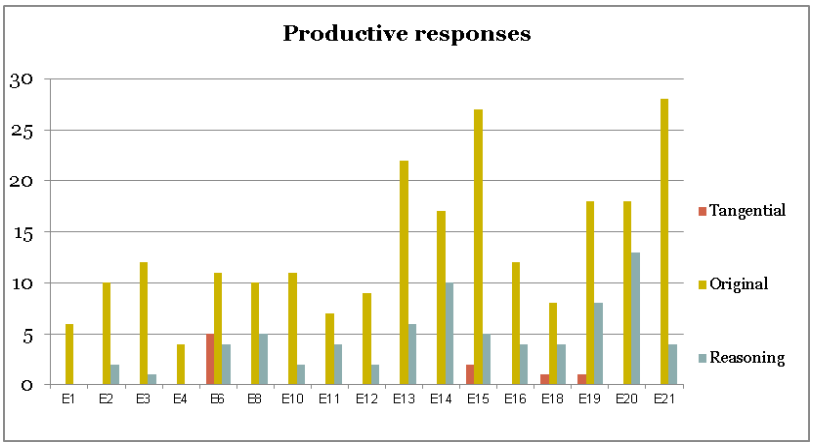


Figure 11: Productive responses[15]

Percentages of Productive Responses:

As the total number of *all* responses varied but generally rose between the enquiries (see Figure 10: page 73), I investigated whether the apparent rise in Originality and Reasoning responses had been in line with this overall rise. For this purpose I decided to look at the

[15] The colours used to represent Tangential, Original and Reasoning in Figure 11, Figure 12 and Figure 13 represent those used in the analysed transcripts, (see Appendix 4)

percentages of Originality and Reasoning responses out of the total number of responses in each enquiry, as this would provide an insight into the *relative* frequency and development of each response. Calculations of this kind within the Tangential responses did not seem relevant as the total number of responses in this category (nine) was very small, and I had already concluded that there did not appear to be a particular trend.

However, the calculation of percentages of Original and Reasoning responses did result in some interesting findings. Whereas the percentage of Original responses fluctuated, but did not appear to show a particular rise (see Figure 12), the percentages of Reasoning responses also fluctuated, but appeared to have risen during the year (see Figure 13).

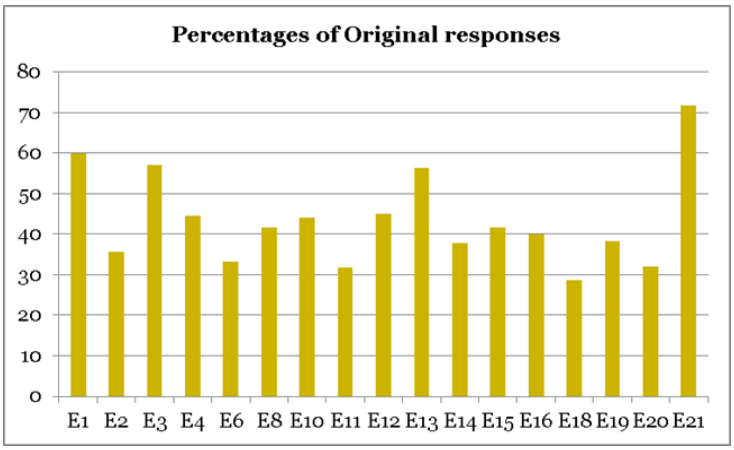


Figure 12: Percentages of Original responses

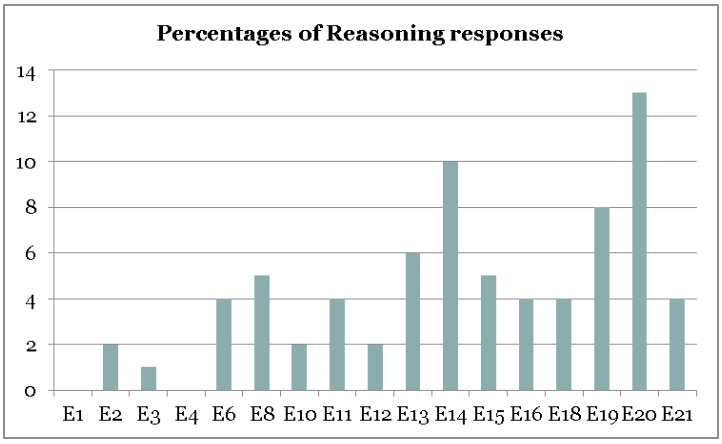


Figure 13: Percentages of Reasoning responses

In order to verify this apparent difference in development between the two response categories, and to investigate any other differences in trends between the main response categories, I then compared the average percentage results from the first nine enquiries (E1

up to and including E12) with those from the last eight (E13 up to and including E21): see Table 2:

	E1-E12		E13-E21		Change
	Total numbers	**Percentage of total in E1-E12**	**Total numbers**	**Percentage of total in E13-E21**	
All response categories	192	100	349	100	
Reproductive responses	87	45.3%	141	40.4%	- 4.9 %
Productive responses	105	54.7%	208	59.6%	+4.9%
Tangential responses	5	2.6%	4	1.1%	-1.5%
Original responses	80	41.7%	150	43.0 %	+1.3%
Reasoning responses	20	10.4%	54	15.5%	+5.1 %

Table 2: the main categorised responses: a comparison of E1-E12 with E13-E21

As indicated before, totals rose sharply between the first and second half of the series of enquiries: In E1-E12 a total of 192 responses was analysed, whereas in E13-E21, 349 responses were analysed. The average percentage of *Reproductive* responses fell by 4.9 % from 45.3.7% to 40.4%, whereas *Productive* responses rose by the same percentage from 54.7% to 59.6%. Within the Productive responses, the average percentages of Tangential responses for the first and second half of the series of enquiries stayed very similar, but dropped by 1.5%, whereas that of Original responses stayed very similar but *rose* very slightly by 1.3%. The average percentage of Reasoning responses rose by a stronger 5.1 %, from 10.4% in the first half of the enquiry series to 15.5% in the second half of the series. We can thus conclude that there appears to have been a small rise in the creative responses, especially in the highest-valued category of those responses, Reasoning. I will now turn to the additionally categorised responses.

Additionally categorised responses

As discussed in section 3.3.1 of the Methodology Chapter, in addition to the categorisation of the responses into Reproductive and various types of Productive talk, responses were, where this was relevant, also allocated to a non-exclusive range of categories, many of which were related to the nature of a Community of Enquiry. These included Responsive, Initiating, Speculative, Metacognitive, and Procedural responses, as well as responses expressing Agreement or Disagreement. In order to explore any apparent trends in the development of these responses, I calculated the average number of responses in each category per enquiry

and, again, compared figures and percentages for the first half of the enquiries (E1-E12) with those for the second half of the enquiries (E13-E21): see Table 3. I will discuss any apparent trends in their development during the year in the following sections.

	E1-E12			E13-E21		
	Number of responses	Average number of responses per enquiry[16]	Percentage of total number of responses in E1-E12	Number of responses	Average number of responses per enquiry[17]	Percentage of total number of responses in E13-E21
Responsive responses	88	10	45.8	135	17	38.7
Initiating responses	19	2	9.9	35	5	10.0
Speculative responses	37	4	19.3	45	6	12.9
Metacognitive responses	16	2	8.3	39	5	11.2
Procedural responses	4	0	2.1	7	1	2.0
Agreements	48	5	25.0	36	5	10.3
Disagreements	29	3	15.1	52	7	14.9

Table 3: Additionally categorised responses: a comparison of E1-E12 with E13-E21[18]

Responsive responses (Figure 14)

Overall, 41% of all responses were coded as Responsive, while a slightly higher percentage (43%) of Reproductive responses than of Productive responses (40%) were coded as Responsive. Within the Productive responses, 33% of the Tangential responses, 38% of the Original responses and 47% of Reasoning responses were Responsive.

The average number of Responsive responses rose between the first and second half of the enquiry series from 10 in E1- E12, to 17 in E13- E21, although in the second half of the enquiry series E16 and E18 were among five enquiries with the lowest number of Responsive responses. However, viewed as a proportion of the total number of responses in each half of the enquiry series, Responsive responses *fell* from 45.8% to 38.7%.

[16] Decimals rounded to nearest whole number

[17] Decimals rounded to nearest whole number

[18] Columns of percentages in this table do not equal 100 in this table, as these categories were not discrete, i.e. responses could be allocated to more than one of these categories.

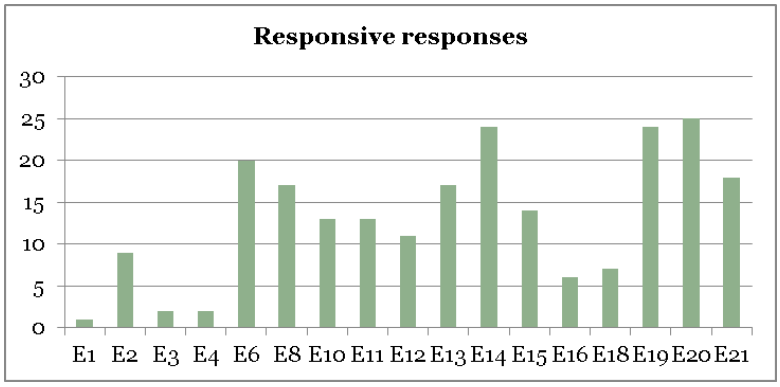


Figure 14: Responsive responses

Initiating responses (Figure 15)

Again, there seemed to be a rise in this type of responses: there was an average of two of these responses in E1– E12, and an average of five in E13- E21. However, this seemed mainly due to E14, in which 10 initiating responses were made. The rise in the total categorised responses across the year, which I discussed earlier in this section, appears to have accounted for the rise in the number of Initiating responses made: as a proportion of the total number of responses made in each half of the enquiry series, the percentage of Initiating responses remained almost the same (9.% and 10.0). No initiating responses were made in E1 and E3, which may indicate that it requires a certain level of experience of taking part in a Community of Enquiry to be able to respond to the comments of others, which is also reflected in the low numbers of Responsive responses seen in E1, E3 and E 4 (see Figure 14: Responsive responses). In other enquiries too, Initiating and Responsive responses seem, unsurprisingly, to reflect each other.

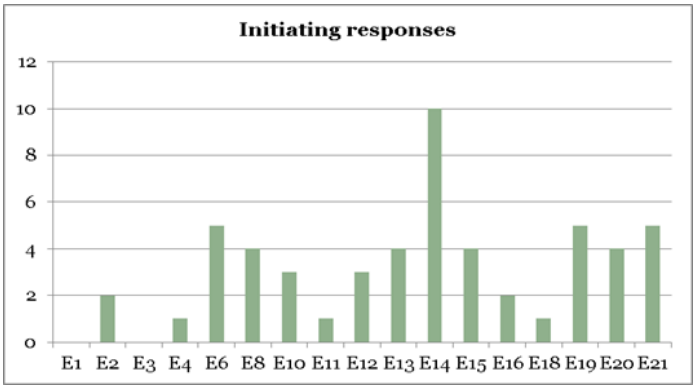


Figure 15: Initiating responses

Speculative responses (Figure 16)

Speculative responses varied strongly between 0 and 12 per enquiry. Speculative responses were already made in the first three enquiries, which suggests that speculative language was

already established, at least for a number of pupils, at the start of the year. Again, there was a slight rise in this type of response: from an average of four comments in E1-E12, to an average of six comments in E13-E21, although as a proportion of all comments made, Speculative responses dropped from 19.3% to 12.9%. The fluctuation in numbers of Speculative responses did not appear to be particularly related to the enquiry question under discussion: the three enquiries with the highest number of speculative comments (E6, E14 and E19) had 'Why did children not like the field anymore?', 'Was lion real?' and 'Why did Danny and his dad not live in a house?' (see Enquiries Overview: Appendix 1) as enquiry questions, which appeared no more or less likely to induce speculative thought than most other enquiry questions.

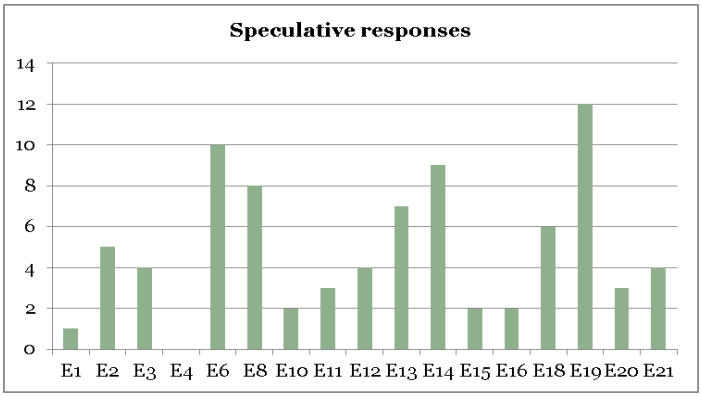


Figure 16: Speculative responses

Metacognitive responses (Figure 17)

This type of response varied between 0 and nine times in each enquiry. Although some Metacognitive responses were already made in enquiries E2 and E3, which suggests that this kind of response was not new to some pupils, it seems interesting that the only two enquiries in which none of these responses were made (E1 and E4) belonged to the first four enquiries. The average number of Metacognitive responses made in E1- E12 was two, whereas the average number made in E13- E21 was five. Although, again, some of this rise may be related to the use of 'Rounds' after E12 (for example 'I am thinking' [Beth, E20] was categorised as a metacognitive response), this does seem to indicate a rise in Metacognition (Higgins et al., 2001), which was reflected by a rise in the proportions of these responses made, from 8.3% to 11.2%.

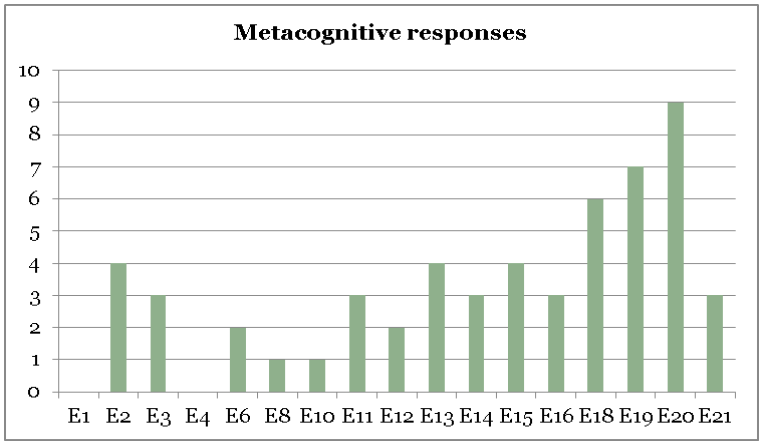


Figure 17: Metacognitive responses

Procedural responses (Figure 18)

A maximum of only two of these responses was made in any enquiry, and they occurred in no more than six enquiries. Procedural responses were first made in E6, and four of the six Enquiries in which they were made were in the second half of the series, which illustrates the fact that the Community of Enquiry was a pedagogical approach which was new to the class. This seems to suggest that it took the pupils a few months to build up their understanding of the format and procedures to the extent that they wanted to make suggestions of how we could carry out the enquiries. However, this category had by far the lowest numbers of responses allocated to it, indicating that pupils did not show a great desire, or were not given encouragement, to be involved in the organisation of the enquiries.

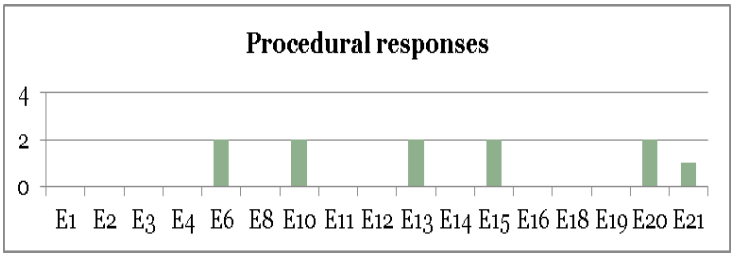


Figure 18: Procedural responses

Agreements and Disagreements (Figure 19

The total numbers of Agreements and Disagreements from the series of enquiries is surprisingly similar: 84 explicit Agreements and 81 Disagreements were expressed in total. Figure 19 shows, however, that their occurrence varied strongly between the enquiries. The number of Agreements varied between 0 and 14 per enquiry, whereas for Disagreements this varied from 0 to 11.

Two interesting observations can be made: firstly, in the majority of the first nine enquiries (E1- E12) more Agreements were expressed than Disagreements. The average here is five for Agreements and three for Disagreements. In the majority of the second eight enquiries (E13-E21), on the other hand, more Disagreements than Agreements were expressed. The average here is five Agreements and seven Disagreements. The average number of Agreements is thus the same (five) in the first half of the series of enquiries as in the second. However, in view of the overall rise in responses, the percentage of responses expressing Agreement fell from 25% in the first half of the enquiry series to 10.3% in the second half of the enquiry series. On the other hand, for Disagreements there was a rise from an average of three to seven responses per enquiry, which reflected the overall rise of responses – in terms of percentages of total numbers of responses, the percentage of Disagreements remained around 15%.

Secondly, whereas Agreements were expressed in the first two enquiries, Disagreements only started to be expressed from E3, indicating perhaps that Disagreement was a type of classroom response which was new to most children, whereas most pupils were already familiar with the use of agreement at the beginning of the series of Community of Enquiry sessions.

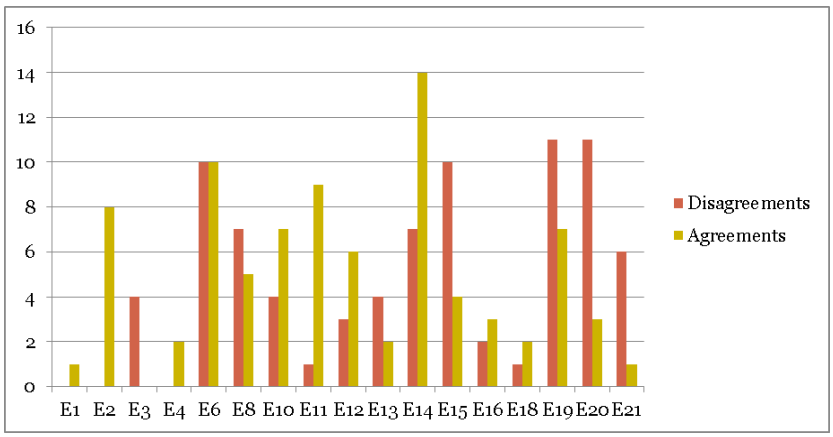


Figure 19: Agreements and Disagreements

Correlations between the categorised responses

Having explored the development of the various main and additionally categorised responses, I next investigated if there were any correlations between the three types of Productive responses and any other categorised responses in terms of response-counts per Enquiry. Cohen, Manion and Morrison (2003) and Pallant (2001) point out the hazards of crediting the found correlations in small-size studies with too much importance. Bearing in mind that a correlation of r=.50 indicates only a 25% shared variance even in studies with much larger sample sizes (Pallant, 2001: 121), I discarded any correlations < r=.45. Of course correlations do not show causality, and we cannot assume that, where correlations appear between two

types of responses, these were made in direct response to each other. Relevant correlations are listed in Table 4.

Pearson r correlation coefficients between:	**r=**
Tangential responses and Disagreements	.48
Tangential responses and Responsive responses	.66
Original responses and Reasoning responses	.51
Original responses and Reproductive responses	.52
Original responses and Disagreements	.62
Reasoning responses and Reproductive responses	.66
Reasoning responses and Disagreements	.70
Reasoning responses and Metacognitive responses	.74

Table 4: Pearson correlation coefficients r >.45 between the three types of Productive responses and all other response categories – (response counts per Enquiry)

Before I discuss the correlations, please see below an example of each type of Productive response: .

Tangential Yes, they might chuck a ball in. Well it's got red, what you knit with, like this: like our uniform, like what we all wear now. Here, this it's a red ball that you make it out of. My granny knits it, she has knitting needles and she makes all those jumpers…

Original: Because it said in the story that there was some water there and it might have …sneaked round the bottom and come back up and…

Reasoning: I think the forest will still be there because if they'd wanted to destroy it they wouldn't have built the walkway in it

and they wouldn't have let it, they wouldn't have let people go in it, they would have blocked it off[i].[19]

With the caveats mentioned on page 81 in mind, a number of points related to the Pearson correlations found (Table 4) can be reported: he low number of correlations between Tangential and other responses may have been related to the very low number of responses categorised as Tangential in the series of enquiries (nine in total). However, two correlations were found: with Disagreements and with Responsive responses. It is tempting to interpret the correlation of r=.48 between Tangential and Disagreements as showing a direct linkage: it is likely that these comments might meet with other pupils' disagreement. Similarly, it is feasible that Tangential responses in particular incurred Responsive responses (r= .66 between Tangential and Responsive responses). Interestingly, Responsive responses did not correlate with any other response categories.

Original and Reasoning responses were not just found to correlate to some extent with each other at r=.51 but also both correlated most highly with Disagreement (Original r=.62 and Reasoning r=.70). This confirms perhaps that disagreement, which signifies a level of critical thinking, has a strong relationship with creative thinking in the Community of Enquiry, as Fisher (2000) and Lipman (2003) have suggested. Interestingly, the correlations between *Agreements* and either Reproductive responses or Tangential, Original and Reasoning responses were very low (0.27, 0.28, -0.08 and 0.32 respectively) – too low to include in Table 4, in fact. Perhaps more surprising than the correlation of Original and Reasoning responses with Disagreement is the correlation which both Original and Reasoning responses were also found to have with Reproductive responses (r=.52 and .66 respectively). This may indicate that the rephrasing of concepts does play a role in the production of creative ideas. I will explore the role of Reproductive responses and Disagreement in the Discussion chapter. Finally, Metacognitive responses also appeared to correlate with Reasoning responses (r= .74). This seems to be reflected in the rise of both Reasoning and Metacognitive response percentages across the year.

Having reported the findings on the development in categorised responses in general, I will now turn to the responses in relation to the pupils who made them.

The pupils and their responses

Before describing the responses made by individual pupils, I will discuss two sets of pupil groupings: based on gender and year group.

Groups of pupils: gender and year group (Table 5) shows the pupils grouped into these two categories: eight girls and eleven boys, and eight Year 1 pupils and eleven Year 2 pupils. In

[19] Further criteria and examples of these responses can be found on pages 59-63 within the section titled 'the four main categories of responses' in section 3.3.1

order to find out if either gender or year group had an impact on the responses made, I investigated the responses made by both sets of groups.

	Year 1 (age 5-6)	Year 2 (age 6-7)
Boys	Tim, Dean, Sean, Ken, Mark	Finn, Keith, Eric, Karl, Neil, Dan
Girls	Sue, Gemma, Cath	Dee, Beth, Liz, Amy, Faye

Table 5: The pupils, grouped according to year group and gender

Gender (Figure 20)

A total of 330 responses was made by boys, and a total of 211 responses was made by girls. As is shown in the left-hand side of Figure 20 as *observed responses*, more responses in both the Productive and Reproductive categories were made by boys than by girls: 132 Reproductive responses were made by boys and 96 by girls, and 198 Productive responses were made by boys, and 115 by girls. In view of the fact that there were eleven boys and eight girls, and a difference could thus be expected, I next investigated what numbers of Productive and Reproductive responses would have been expected if pupils of both genders had made the same number of each type of responses. These *expected* numbers of responses are shown in the right hand-side of Figure 20. As is clear from the combined graphs in this figure, the number of observed Reproductive responses was identical to the expected responses for boys (132) and girls (96). In Productive responses there was a slight difference: 16 more observed than expected Productive responses were made by boys (198 vs. 182), and 16 fewer observed than expected by girls (115 vs. 131). Out of 313 Productive responses, however, this difference is small and it appeared that gender had little, if any, impact on the type of responses made.

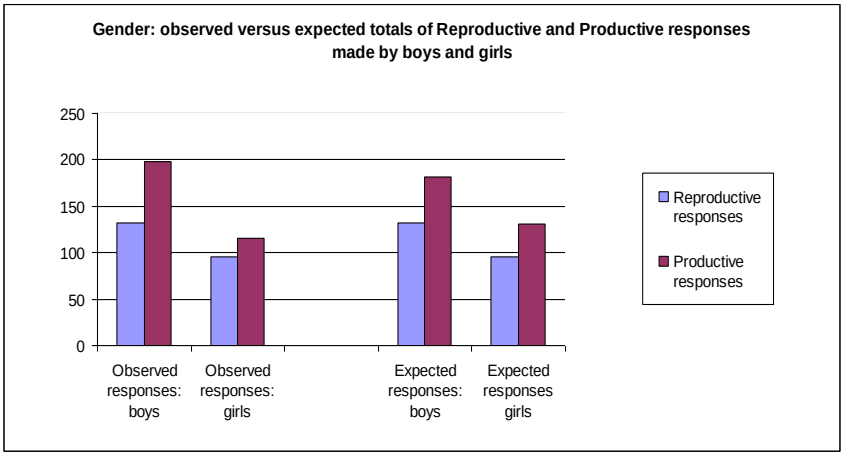


Figure 20: Reproductive and Productive responses analysed according to gender – observed and expected numbers of responses.

Year group (Figure 21)

This section focuses effectively on the impact of pupils' *age* by comparing pupils from the two year groups. However, due to the spread of birth dates of birth across the year groups, this comparison of the two year groups is not strictly based on age: there was less of a difference in age between the younger Year 2 children and the older Year 1 pupils, than between the oldest and youngest pupils in each year group. Furthermore, factors other than age may have impacted on the difference between the year groups, such as the fact that the Year 2 pupils had been in my class as Year 1 children the previous year, whereas I and the classroom were new to the Year 1 pupils. I therefore refer to year group, rather than age, in this section.

In comparison with gender, it was clear, even at the time of the enquiries, that year group *did* seem to have an impact on the responses made by pupils: Year 2 pupils made far more responses than Year 1 pupils. Out of the total of 541 categorised responses, Year 2 pupils, who made up 57% of the pupils, made 410 responses (or 76% of all responses), whereas Y1 children, who made up 42% of the class made only 131 responses (or 24% of all responses - 18% less than would have been expected). For Year 2 pupils this total consisted of 169 Reproductive, and 241 Productive responses, whereas for Year 1 pupils it consisted of 59 Reproductive and 72 Productive responses. To investigate the extent of this apparent impact, as with gender, I calculated the numbers of Productive and Reproductive responses which would have been *expected* if each year-group had made a proportionally equal number of responses (allowing for group-size), given the total numbers of Productive and Reproductive responses made (see Figure 21 and Table 6).

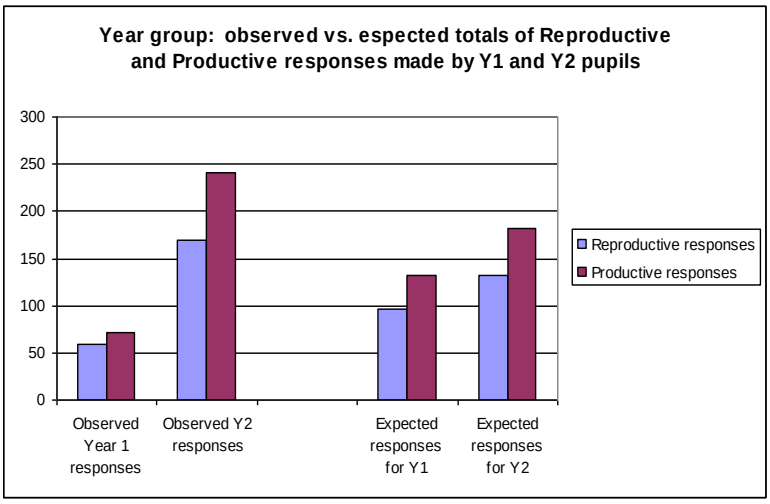


Figure 21: Reproductive and Productive responses analysed by year group – observed and expected numbers of responses

	Total	Reproductive	Productive
Observed Y1 responses	131 (24%)	59 (26%)	72 (23%)
Observed Y2 responses	410 (76%)	169 (74%	241 (76%)
Expected Y1 responses	228 (42%)	96 (42%)	132 (42%)
Expected Y2 responses	313 (58%)	132 (58%)	181 (58%)

Table 6: Observed vs. Expected responses for Year 1 and Year 2

Thus, 37 more observed than expected Reproductive responses were made by Year 2 pupils (169 vs. 132) and 37 fewer observed than expected Reproductive responses were made by Year 1 pupils (59 vs. 96)

In Productive responses this contrast appears even starker: 60 more observed than expected Productive responses were made by Year 2 pupils (241 vs. 181), and 60 fewer observed than expected Productive responses were made by Year 1 pupils (72 vs. 132). However, it is interesting that in the context of the fact that Y1 pupils made only 24% of the responses overall, there did not seem to be a great deal of difference in the types of responses made by Y1 pupils (26% of all Reproductive responses; and 23% of all Productive responses).

I will now look in more detail at the Year group difference within the Productive responses. As before, I calculated the numbers of the three types of Productive responses which would have been *expected* if each year-group had made a proportionally equal number of responses (allowing for group-size), given the total numbers of responses made in each category (see Figure 22 and Table 7).

Interestingly, the only category in which the majority of responses was made by Year 1 pupils is that of Tangential responses (5 out of 9).

For both Original and Reasoning responses, the observed responses of Year 1 pupils were 20% fewer than expected (and conversely, the observed responses of Year 2 pupils were

20% higher than expected): Year 1 pupils made 22% of both Original and Reasoning responses (see Table 7 and Figure 22). Similarly to the finding above in relation to Productive vs. Reproductive responses, there was thus little variation in the *percentage* of different types of responses within each year group.[20].

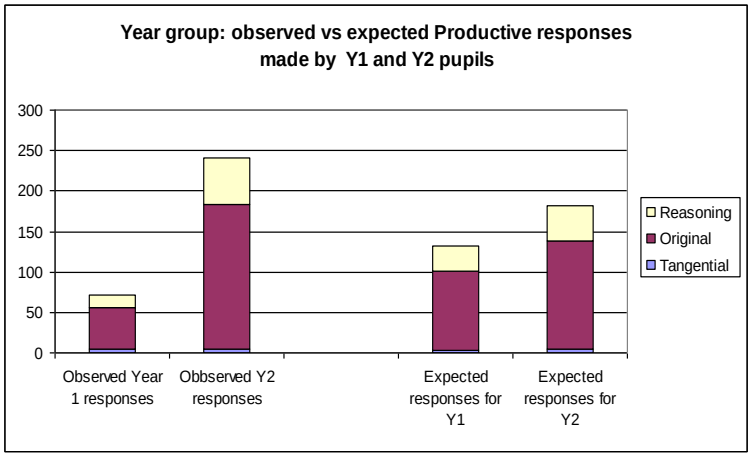


Figure 22: Productive responses by Year 1 and Year 2 analysed into Tangential, Original and Reasoning

[20] With the exception of Tangential responses

	Total number of Productive responses	Tangential responses	Original responses	Reasoning responses
Observed Y1 responses	72 (23% of total)	5 (55% of total of Tangential)	51 (22% of total of Original responses)	16 (22% of total of Reasoning responses)
Observed Y2 responses	241 (77% of total)	4 (44% of total of Tangential)	179 (78% of total of Original responses)	58 (78% of total of reasoning responses)
Expected Y1 responses	132 (42%)	4 (42%)	97 (42%)	31 (42%)
Expected Y2 responses	181 (58%)	5 (58%)	133 (58%)	43 (58%)

Table 7: Productive response categories analysed per year group- observed and expected numbers of responses

In order to verify this apparent lack in proportional difference between the two year groups in the types of responses made, I finally investigated the percentages for each main response category per child. This involved, calculating for each pupil's Productive, Reproductive, Tangential, Original and Reasoning responses, what percentage that number represented out of their total number of responses (see Appendix 3). I used these response percentages to calculate 'grand' year group averages, which are presented in Table 8. This confirmed that the type of responses made were proportionally very similar between the two year groups, although Year 1 pupils had on average made slightly more Tangential responses and Year 2 pupils had, on average, made slightly more Original and Reasoning responses out of their totals of responses.

	Percentage of Reproductive responses from total	Percentage of Productive responses from total		Percentage of Tangential responses	Percentage of Original responses	Percentage of Reasoning responses
Year 1 average	51%	49%		3%	36%	10%
Year 2 average	47%	53%		1%	39%	13%

Table 8: Grand averages of response percentages made in each category per pupil, by year group

Summary

In summary, 24% of all responses, and 23% of the Productive responses were made by Year 1 pupils. As Year 1 pupils made up 42% of the class numbers, they clearly made only around half the number of Original and Reasoning responses which they would have made if there had been complete parity between the year groups. This seems to indicate that, in contrast to gender, year group *did* have an impact on the number of responses made, and that 'being in Year 2' afforded Year 2 pupils an active part in the Community of Enquiry, which was not available to the Year 1 pupils to the same degree.

However, with the exception of Tangential responses, the ratio of responses for individual response categories made between the two year groups, was, in all main categories, similar to the ratio of responses made between the year groups overall. In total, the Year 1 pupils made 24% of the responses, whereas they made 23% of Reproductive responses, 26% of the Productive responses, and 22% of both Original and Reasoning responses. This finding was confirmed when looking at the year group grand averages of response percentages made. This, too, indicated that the differential between the year groups was related more to taking an active part in the enquiries, than to the relative *quality* of the creative thinking expressed in each year group.

There are, of course, difficulties in using averages of whole groups, as they mask differences between individuals which may be important. In this class, individual differences in achievement in a range of areas seemed to be wider in the Year 1 group than in the Year 2 group: Cath and Tim's high percentages of Productive responses, for instance, increased

their year group average considerably, as Figure 23 indicates. There appeared to be a greater spread in the percentages of Productive responses as a proportion of total responses made amongst the Year 1 pupils than amongst the Year 2 pupils. This, to some extent, coincided with the wider spread in Year 1 pupils' development in curriculum subjects such as English and Maths. From my knowledge of the pupils as they progressed through the school after the data-gathering year, this distinction between the two groups remained. This confirms Thomas' (2011) points about the difficulties in generalising from small case studies: the differences between these two groups of pupils is an example of how much small groups can vary from each other, and, by implication, indicates the difficulties in comparison or transfer of findings from one context to another.

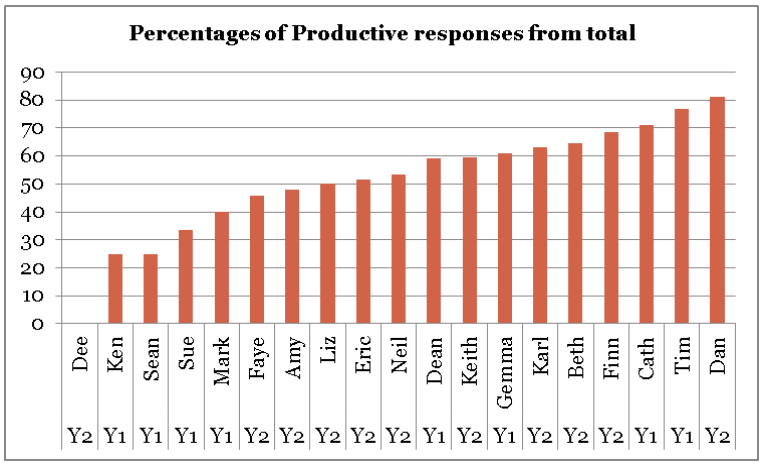


Figure 23: Spread in percentages of Productive responses

There are other findings which relate to the difference between year groups: only 1 procedural response was made by a Year 1 pupil (and not until E10, whereas the first Year 2 procedural response is made in E6); and whereas Year 2 pupils began to made 'Disagree' type statements in Enquiry 3, Year 1 pupils did not do so until enquiry 6, and they made only 15 out of the total of 81 of such responses. Similarly, responsive Reasoning statements were only made from Enquiry 12 by Year 1 pupils, as opposed to from Enquiry 2 for Year 2 pupils, and Year 1 pupils made only 8 out of 36 of these responses. Finally, in terms of totals of comments made, seven Year 1 children were among the 8 pupils who made the fewest comments. However, as mentioned above, within the year groups there was a wide variation in the type and number of responses made by individual pupils, which I will turn to now.

4.1.2 *Individual pupils*

Against the backdrop of the general and group findings described in section 4.1.1, I will now briefly describe some numbers and types of responses made by each of the pupils, and, where relevant, accompany this by general observations from my knowledge as the pupils'

class teacher. The reason for giving this full set of pupil data here is partly to present the findings from the analysis of categorised responses, and partly to introduce the pupils and contextualise the class as a whole before Section 4.2. The descriptions are in order of age, starting with the youngest Year 1 child. A summary of the data presented in this section can be found in the appendices (Appendix 3). The End of Key Stage 2 SATs results of the Year 2 pupils, achieved in May, can be found in Appendix 6.

Tim, year 1

Tim was a gentle, serious boy. Although he only made 13 categorised responses (only three pupils made fewer responses than him), these were made in a relatively short time: Until Enquiry 13 he did not take part verbally, but in each of the later Enquiries he made at least one response. Tim's responses tended to be particularly productive: he made seven Original and three Reasoning responses, and, interestingly, only three Reproductive responses. Of the eight Year 1 children he had the highest percentage of Reasoning responses (23%). Four out of the 13 responses which he made were responded to by others, whereas he only responded in two of his comments directly to what another pupil had said. This was unusual, as all other children made a greater percentage of responsive comments than issue-raising comments. Two of Tim's comments were also coded as Metacognitive. I will return to Tim in the Discussion chapter.

Dean, Year 1

Dean had a very playful disposition. He was very inquisitive, and although he found reading, writing and mathematics difficult, he was confident, easy-going, and popular. Dean was one of the quieter members of the Community of Enquiry, who would sometimes find it hard to sit still during the enquiries. Dean made a total of 22 responses in the Community of Enquiry. There was a small rise in the average number of responses he made during the first and the second half of the series of enquiries. Dean made most responses in Enquiry 6 (The Old Field), during which he made six responses, out of which three were classified as tangential. Across the year, Dean made 4 Tangential responses, which was the highest number of these responses made in the class. He also made nine Reproductive responses, eight Original responses and 1 Reasoning response. A relatively high percentage (19%) of Dean's comments was responded to by other children, whereas a relatively low percentage of his comments (24%) was made in direct response to comments made by other children.

Sean, Year 1

Sean tended to be quite quiet in class. He was rather shy in his contact with adults, but popular with his class mates, and very friendly with Year 2 pupil Karl. He enjoyed maths, writing and practical activities and loved playing football. Sean made only eight responses during the Community of Enquiry sessions, six of which were Reproductive – the remaining two were coded as Original. Although Sean's Reproductive comments were made throughout the year, he made his two Original comments in E4 and E6, implying a unique decrease in the number of Productive comments made. Five of Sean's responses were also made in the first

half of the series of enquiries (E1- E12), whereas in the second half (E13- E21) he only made his remaining three responses: out of 18 pupils who were in the class for the full year, he was the only pupil who made fewer responses in the second half of the enquiry series. I will return to Sean in the Discussion chapter.

Ken, Year 1

Ken was a very friendly, imaginative and cheerful pupil who, again, enjoyed practical activities, but did not find Maths and English easy in Year 1 and could be easily distracted. However, he enjoyed making up stories and talking about books and was very communicative in small groups. Ken made 16 categorised Responses during the Community of Enquiry sessions, 12 of which were Reproductive, and four of which were coded as Original. Twelve of his comments were made in the second half of the enquiries.

Sue, Year 1

Sue was friendly and outgoing, and generally seemed to enjoy being at school, although perhaps more for social than academic reasons. Despite her apparent confidence in small groups, Sue only made three categorised responses in the whole series of Community of Enquiry sessions, of which two were Reproductive (and Responsive, indicating an Agreement with someone else's response) and one was Original. Sue's first Reproductive response was made as early as Enquiry 2, whereas she made her only Original response in Enquiry 15.

Mark, Year 1

Mark was an inquisitive, friendly and sensitive boy who was interested in many areas of the curriculum, and often made thoughtful comments in a quietly confident way. Mark made 15 categorised responses in the series of enquiries, nine of which were Reproductive. Of his six Productive responses, one was Tangential, three were Original and two were coded as Reasoning, which showed a wide range in the type of responses made. Mark made one comment in most enquiries from Enquiry 6, which perhaps confirmed his 'quiet confidence', and engagement with a wide range of topics. Eleven of Mark's responses were responsive, and he had a very high number (five) of speculative responses, which seemed typical of his inquisitive and imaginative perspective.

Gemma, Year 1

Gemma had a very independent disposition. She showed interest and enjoyment in all subjects and activities, and achieved highly, as she seemed to have an intrinsic enjoyment of learning. Craft (2002) mentions risk-taking as an element of creativity as "a broaching of boundaries, the 'going-beyond, the breaking with convention". In many of her activities Gemma seemed to be a risk taker: she was imaginative and not frightened to make mistakes or to be seen to be different. Gemma was a popular member of the class who worked and played well with pupils of either gender or year group. Gemma made 23 categorised responses in the enquiries, which made her the second most-frequent Year 1 contributor to the enquiries, although compared to the class as a whole, her total was slightly below

average. Of Gemma's 23 responses, nine were Reproductive. Of her 14 Productive responses, 8 were Original and 6 were categorised as Reasoning. This made her one of the pupils with the highest number of Reasoning responses (26%). Whereas Gemma's Reproductive and Original responses were spread across the year, her Reasoning responses were all made in E13- E21. Only one (4%) of the responses which Gemma made, introduced an issue which was directly responded to by other pupils, whereas a high number of her responses (13, or 56%) was made in direct response to what another pupil had said. Gemma made a fairly low number of responses which expressed Agreement (three, or 13%), and a very high number which expressed Disagreement (seven, or 30%). I will return to Gemma in the Discussion chapter.

Cath, Year 1

Cath was the oldest Year 1 pupil, very confident, and often very serious. Like Gemma, she could communicate well and achieved highly in all subject areas, but she was much more competitive and very keen to take responsibility over others. Cath was the most vocal Year 1 pupil: she made a total of 31 responses, only 9 of which were Reproductive. Of her 22 Productive responses, 18 were Original and 4 were coded as Reasoning. This made Cath the pupil with the highest percentage of Original responses in the class as a whole (58%). Like Gemma, Cath's Reproductive and Original responses were spread throughout the year, and her Reasoning responses were made in the second half, in E13- E21. Eleven of Cath's responses were speculative, and 10 of her responses were Responsive, but only 4 of her own responses were responded to directly by other pupils.

Finn, Year 2

Finn was the youngest Year 2 pupil. He was an extremely able reader, who had a wide vocabulary and a high level of general knowledge, and who could be very imaginative. However, he found many practical and social activities difficult, and often chose to work or play by himself, although he was very friendly with Dan. One of his parents told me that the Community of Enquiry was Finn's favourite activity at school. Finn took a very active part in the Community of Enquiry: he made 79 categorised responses, almost three times the average of the class (28). 54 of Finn's responses were productive: 38 of these were Original and 16 were coded as Reasoning, which meant that he made more responses than other pupils in both categories, but his *percentage* of Original and Reasoning responses was lower than that of a number of other pupils. Only in E1, E2 and E6 did Finn not take an active part. I will return to Finn in the Discussion chapter.

Dee, Year 2

Dee only joined the class in February, and Enquiry 11 was her first. Although she seemed to settle in fairly well socially and academically, she tended to be very quiet in a range of situations. Dee made the lowest number of categorised responses - she only made one categorised response (which was Reproductive and Responsive) in the 10 enquiries in which she was present. This made her the pupil with the lowest number of responses. Although she

was given the opportunity to participate in other enquiries during 'Rounds', she would nearly always choose to 'Pass', or, very occasionally, state that she agreed with a previous comment, without giving any reasons. I will return to Dee in the Discussion chapter.

Beth, Year 2

Beth was a very lively and sociable pupil. She could be very inquisitive and observant, and was very aware, and at times reliant on the approval, of other children. She liked stories, drama and art, and in her creative writing would often show a lot of imagination. Beth made 31 responses, a high 20 of which were Productive. Of these, 17 were Original but only three were coded as Reasoning. A high number of Beth's responses (six) was responded to by other children, and she had the highest level of Metacognitive responses in the class (eight responses or 26%). Moreover 21 (or a very high 68%) of Beth's responses were Responsive. She also made many statements in which she directly agreed with another pupil (nine or 29%) and she had the highest level in the class of statements in which explicit Disagreement was expressed (eleven responses or 35%).

Keith, year 2

Keith was a very friendly and popular pupil, who achieved well academically but who could, at times be confused in social situations, and could find it hard to speak fluently. During the year Keith became very interested in puns and jokes, which Carter (2004) has identified as a rich ground for creativity. Keith was absent in five of the recorded enquiries, but nonetheless made 37 categorised responses, 22 of which were Productive, with 19 Original responses and 3 responses coded as Reasoning. Whereas Keith's Reproductive responses were spread throughout the year, he made 13 of his Original responses in the second half of the enquiry range, and his three Reasoning comments in the last three enquiries, which seems to indicate a real development in the quality of comments he made. Fourteen of Keith's responses were made in response to earlier comments, but only one of Keith's comments initiated responses of others.

Eric, Year 2

Eric was a gentle pupil who usually had a smile on his face and got on with all pupils. He was interested in all parts of the curriculum, although reading and writing were not his strongest points. Eric made a total of 33 categorised responses, 17 of which were Productive. Fifteen of Eric's responses were made in response to other pupils' comments and four were Initiating responses. Five of Eric's responses were coded as Metacognitive. Eric's comments in all categories seem to be spread across the year; in contrast to many other pupils he made the majority of his Reasoning responses in the first half of the enquiry series, and his first Reasoning comment was made as early as Enquiry 2.

Liz, Year 2

Liz was a hard-working pupil who could be quite shy towards adults but who was well-liked, especially by her close friends Faye and Beth. Liz made a total of 28 responses, 14 of which

were Productive. Interestingly, a high number of these (three) were Tangential, which could be linked to one of her friends describing her as 'really funny', and could be an indication of playfulness (Craft, 2002; Carter, 2004). She also made nine Original and 2 Reasoning responses. Liz's made her responses throughout the year, although her two Reasoning responses were made in the last seven enquiries. Nine of Liz's responses were in response to earlier comments, but none of her responses initiated other comments, which is perhaps surprising in view of her popularity.

Karl, Year 2

Karl was a sociable and, at times, very thoughtful Year 2 pupil who was very friendly with Year 1 pupil Sean and popular with many other children. In a number of Karl's categorised responses, his total was similar to the average for the class as a whole, and was evenly spread throughout the year. His total number of responses was 27, 10 of which were Reproductive. However, out of his 17 Productive responses, 6 were coded as Reasoning, which makes his percentage of Reasoning responses the fourth highest in the class. Nine of his responses were Responsive, and 2 of his comments initiated further discussion.

Neil, Year 2

Neil was physically one of the physically strongest and tallest pupils and in a number of ways he could be said to have had a large presence. He was very observant and very good at Maths, liked helping others and seemed most happy when he was involved in practical activities and sport. On the other hand, he found activities such as creative writing very difficult. He was very friendly with Mark and well-liked, especially by many of the other boys in both year groups. Neil could, at times, find it hard to concentrate during speaking and listening activities, but nonetheless made 43 comments in the Community of Enquiry. Out of these, 20 were Reproductive, one was tangential, 17 were Original and five were coded as Reasoning. In 17 of his comments he responded to other pupils' comments, and six of his responses initiated further discussion. I will return to Neil in the Discussion chapter.

Dan, Year 2

Dan had a very calm disposition, and could be very absent-minded. He had one particular friend, Finn, but also got on well with other pupils. Dan had a mature vocabulary, and spoke with clarity and confidence. Dan could be extremely imaginative and often had good ideas in many areas of the curriculum. Dan made 37 responses. There was a distinct rise in the number of responses he made in each enquiry: in the first half of the series of enquiries this averaged[0.6, whereas in the second half this number of responses rose to an average of 3.8, which made Dan from one of the quietest Year 2 children to one of the most vocal ones. Out of the whole class, Dan had the highest percentage of Productive responses: 30 of his 37 Responses (or 81%) were Productive, and 11 of these were coded as Reasoning, which also gave him the highest percentage of Reasoning responses (30%). Dan had a very low percentage of responses in which he expressed Agreement (2 responses), and a high percentage of responses in which he expressed Disagreement (8 responses).

Amy, Year 2

Amy was an imaginative, interested pupil who achieved very well academically but who could often come across as insecure in relating to her peers and very keen to receive adult attention. Amy made 48 responses, which made her the second-highest contributor to the Community of Enquiry sessions. Of these responses 25 were Reproductive, 23 were Original, but none were coded as Reasoning, which was surprising for an able pupil. 22 of her responses were Responsive, but only one of her own comments initiated further discussion. Amy made 14 responses in which she expressed Agreement, and six in which she expressed Disagreement. She made 4 procedural responses and 3 of her responses were Speculative. Amy took an active part in the Community of Enquiry from the beginning, and the frequency and quality of her responses did not change notably throughout the year. I will return to Amy in the Discussion chapter.

Faye, Year 2

Faye always acted in a very conscientious and responsible way. She was an extremely attentive listener and got on well with other pupils. In her quietly confident way Faye seemed to enjoy most aspects of school life. Faye made 46 responses in total. In the first half of the series of enquiries she made, on average, 1.7 responses per enquiry, whereas in the second half she made, on average, 3.8 responses per enquiry, which was a clear rise. Out of Faye's 46 responses, 21 were productive: 15 were coded as Original and six as Reasoning. In most elements of her responses, Faye's percentages were very close to those which were the class's mean, although she did have a higher percentage of speculative responses (18%). Faye expressed more Agreement (ten responses) than Disagreement (six responses).

4.1.3 *The Torrance Tests of Creative Thinking: results and findings*

As discussed in the Methodology Chapter (3.2.3), I carried out the Torrance Tests of Creative Thinking (TTCT) 'Thinking Creatively with Pictures' – Figural Forms A and B (Torrance, 1962, 1966, 1990b, 1990a; Torrance et al., 1992; Torrance, 1998) as a potential way of triangulating the findings of this study (Cohen et al., 2003).

Despite the caveats I raised in section 3.2.3 of the Methodology chapter, I believe that the test results are worth reporting as an indication of pupils' creative thinking within the constraints and context of the Torrance tests. I will provide some brief descriptions of the test results for the whole class, and for some of the individual children. The test scores of both tests are included in Appendix 7.

The age-standardised average score for the whole class rose by 9.8 points from 86.0 points in Test A to 95.8 points in Test 2. This resulted in an average score for the whole class for both tests of 90.5. For the Year 2 pupils there was an average rise of 9 points[21] (from an average 88.2 points to 97.2 points, whereas for Year 1 pupils this rise was 10.4 points (from

[21] Ken and Dee were excluded from this calculation as they were absent from Test A and B respectively.

83.3 points to 93.7 points). In both forms Year 2 pupils achieved, on average, higher age-standardised scores than the class average, whereas variation in scores was much greater amongst Year 1 pupils than amongst Year 2 pupils: both the five pupils with the lowest average age-standardised scores (Dean, Ken[22], Sue, Mark and Tim) and the two pupils with the highest average age-standardised score (Cath and Gemma) were Year 1 pupils. There also appeared to be an interesting gender difference: seven of the nine pupils scoring above-average points were girls, meaning that only one of the eight girls, Sue, achieved a score below that of the class average.

Not all pupils achieved a higher age-standardised scored in July's Test B than in October's Test A: Dan and Gemma had a 13 and 6 points drop respectively in their age-standardised score. Interestingly, they were also the two pupils with the highest percentages of Reasoning responses in the Community of Enquiry.

Correlations between the categorised responses in the Community of Enquiry and the average scores in the Torrance Tests were negligible . For example, the Pearson correlation between percentages of Productive responses and average scores in the TTCT was 0.20: see also Figure 24.

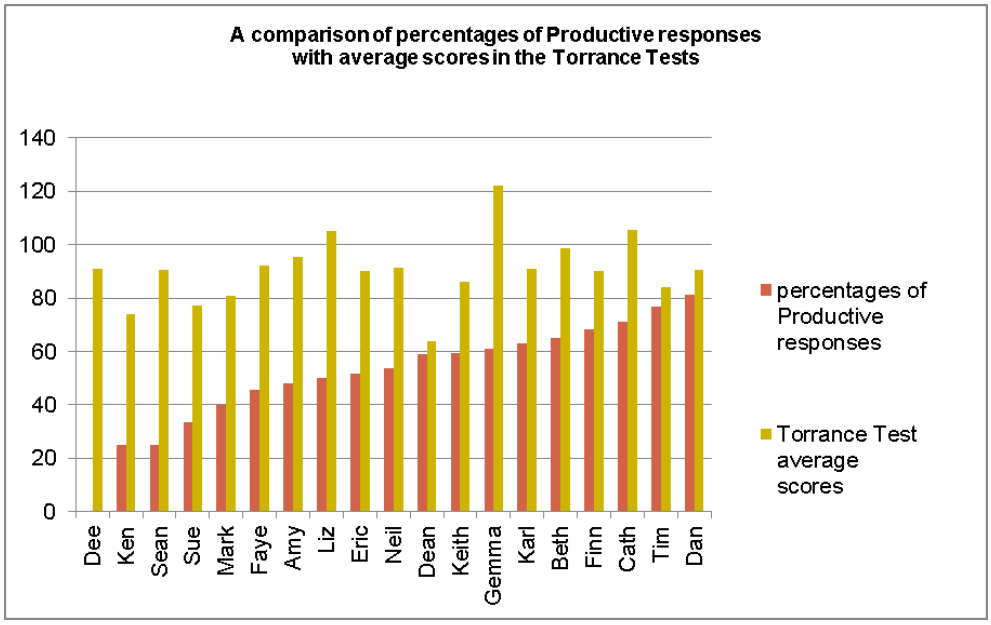


Figure 24: A comparison of percentages of Productive responses in the Community of Enquiry with average scores in the Torrance Tests

[22] Ken was among the five pupils with the lowest scores in Form A, but absent from Form B.

There appeared to be a link between pupils with the lowest average age-standardised scores in the TTCT and some of the findings from the analysis of categorised responses in the Community of Enquiry: Dean, Ken, Sue and Mark had TTCT average scores < 80 and they were also among the five pupils with the lowest total of responses in the Community of Enquiry, while Ken, Sue and Mark were among the five pupils with the lowest percentages of Productive responses. Interestingly, Dean, Ken, Sue and, to some extent, Mark were also the pupils with the lowest attainment in English and Maths in the class. Sean, on the other hand, who was also among the five pupils with the lowest numbers of categorised responses, had a high age-standardised TTCT score of 90.5, and achieved well in English and maths. Low scores on the TTCT may thus relate to issues which are not specific to creative thinking, such as performance in pencil and paper tasks, just as low numbers of responses in the Community of Enquiry may be related to a pupil's confidence to take an active part in discussions. There may, of course, also be further underlying factors, some of which I will explore in the Discussion chapter.

Links between *high*-scoring pupils in the TTCT and *high* numbers of total and percentages of Productive categorised responses were much weaker. In summary, the evidence suggests that the creative thinking identified in the two contexts (TTCT and the Community of Enquiry) were of a very different nature. The results from the TTCT will be discussed further in the Conclusions Chapter, where I will present a wider critique of the Torrance Test based on my experiences.

Having discussed my findings on the basis of analysis of individual pupils' results in both the Community of Enquiry and the TTCT in Sections 4.1.1 and 4.1.3 of this Chapter, I will now turn to the next major part of my Findings in Section 4.2. Here I will discuss findings from the analysis not of individual achievements, but of the social interaction within this Community of Enquiry

.

4.2 Creative thinking through social interaction

Introduction

In this section I focus on the social interaction which was at the heart of this Community of Enquiry, and on the way in which creative thinking developed within and as a result of this social interaction. As I have discussed in section 3.3.2 of the Methodology Chapter and elsewhere (H. Jones, 2008a), the approach I used for this analysis is based on Conversation Analysis (CA), although my use of pre-existing knowledge, my terminology and my aims differ from those in actual CA studies (ten Have, 2007).

I will present the selected transcribed extracts and findings from eight recorded Community of Enquiry sessions held across the school year. The selection criteria for these eight extracts were discussed in the Methodology chapter of this thesis (see section 3.3.2, page 65). Every

extract represents around 3-4 minutes of classroom talk and has a length of between 24 and 40 turns. Extracts 1, 3, 5 and 7 were taken from audio recordings, whereas Extracts 2, 4, 6 and 8 were based on video recordings. The extracts were taken from E1 (Extract 1); E3 (Extract 2); E6 (Extract 3); E8 (Extract 4); E10 (Extract 5); E14 (Extract 6); E19 (Extract 7); and E21 (Extract 8).

For each extract I present a short introduction. This is followed by the transcript, which in turn is followed by a commentary, in which I describe the social interaction which was evident, and the ideas and any other elements of creative thinking which occurred through this social interaction. After the eight extracts and summaries I will provide a summary of the findings from this analysis as a whole in section 4.2.2.

In contrast to the transcripts used in the analysis of categorised responses, in this section my contributions are represented by the initial *T (*for teacher) rather than *H* (for Hanneke), and in my commentaries I have written about my actions in the third person. There are a number of reasons for this. Firstly, following ethnomethodological principles, in which background or contextual data are not taken into account (Seedhouse, 2004), it appeared appropriate to create as much distance as possible between my role as teacher-facilitator and my role as researcher: using a less personal abbreviation to indicate my turns allowed me, I believe, to take a less involved, and more critical, approach in the analysis. Secondly, as I carried out this series of analyses many years after the enquiries had taken place, this distance reflected reality: whereas I had carried out the analysis of categorised responses within a very short time after conducting the enquiries, the teacher whom I observed for the analysis based on CA represented quite literally my former, rather than my current self. Finally, in marking a discontinuity between the two names used in the two sets of analysis (H and T), I aim to emphasise the very different character of the two types of analysis, as discussed in section 3.3.2.

A key to the transcript conventions used, based on Ten Have's guidelines (2007) has been included as Appendix 5, and an overview of the enquiries is presented as Appendix 1.

4.2.1 *The extracts*

Extract 1: Mog and the Granny - September

This extract is taken from the first enquiry held with the class and is based on audio recordings. The stimulus used was *Mog and the Granny* (Kerr, 1995), and the group had decided on the question 'What colour skyscrapers can you get?'. The extract is from the beginning of the enquiry.

1.	T	Whose ↓question was it to start with? Right. Faye what can you tell us about that. What <u>colour</u> skyscrapers can you ↓get. Let's <u>think</u> about what the answer might be.
2.	Faye	Pink (3) orange (.) yellow (.) red, blue (4)

3.	(Beth)	ºgreenº
4.	Faye	↑green
5.	T	?Right (.) who thinks that (.) does everyone ↓know <u>what</u> a skyscraper is?
6.	(children)	Yes.
7.	T	Is there anyone who DOESN'T know? Karl (.) can you <u>tell</u> everybody what a skyscraper is?
8.	Karl	erm it is like this big building with (.) lots of people work in them live lots of people ↓live in them
9.	T	Good- do we all understand that? but it is not just a ↑big building, it is <u>very</u>, very ↓tall building. We don't really have them in this ↓country.
10.	(children)	((talking))
11.	T	right=
12.	Dean	=↓building in the ↑WORLD
13.	T	=put your ha put your hands down now (.)
14.	()	=building
15.	T	[right shhh. now Faye (.) Faye gave us lots of [different colours.
16.	Dean	[VERY high
17.	T	Who would like to say something about that, who feels the same as Faye that they can have <u>all</u> those colours? Who thinks (.) would like to say something else, who <u>disagrees</u> with ?that (.) Amy
18.	Amy	I I I I think that I th think I I think they are all black
19.	T	You think they are all black.=
20.	Amy	=and I all think they are (.) blue.
21.	T	Black and blue? Who would like to say something about <u>that</u>
22.	()	ehhhh (laughter)
23.	T	Neil?
24.	Matth	errm (.) grey and black
25.	T	grey and black ok. ?Keith
26.	Keith	º I think they are greyº
27.	T	well let's ask a ↑different question why do you think they need if they are really <u>are</u> (.) blue er black and grey ‹why do you think they need to be›
28.	(Karl)	AHH.
29.	T	No, let's have a think about it and put up our hands, shall we? ↓Karl.
30.	Karl	ºSo like so aeroplanes might (not) crash into themº
31.	T	Is <u>that</u> the reason why they are black and grey?
32.	(Beth)	No.
33.	T	No, ….planes don't normally crash into skyscrapers. Ok so try very hard what you think about them. Why <u>are</u> they black and grey. Dean?

34. Dean I know the height, from totally the highest in the world, New York building that's ↓very high.

Commentary to extract 1:

Most ideas expressed are linked to a previous response. A clear example of collaboration can be seen in lines 2, 3 and 4 where Faye is helped, possibly by her friend Beth. T encourages this linking of ideas in such lines as

17 T: Who would like to say something about that?...

T is also seen to attempt to establish a Teacher/Pupil/Teacher/Pupil interaction pattern with some similarities to IRF/IRF/IRF, where the feedback often takes the shape of a further question, and the name of the next turn taker. In lines 12, 14, 16 this format appears to be too rigid for Dean, who is very keen to share his knowledge about skyscrapers.

In contrast to Dean's eagerness, Amy's hesitant expression (18 and 20) may show her awareness that her idea is different to any mentioned previously. Similarly, Karl's speed and volume in expressing his original idea (30) is far less confident than the way he expresses his existing knowledge (8). T's speech also becomes more halting when she is challenged to think creatively how to develop the enquiry further (5 and 27). The speed, volume and intonation in which thoughts are expressed may thus say something about the level of creative thinking involved, although a lack of familiarity with the discourse may also be an explanatory factor in this first enquiry.

A number of ideas are put forward in this extract: skyscrapers are colourful (2 and 3); skyscrapers are big buildings in which people live and work (8); sky scrapers are black, blue and grey (18, 20, 24); skyscrapers have those colours so aeroplanes might (not) crash into them (30) and the highest building in the world is in New York (34). Seemingly, one of the most imaginative responses comes from Faye (2), who has also put forward the chosen question. However, on reflection after the Enquiry, it became apparent that Faye's view was based on an illustration in the book used as a stimulus (Kerr, 1995: 6), which shows skyscrapers in all the colours Faye mentions. Thus, although her response was effective in the sense that it stimulated further discussion, it was not original in this enquiry. Similarly, Dean's point of the tallest building in the world is, although new to this discussion, based on understanding formed outside this enquiry. In contrast, Karl's suggestion that skyscrapers have their colours to (make or) stop aeroplanes from flying into them is *original*, even though he might well have seen images of aircraft flying into skyscrapers on television. However, T's counter-question appears to prevent this from being discussed further.

Extract 2: The Wizard of Wallaby Wallow - October

This is an extract from the third Community of Enquiry session held, and was based on a video clip. In the animation of the story of *The Wizard of Wallaby Wallow* (Kent, 1989), which served as the stimulus for this enquiry, a mouse has the wish to change into a different animal, and for this purpose is given a potion in a bottle. Before the mouse opens the bottle however, he realises that life as a different animal might have its own drawbacks, and he decides not to drink the potion. The question chosen by the group was: 'Why did the bottle not make him feel better but the spell did?' The class had been discussing different interpretations of this question for a few minutes before the start of this extract.

1.	T:	Right I am going to ask you another question just sit up to help us understand this a bit better it's a very hard question to answer. Did: the spell: really: make him feel: better?
2.	Finn :	↓NO!
3.	T:	Put up your hand if you can tell me about that=
4.	Finn	↓=no!
5.	T:	if you can explain to other people whether or not it did.
6.	Finn:	[↓No!
7.	T:	Don't just shout [no, s say yes
8.	( ):	[hhhh. (sigh)
9.	T:	and tell me why: or say ↓no and [tell me why
10.	Finn	[I ↓know!
11.	T	↓ Finn.
12.	Finn	No, because he didn't take the cork off and used the spell on him so he didn't use any of the spell: the bottles made him feel better.
13.	T:	The bottles made him feel better, o: k?
14.	Finn	Well think of () ehm been changing in something else where you have more problems but (.) but.(.) me he has the least problems=
15.	T:	=Hhhmm
16.	Finn:	Em 'cause the things he might turn into might be bigger so he doesn't want to use the bottle.
17.	(Dan):	Or maybe smaller=
18.	T:	=Right Finn said ((Finn brings arms back down)) now Finn says the spell did not make him feel better, who agrees with that? Who'd like to say that they agree? We have a few people agreeing with this. But who disagrees with this with him? Because Karl you said the spell did ((Cath, sitting next to Karl nods)) make him feel better, what do you ↑think, can you explain to Finn h how why you think the spell did make him feel better?
19.	Karl	Because like he wasn't just thinking (he was) really really happy cause he sort of said it turned him like into something really happy?

20.	T:	So did the spell work for him, Karl?
21.	Finn	[↑NO
22.	Karl	[Yes.
23.	T:	Right the spell ↑did work for him. Who agrees with Karl? ((A few children put up their hand, including Sean who puts up both arms above head)) It is interesting, isn't it? Sean what d' you think? Can you explain why? What do you think
24.	Sean	(puts arms down) Emmm ((shakes head))
25.	T:	No? Just tell us who you agree with
26.	Sean:	Karl.
27.	T:	So you think the spell ↓did work?
28.	Sean:	º Yes º

Commentary to extract 2

In terms of interaction in lines 2-11 T and F are both seen to take an uninterrupted turn without much success - Finn's priority is to express his view, whereas T is attempting to establish the rules of the Community of Enquiry. Finn's impatient ' [I ↓know!' (10) seems to convey that he is aware of those rules and is prepared to follow them. Although it is not clear who sighed loudly (8), this appears to show a level of frustration and the video data showed that a number of children appeared to be losing interest in the discussion during the early part of this extract. In lines 13, 15 and 18 T also appears to be doing some creative thinking, challenged by Finn's idea and the lessening interest of the group, and trying to find a way to develop the discussion, by rephrasing Finn's view, exposing agreement and disagreement with this view, and asking Karl to respond. Karl's confidence in re-arguing his view is probably helped by the silent support of Cath (18). Karl's friend Sean also comes out in support of him (23), but when asked to argue Karl's case he appears to find this very difficult (24,26,28). In view of Finn's conviction and the fact that Sean is a rather shy Year 1 pupil, this is not surprising, and appears to highlight a difference in power within this Community of Enquiry.

In this extract two main ideas are being expressed: Firstly, Finn's (12,14,16) view that the mouse was transformed by the *thought* of what the bottles might do, rather than by the spell, contradicts the chosen question 'Why did the bottle not make him feel better but the spell did?'. Thus questioning the question, Finn's view is not only critical, but also very creative in the sense that it is original and potentially of great value for the further discussion. Finn is clearly very assured of the importance of his view and is impatient to get this across. (2, 4, 6, 10, 21). The second line of ideas is expressed by Karl (19, 22) in which he explains the view assumed in the question, that the spell 'worked'. Additionally, the elaboration, possibly by Dan, that the mouse might become smaller (17) rather than bigger is original, as this is not explicit in the stimulus story.

Extract 3: The Old Field – November

This is an extract from the sixth Community of Enquiry session held. The enquiry was based on a poem[23] from an anthology of children's poetry I had found in the class library. The poem is about a field which is 'sad' because 'the children have gone home'. The question chosen was: 'Why did the children not like the field anymore?'. The extract is taken from the beginning of the class discussion.

1.	T	So you've got some ideas in your head about, some of you have got some ideas, let's ↑hear, Keith (.) why do you think children don't like the field anymore. OH and ‹ remember› in this community of enquiry if you want to say something after Keith everybody will have to say I agree with so-and-so ↓because or I DISsagree with so-and-so ↓because, OK, ‹off you go Keith =
2.	Keith :	=Because eh it's so-old ahm it it it (.) so it's too ( ) it's so dark[24].
3.	T	OK, Finn (.) did you do you want to talk about that?
4.	Finn	hmm not really ( )
5.	T	Right (.)↑ Ok ↓ (.) Faye?
6.	Faye:	It might be so old ehm that it might have ehm some rubbish in it ()
7.	T	So (.) can you say I agree with Keith or I disagree with Keith ↓because.
8.	Faye:	I agree with Keith because (8)
9.	T	hmmm? ↑Keith when you said, was it did you say it is so old, or it's sold or did you say it's so cold?
10.	Keith:	So, so, it's so d old and so so dark[2].
11.	T	↓ O:K so you agree with Keith.
12.	Faye	yeah, because it would be really (cold)
13.	T	It might be really?
14.	Faye	º cold º
15.	T	cold? Ahem (.) right (.) Neil?
16.	Neil:	I disagree with Faye because it might ↓not have rubbish in
17.	T	Amy?
18.	Amy:	I agree with Keith I agree with Keith because it was really cold and an' it was rea:lly dark and clou:d:y . (and the children have to (come) ↓home)
19.	T	Right (.) Mark?
20.	Mark	I agree with ↓Neil because it might not (.) it might not ↓have any rubbish in
21.	T	o:kay?, Gemma?
22.	Gemma:	I ( ) agree with ↑him because it (I think) it might have rubbish in

[23] Unfortunately the author and publication details of this poem could not be found at the time of writing.

[24] 'It is growing cold and dark' is one of the lines in the poem

23.	(Dean)	HHHH
24.	T	Dean.
25.	Dean	I agree with ↓Gemma it <u>may</u> have rubbish in because people might come past and throw their rubbish in like (give us all) ah:ll you know them food winders=
26.	Neil	=oh yeah I do=
27.	Dean	= well they might throw in (.) the field.

Commentary to extract 3

T asks the pupils to begin their contributions with either 'I agree' or 'I disagree', (1 and 7), and in lines 8, 16, 18, 20, 22 and 25 they do so. However it is not clear whether all children are aware of the meaning and purpose of the phrases: although parts of Gemma's comment were inaudible, it appears that she uses the word 'agree' instead of 'disagree' which would have been more appropriate (22). Gemma was an able pupil with a well-developed vocabulary, so if she had difficulties with these concepts, it is likely that other children did, too, although there is no evidence of that in this extract. In line 8 T's insistence on the use of agree and disagree actually appears to obstruct the flow of the discussion: by asking Faye to link the new concept of 'rubbish' by agreeing or disagreeing with Keith's earlier comments on it being cold and dark, Faye is compelled to take an 8-second pause, in which she seems to struggle, understandably, to make the link. Eventually, instead of further developing her original idea of 'rubbish', she switches to Keith's idea of 'cold' (14). However, Faye's idea that rubbish was the reason why 'children don't like the field anymore', is taken up again by Neil, Gemma and Dean (16, 20, 22 and 25). Some interesting alliances are apparent in this extract: Mark repeats the words and intonation (20) of his friend Neil (16), and Neil enthusiastically endorses Dean's original expression (26), even though Dean forms an argument against what Neil had said.

The number of creative ideas expressed in this extract is relatively small. Only Faye's idea of rubbish in the field (6) and Dean's (25) expression 'food winders' (instead of food wrappers), are both clearly original and add to the discussion. There is an interesting contrast in the way and speed in which these two original ideas in this extract are expressed: Faye expresses her idea tentatively and rather haltingly (6), whereas Dean generates a new word in order to help the flow of his argument. The idea that the field is dark (2), old (6) and cold (12) are all mentioned in the stimulus text and therefore not 'novel'. All other comments are references and elaborations on these: the extract consists of an interplay between the related concepts 'cold' and 'dark' on the one hand, and rubbish on the other. The frequent use of the speculative words 'may and might' (6, 16, 20, 22, 25 and 27) could be seen as an indication that the class are engaged in what Craft calls possibility thinking (Craft, 2002).

Extract 4: The Six Suns (or How the Cock got his Comb) - January

This extract was taken from video data of the eighth Community of Enquiry session, soon after the start of the enquiry. The enquiry was based on a picture book, *The Six Suns (or How the Cock got his Comb)*[25], based on a Chinese myth in which a boy rescues the world from the effects of six suns by shooting their reflections in a pond. The chosen question was: 'How did the boy shoot the reflection of the suns in the water?'

1.	Neil:	ehm he ↓couldn't shoot the suns because it was just a reflection in the water ↓↑inside
2.	T:	Right, who disagrees with Neil, ((various pupils both put up hands)) Eric?
3.	Eric:	Because he couldn't ehm (.) couldn't be ehm,
4.	T:	Now is that an agree or a disagree?
5.	Eric	Ehm..
6.	T	Now I think I really wanted somebody to ↓disagree with Neil about that.
7.	Liz:	hhh((puts up hand))[hhh!
8.	Beth:	[HHH.! ((puts up hand))
9.	T:	Liz
10.	Liz:	I disagree with Neil because eh
11.	( )	( )
12.	T:	[Shh, listen to each other (.) ↓ Ken.
13.	Liz:	because it said in the ↓story that (.) there was some water there=
14.	Beth	= and ehm it might be the bow and arrow might shoot down to the bottom and come flying back up and <hit the sun> ((makes moving gesture up to indicate arrow))
15.	T:	Right,? , who would like to say they agree or disagree with Beth's idea then? Mark?
16.	Mark	I agree with Beth.
17.	T:	Aha,? and can you tell us why Mark?
18.	Mark:	Because it could have w went down through the water and went back up and hit the sun ((demonstrates with hand, Neil frowns and folds arms across chest))=.
19.	Eric:	=It couldn't (puts up hand)
20.	T	Would anybody like to say anything, agree or disagree with that? ((Neil puts up hand)) Gemma what do you think? ((Neil uses hands showing arrow hitting bottom of pond)) Beth listen to each other.
21.	Gemma:	°I agree with Mark because° (2),
22.	T:	Just wait a minute because some people aren't listening. Amy will you sit properly please ((Amy has had hand up since line 15)), I can't see T1? Gemma will you say that again please, I think Mark would like to hear what you say.

[25] Unfortunately, author and publication details of this book, too, were no longer available at the time of writing.

23. Gemma: I agree with Mark because it might ‘uv bounced off the bottom and went up to the top but Beth didn’t say it was bouncy in the bottom. (2)

Commentary to extract 4

A large part of the creative thinking which is apparent in this transcript is inherent in the topic of the discussion, which is clearly fictional. It needs to be acknowledged that listening to, and discussing the plot of a fictional text, requires a ‘leap of the imagination’ which in itself could be classified as creative thinking (Lipman, 2003). During much of this enquiry the group applied their understanding of science concepts to the fictional idea of someone shooting the sun by directing his arrows into a pond. This raises the question of how many children actually realised that this is an impossibility, and were thus willing to intentionally ‘buy into’ the story (or not, in the case of Neil - 1), and how many believed that the story could have been true.

In terms of interaction, Eric seems to have trouble expressing himself (3 and 5), and is, again, not helped by T’s question: ‘Now is that an agree or a disagree?’ (4). T’s invitation to disagreement only (line 2-6) was probably meant to expose Neil’s view as different to that of most other children’s, but it leads to a polarisation of the ideas expressed in this extract, which may not have been conducive to creative thinking. The video data showed that many children took part in this enquiry with interest, either verbally or silently. In this extract five children take an active part in the discussion, and interact with T and each other, mostly according to the Community of Enquiry rules which had been mediated (Daniels, 2001). However, in lines 12, 20 and 22 T reminds pupils of the need to focus on the whole class discussion. Two interesting points can be noted about alliances in the Community of Enquiry: Firstly, Liz and Beth, who are friends, are sitting next to each other, and have had an exciting discussion about the topic in an earlier part of the session. They are clearly both keen to make a contribution (7 and 8) . Interestingly, Liz starts a sentence (10 and 13), but it is completed by Beth (14), who puts forward a much clearer argument. This shift was so seamless in terms of speed, pitch and intonation that in the previous *audio* transcript analysis, both lines 13 and 14 had been allocated to Liz. Secondly, Year 2 pupil Neil and Year 1 pupil Mark are good friends, and in most enquiries until now, Mark had taken Neil’s view. Here, however Mark enters the discussion with an agreement with Beth, thus opposing Neil’s view (16). Neil’s folding of his arms may indicate some disdain at Mark’s point (18). Finally, Amy has her hand up throughout most of this extract but is not given the turn. She may of course have had a highly creative thought and it is perhaps not surprising that she is ‘not listening’ and ‘not sitting properly’ (22) .

Three creative points are made in this extract. Firstly, Neil critically reflects on the core of the story and the question and suggests that the suns in the pond were a mere reflection, using a great deal of intonation in order to emphasise his point. Secondly, Beth suggests that the

arrow may have bounced off the bottom of the pond (14), and finally Gemma makes the point that this could only have happened if the ground was 'bouncy' (23). However, her idea can be traced back via Mark's line 18 to Beth's line 14: It is clear that pupils are making small changes and thus co-constructing and co-creating meaning. Similarly, in response to Neil's point that the boy couldn't shoot the suns in the pond, Liz indicates the fact that the events take place in a fictional world: 'in the ↓story' (13) is expressed with some emphasis, and although she perhaps does not explain the content of her and Beth's argument as strongly, she thus makes a clear *bridging* move between Neil's argument on the one hand and her own and Beth's on the other.

Extract 5: Big Waters Nature Reserve - February

This extract is taken from an audio recording of the 10th enquiry, which was held as a follow-up to an excursion made by the class to a local nature reserve, where we had done some bird watching. The stimulus was a letter which I had written, under the pretence that this had come from a road-building company. In the letter the company suggests that there are plans to relay the route of the A1 motorway directly through the wildlife area, rather than round it as is currently the case. The chosen question chose was: *Why do they want to make Big Waters disappear?* The following extract is from the beginning of the enquiry.

1.	Karl	It might be 'cause they're sick of the <u>birds</u> that are ↑there.
2.	T:	Right?, who agrees that that's the reason they want to make it disappear? Sean?
3.	Sean	ehhhmmmmm
4.	T	What have they written in the letter? Why do they want to make it disappear?=
5.	(Neil)	=.hhhhhhhhh
6.	T	(Neil I want you to be thinking about that now) Why do they want to make it disappear who can remember? Amy?
7.	Amy:	I I can't remember what it said why they disappear in the letter but I've got my own(…)
8.	T:	No (.)Who <u>can</u> remember what it said?
9.	Amy:	I (.) agree with Karl.
10.	T	No if you can't remember what it ↓ said I'm going to ↓read it out to you again because it's important.(.) It said we can build a new, (noise) sorry, the moment the A1 motorway runs around Big Waters, this means that <u>al</u>l the drivers on that road need to drive longer than if the road was ↓straight. But we can build a <u>nice</u> ↑new straight road going through it. So why what does it say, why do they want to build it through ↑KEITH?
11.	Keith:	Because because to make it shorter.
12.	T	To make it shorter (.) OK?

13. ( ) oh↑ow↓ ((whimpering))
14. T What's that Ken?
15. Ken: So (it) doesn't get muddy.
16. T So the ↑ car doesn't get muddy?
17. Ken: Yes.
18. T: Does it get muddy now going round it you mean? DAN
19. Ken: Well, it splashes it=.
20. (Eric) =‹ yes because (car park)!›
21. T No, I'm trying to understand what Ken's saying.
22. Ken: you know when cars (go in the wa go in the water) and they're gonna get ↓splashed.
23. T Is that what's ha happening now Ken?
24. Ken: (.)No.
25. T: No that's not what's happening is it? Right come on who can say that they,
26. ( ) [hhhhh.]
27. T who can tell=
28. ( ) =hhhhhhhhhhh (sighing)
29. T so we know, do we already KNOW why they want to make
30. ( ) (whispering),
31. T why they want to make Big Waters disappear?=
32. ( ): =Yeah!
33. T Yes. Cath can you explain to everybody then, why did they want to make it disappear?
34. Cath: Well they don't actually want to make it disappear but eh it's just because now they could all drive round Big Waters it's just such a long way to get round it, it's so big and if it was just a straight road it would just be much shorter..
35. T OK, do you all understand that now?
36. (Pupils) Yes yes yes.
37. T Who has got something to agree or disagree with that?
38. Eric: I disagree with Cath too because they couldn't have just have made a straight road because that means the (.) would have to move all the buildings and houses.
39. Neil Yes because houses on the other side of the river.

Commentary to extract 5

In this extract three original ideas are put forward: Karl's idea that 'they may be getting sick of the birds' (1), Ken's suggestion that a road would stop cars from getting muddy (presumably if they drove through the existing lake, 15-22) and Eric's view that a straight road would also involve the demolition of buildings (38).

T repeatedly argues that the answer to the chosen question can already be found in the letter of the company (4,10,29) – an epistemological viewpoint which is, in hindsight, not necessarily contradicted by the points made by the pupils. However, in her insistence that the class share this assumption, T does not ask the class to explore Ken's idea and although he is given the chance to expand on his idea, T rejects it as irrelevant (25), and persuades him to do so, too (23, 24). Similarly, Amy also wants to share an idea (7) but is cut short as T pursues her own plan. The sharp intake of breath in line 5, possibly by Neil, also may indicate someone had an idea but is not given the chance to express this. To support her own view, T asks first Keith (10) and then Cath (33) to explain it to the class (11 and 34). Only once T judges that the class have a shared grasp of what she sees as the foundation of the discussion, does she re-open up the discussion (37). T's comments here are not only procedural, but her insistence on shared assumptions seems to restrict the flow of the discussion and the expression of ideas. There are a number of interruptions: line 18 ('DAN') and lines 26, 28, 30 indicate that not everyone is engaged in this discussion and that there is some impatience. This is very possibly related to the constraints on the discussion pointed out above.

There are some interesting expressions of agreement and disagreement in this extract: T's invitation for *agreeme*nt (2) (rather than agreement or disagreement) to Karl's point appears to be rhetorical. As in Extract 2, Sean supports his friend Karl's view without being able to articulate this (3). Amy uses the phrase 'I agree with' (10), possibly in order to be able to take the turn. T's lines 10, 27, 29, 31, 33 can be seen as requests for agreement, just as in her lines 8, 10, 25 she expresses a clear disagreement. Finally, Eric (20) and Neil (39) back up Ken's and Eric's points by taking a turn spontaneously. T rejects Eric's interjection as this makes Ken's turn difficult to hear, but Neil's point (39) is well-timed and seen to be constructive in the further discussion, which is perhaps an indication that some children are becoming more familiar with the dialogue discourse and less dependent on teacher facilitation.

Extract 6: Catherine and the Lion - April

This extract is taken from video data of the fourteenth Community of Enquiry session. The stimulus for this enquiry was *Catherine and the Lion* (Jarrett, 1996), a picture book about a girl who is accompanied for the day by a lion. A full transcript of this enquiry from the analysis of categorised responses can be found in the appendices, as Appendix 4. The question chosen for this enquiry was: 'Was Lion real?' The following extract is from the middle of the enquiry. In the preceding part of the discussion, Beth had suggested that the girl could be sleepwalking.

1. T: But if she was sleepwalking with the lion, Beth,
2. Beth [mmm?
3. T: did she sleepwalk all the way to school?

4. Beth: ehm well ( )
5. Ken: =but how would she know where she was going?=
6. T: = (to Ken) º she wouldn't watch where she was going? It hhh would be hard to get to school! º Beth I'm interested in knowing if she sleepwalked all the way to school was Lion wal walking with her whi while she was sleepwalking?
7. Beth: Yes ((sounds hesitant))
8. T: Ahh?=
9. ( ) =Ahh!=
10. T: So if that was true would that make Lion real or not Beth?
11. Beth: Well she might have been eh dreaming about the lion and in sleepwalking.
12. T: Right, OK, Faye?
13. Faye: She could have ehm, she could have just, eh maybe Lion was real and she was ehm (.) sleepwalking but maybe her eyes were just open
14. T: =aha?=
15. Faye while she was still sleepwalking.
16. T: ha.. Right, I [am looking at my watch=
17. Karl [((jumps up)) AH! That gave me an idea!
18. T: =and it is getting late. Can we have Karl and Mark? Karl can you lock you idea in your head because Mark's had his hand up for a long time. Mark what did you want to say?
19. Mark: wha if she was sleepwalking how would she get dressed?
20. T: Ahaa?
21. Beth: That's what I was thinking.
22. T That's what you were thinking? It gets very complicated doesn't it?
23. Karl =Ah! Ah
24. T: Can we Karl' last idea?
25. ( ) [her ↓mum could have ( )
26. Karl: [She could have,
27. T: Shsh, listen to Karl.
28. Karl: She could have been=
29. ( ) [hhhhhh
30. Karl: =open ( ) with her eyes, eh eh her eyes were just like fainting a little bit and she was drea eh felt like she saw a lion?
31. T: Ri:ight : I see and that would that make Lion real or not Karl?
32. Karl: No!
33. T: Not real.
34. Karl: Cause she thinks like, she saw a picture in her head of a ↓lion.

Commentary to extract 6

As in extract 4, this enquiry gives evidence of the class engaging with facts from a fictional world, which requires in itself a degree of creative thinking.

This extract can be split up in three parts: lines 1-10, in which T tries to help Beth draw the logical conclusion from her argument (i.e. if lion walked to school with the sleep walking girl, would this make lion 'real?'); lines 11-21, in which Faye and Mark make two interesting suggestions, neither of which is developed further; and lines 23-34, in which Karl explains his idea. In each of these three parts, however, comments are interwoven which refer to points made earlier. Beth seems confused by T's questioning (2,4,6,8,10), and in line 21 makes a reappearance with 'That's what I was thinking', as an explanation of her earlier idea. T's 'Right, OK' in line 12 seems to end Beth's turn, even though Beth's argument has not become any more logical. In lines 13 and 15 Faye, a friend of Beth's, offers some help and clarification - while she concurs with Beth's notion of the girl sleepwalking, she offers the explanation that the girl's eyes may be open, possibly prompted by Ken (5). Whereas Faye's comment was seen to be offering some support to her friend Beth's thoughts on sleepwalking whilst taking the argument a step further, and thus involved an element of creative thinking in itself (the girl could be dreaming, and dreaming about the lion, but had her eyes open, which is how she could go to school), it clearly generates in Karl something of a revelation.

17 Karl '[((jumps up)) AH! That gave me an idea!'.

Although Karl was clearly aware of the originality of his idea, it had been the culmination of a number of other children's ideas. Mark's comment in line 19:' wha if she was sleepwalking how would she get dressed?' is a critical and creative thought, which, if developed, could have had more impact on the logic in Beth's argument. However, apart from Beth's acknowledgement (21) and two other pupils' comments in lines 25 and 26, Mark's question is not developed further.

Extract 7: Danny the Champion of the World - June

This extract is based on the nineteenth Community of Enquiry session. The enquiry was based on a chapter from *Danny the Champion of the* World (Dahl, 1994), a novel about a boy who lives with his dad, a car mechanic, in a caravan. The question chosen was: 'Why did Danny and his Dad not live in a house?' The enquiry started with a 'Round' of ideas, and the extract is taken from the middle of the enquiry. Ken had said that Danny's Dad wouldn't have had enough money to buy a house, a point which a number of children had agreed with.

1. T. . ..Is there anybody who would like to say something about (.) the the money whether the houses were too expensive. Gemma?
2. Gemma: I don't ↑think so because ehm they <u>they</u> had to mend cars and ehm the people would have to ↓pay for that.

3. T: Right (.) ok, so you think that they did have enough money for a house? Ok? Faye?
4. Faye: Ehm it's just=,
5. T: =Can you say I agree with or disagree?
6. Faye: Ehm I disagree with (↓) because eh it's just because they didn't have ↓ much ↓money.
7. T: Well. Ken said they didn't have enough money so are you agreeing with Ken? (4) Do you [agree=
8. Faye [yeah
9. T ‹ with Ken, they didn't have enough money.› What would you say to Gemma? She just said well they had a ↓business mending cars so they ↑ had SOME money?
10. Faye: Ehm I (agree) with Gemma because eh (5)
11. Finn: ‹ OH I know.›(2)
12. T: Eric is that a hand up about this? ok?
13. Eric: I eh disa I agree with Ken.
14. T: Aha? Can you tell us why?
15. Eric: I °(can't)°
16. T: Well Ken said they don't have enough money but Gemma said they must have money because they've got a ↓business.
17. Eric: Yes I agree with Ken because eh really they could have sell sold the ehm (.) the wagon.
18. T: Right, they could have sold the wagon? and then buy a house with that money you mean?
19. Eric Yeah
20. T: So do you agree with Ken or disagree with Ken?
21. Eric: I agree with Ken.
22. T: Right, so that's eh that's quite a different idea? well done.
23. Finn. OH. I KNOW!
24. T: Finn?
25. Finn: It might have been like I said that houses ehm were more expensive in those days and yes Gemma is right they would they had enough money to buy one of our modern houses which are quite cheap but (.) ehm they they might have been more ↓expensive in those days.
26. T: Ok, would anybody like to say something to ↑that? So you think houses were more expensive then than they are now that's why they couldn't afford one? Dan?
27. Dan: I disagree with Finn because ehm the houses might have been cheaper in those days. In those days ehm most people might have been ↓poor so they

might some of the houses might have been cheaper so the people could buy houses.

Commentary to Extract 7

Faye seems to have some trouble expressing her thoughts, despite the fact that she is given a total of 11 seconds of 'thinking time' in lines 7, 10 and 11. This close analysis has brought up two explanations for this. Firstly, T appears to hear the name 'Ken' in Faye's line (6), but in listening closely to the recording it is likely that Faye had said 'Gemma' instead of 'Ken'. It is also likely that Faye's idea (5) 'they don't have ↓much ↓money' is a response to and modification of Gemma's idea, rather than a response to Ken's idea. This, and T's insistence in line 4 that Faye uses the agree/disagree format could account for Faye's hesitation and likely confusion in lines 7, 10 and 11. However, Faye does not correct T's misunderstanding, which may well be an indication of the power held by T. Similarly, Eric's idea of selling the 'wagon' (17) does not, conceptually, contradict Ken's suggestion that Danny and his dad were poor (as T seems to assume), but could be seen as a consequence of this idea. The format of agree/ disagree does not seem to support this more complex thinking. However, when Eric and Faye are asked by T to commit to a 'disagree' or 'agree' stance, both claim to agree with the previous idea.

Four new ideas are offered in this extract. The first, by Gemma, that Danny and his dad would have been paid by clients (2) is not responded to by other pupils until line 25, when Finn partly agrees with it, weaving it into his own argument. The second original idea, that they could have sold the 'wagon', comes from Eric (line 17), and is recognised as a new idea by T in line 22, but not commented on by other children. The third idea is expressed by Finn, who suggests that this story is set in the past and that houses may have been more expensive then (25). Dan responds to this (27) with another creative thought: if people were poorer in the past, house prices would have been lower. In lines 1 and 26 T explicitly asks the group for further thoughts on Ken's and Finn's ideas, and this leads to Gemma's and Dan's original thoughts. Interestingly, she does not do this explicitly with Gemma's and Eric's ideas, which may explain why these are not taking up further.

Extract 8: The Fish Who Could Wish – July

This extract is taken from the twenty-first and last enquiry held by the class, and based on video data. The story which served as a stimulus was a picture book called the *Fish Who Could Wish* (Bush & Paul, 1991). In this extract from the end of a 40 minute-long enquiry the question was: 'How could the fish wish?'. On the suggestion of Finn, a 'Round' was held, in which each participant in the circle is given the opportunity to express their thoughts in turn. It had already been suggested that the fish could have eaten something, such as a 'magic bean' (Amy) or that it might have been given 'a drink which had made it 'silly' (Beth).

1	Mark	I think when he was a boy he he just wished he could wish.
2	T:	Aha! and that was his very first wish (.) that he could wish? that's interesting
3	Beth:	But how could he wish cause he doesn't cause he can't?=
4	Finn:	= have the power (that he) wish secret wish?=
5	Beth:	=yea!
6	( ):	((talking))
7	T:	Can we talk one at a time please? So (.) Beth said 'well how could he wish? how could he make that hh very first wish?' Have you got an answer to that Mark? No, no ((to Beth)), ↓you asked Mark,
8	Mark:	I think (3) well (3)
9	T:	that's a hard question isn't it?
10	Beth:	(3) But how can he get that magic power when he hasn't got it yet?
11	T:	aha, it's a very good question, Beth. We'll go on to to Neil
12	Neil:	ehm pass
13	T:	you sure? Well what did you think? When Amy said the magic bean, what did you think?
14	Neil:	ehm I think (.) I think I think ehm I think the same as Mark when he was just born he had his first [wish
15	( ):	[how could he?
16	T:	And when Beth said,↓ Neil, when Beth said well how could he have his first wish when he was born, what would you say to that, ssh, ↓Finn
17	Neil:	=Well maybes his mum had a tablet () like a magic bean and then hhh (made a wish)
18	T:	Ahh? So you thought Amy's idea was quite a good idea really?
19	Neil:	Well like Mark's and when they weren't looking he would have been a magic fish hh!
20	T:	Ok, Keith. And well done these people waiting their turn here!
21	Keith:	I think he's a (.)magic.
22	T:	The fish is magic and ↓that's the answer . aha? Karl?
23	Karl	I disagree with Amy cause ehm when he was born how could he wish to wish cause he might not have had his wishing power?
24	T:	tha that's Mark, wasn't it, so who said that not Amy I think is that right? so do you agree with Beth to say that well how could he have that wishing power? ((Karl nods)) ahm. Liz?
25	Liz:	(3) he might have ate (2) ehm (9)
26	T:	he might have eaten something or other, yeah? Ok Faye?
27	Faye:	he must have had some power well maybe his mum must have made him ehm eat something ((Finn whispering to other children))=
28	T:[	are you listening to each other?

29 Faye: =and that gave him power and then he made his first wish

30 T: aha? So his mum gave him something when he made his fi,? aha right so that would answer that would answer Beth's question about how could he make his first wish <because his mum gave him something at the very beginning> D1.

31 Dan Well he probably well he might have had a date with a magic being and after the dance it might (have put) a magic spell on him

Commentary to Extract 8

A first observation is that after 40 minutes of this Community of Enquiry session, the majority of the pupils are still able to focus on a group discussion, and to generate and engage with some complex thoughts. As in some other extracts (Extract 2, Extract 4 and Extract 6), the enquiry required the children to engage with a fictional world, which can be said to be an act of creative thinking in itself. The interaction in this extract is slightly different to that in the previous seven extracts: as in a 'Round' the turn is given to the next person in the circle, T does not ask for further ideas on anything that is said here, or for expressions of agreement or disagreement on earlier turns. Instead she often briefly summarises each point given or asks for clarification, and gives the turn to the next pupil in the circle.

The main ideas brought forward are that the fish had wished he could wish (1); that something must have made him able to wish (3 , 4, 14 and 23); that the fish *was* magic (21); that his mum must have made him eat something to give him wishing power (27); and that a magic being had been involved (31). This large number of ideas generated was partly due to the fact that this extract was from a 'Round' section of this enquiry. Nevertheless, the ideas offered are nearly all interwoven, related to each other, taken up and in some cases extended by other children, and linked to some ideas mentioned earlier in the Round:

Beth's critical suggestion (3) that there could not have been a first wish without pre-existing wishing power is a clear reaction to Mark's (1) and phrased as a question. This question is initiated slightly haphazardly by Beth (3), interestingly taken up and finished by Finn (4), posed again by Beth in a much more polished way in line 10, and asked again in line 15, before it is taken up again by Karl in line 23. Beth and Finn are clearly very engaged with this thought and at several points interrupt other speakers with their question. Beth and Finn's collaboration in lines 3 and 4 is all the more interesting as they were not seen to collaborate often either in the Community of Enquiry sessions or elsewhere.

After initially saying he wanted to 'pass', Neil explicitly connects his view with that of Mark's (14 and 19), but his actual idea (17 and 19) seems more an elaboration on that of Amy's even though he detaches his view from hers. Karl, rather illogically, also distances himself from Amy's idea. Amy's idea of the fish eating something to get 'wishing power' is, however,

implicitly also taken up by Liz and Faye (lines 25 and 27). It is also possible that Dan's idea of a magic *being* (31) also originates in Amy's similar-sounding magic *bean.*

4.2.2 *Summary of findings from the Conversation Analysis-based approach*

Close analysis of these eight extracts has provided an insight into the creative thinking of this Community of Enquiry, which can be summarised into the following points:

A large number of ideas were seen to be generated in these extracts, and on many occasions they were *endorsed* explicitly or implicitly by either other pupils or by T (for example in Extract 8, line 2). Using the definition of 'the generation of ideas which are both novel and valuable in the given context', discussed in Chapter 1 (Amabile, 1996; Cropley, 2001; Craft, 2005) this endorsement makes these ideas not only novel, but also valuable and thus *creative*. The extracts show that much of this creative thinking was co-constructed: nearly all incidents of creative thinking were able to be traced back to one or more earlier comments made by other pupils, and, in turn, were open to be developed further by others. Such 'chains' of ideas could be seen in, for example, the concepts of being smaller being a problem (Extract 2), the ground being bouncy (Extract 4), somebody imagining a lion (Extract 6) or a person turning into a fish (Extract 8). However, these chains of ideas were complex and would often be interwoven with others (Extracts 3 and 6).

Creative thinking, however, also occurred in other forms: it is apparent in the class's engagement with fictional worlds (Extracts 2, 4, 6 and 8); the critical examination of the question discussed (by Finn in Extract 2 and Neil in Extract 4); and new expressions (Dean's in Extract 3). When faced with unexpected responses, T was also seen to be challenged in her thinking, and occasionally appeared to come up with some creative responses (Extract 6, lines 6 and 10).

There is a pattern of interaction which is similar in each of the eight extracts: T-pupil-T-pupil (TPT), where 'pupil' represents either the same pupil, or different pupils. This pattern is only very occasionally broken, for example in Extract 3: lines 25-27 and Extract 8, lines 3-5. T's turns usually included an acknowledgement and/or summary of the previous turn, but very rarely an evaluation of that turn, in contrast to the IRF pattern (A. D. Edwards & Westgate, 1994; Walsh, 2006), and sometimes a request for clarification. This acknowledgement would usually be followed by an invitation to agree, disagree or express further thoughts on the last turn, especially in Extracts 1-7. If children signalled that they would like to speak next, T would then close her turn with the name of the pupil whom she gave the next turn to. This pattern of interaction was indicative of the power held by T (Flyvbjerg, 2001): not only did she decide who was to take the next turn, and which ideas would be discussed, but also who was to talk at all (see Extract 4) and, frequently, what turn the discussion would take (see Extract 5). However, on several occasions T's comments appeared to restrict the flow of the discussion (Extract 1, Extract 5). T's turns also regularly included procedural or managerial (Walsh,

2006: 66) directions, for example in Extract 4, line 13, but the need for this seemed to decrease slightly over time.

Another feature of the eight extracts which seems to be representative of the further transcripts is that T's turns become relatively less long over the course of the school year, whereas many pupils' turns become longer. I will explore in the Discussion chapter to what extent this pattern of interaction in this Community of Enquiry is similar to other classroom talk (A. D. Edwards & Westgate, 1994; Walsh, 2006). The implications of the power differential inherent in this pattern of interaction, as well as the power differential amongst the pupils (e.g. Extract 2) will also be explored in the Discussion chapter.

A strong feature of this Community of Enquiry is that T regularly asks pupils who have a turn to identify if they agree or disagree with what a previous pupils had said. Only in Extract 8 is this element missing, as this was taken from a 'Round' rather than the actual group discussion. In Extract 3 there was some uncertainty about the pupils' understanding of the terms *agree* and *disagree*. In later enquiries (Extract 7-, line 27; Extract 8, line 23) some pupils are seen to use the phrase 'I agree/ disagree with… without being prompted, and implicit agreements are also expressed, for example in Extract 8, line 14. At times T would ask specifically for either *dis*agreement rather than for agreement, which appeared in Extract 4 to lead to some polarisation of ideas. The rationale for an *agree or disagree* structure will be explored in the Discussion chapter, but in a number of these extracts the focus on agreement and disagreement did not seem to be helpful. In some cases the complexity of ideas was such that an insistence on a dualistic agree or disagree format obstructed the flow of the discussion and appeared to hinder logical and creative thinking (in particular in Extracts 3 and 7).

An interactional aspect of the Community of Enquiry, related to agreement and disagreement, is the formation of alliances. Often these would be based on existing friendships, a representation of which can be found in the Social Network Diagram in (Figure 27, in Section 5.3) – Year 1 pupil Sean is twice (Extracts 2 and 5) seen to support his Year 2 friend Karl's view, without being able to explain why; the friends Liz, Beth and Faye would often defend or explain each other's thinking (see extracts 3 and 6); and friends Mark and Neil would often (but not always - Extract 4) agree with each other. A different kind of alliance was seen in the friends Finn and Dan, who would often respond to each other by *dis*agreeing. Dean, Amy, Keith, Eric, Gemma and Cath's responses were less often seen to relate to those of specific other pupils, which was reflected in their modest levels of Responsive responses in the analysis of categorised responses (see Section 4.1.1). Some children's ideas, which could have been highly influential to the development of the discussion would meet with a *lack* of explicit support from other children (in Amy's case, see Extracts 1 and 8), whereas at times, and especially in later enquiries, alliances in the discussion would be formed counter to friendship lines (Mark's view was implicitly posed against that of Neil's, Extract 4, line 19), or

despite them (Finn and Beth in Extract 8, lines 3,4 and 5). At times T also appeared to seek alliance and support from pupils, notably so in Extract 5.

As Carter has described (Carter, 2004), linguistic features were often seen to relate to creative thinking: pitch and intonation were often echoed when agreement was expressed (Mark and Neil in Extract 3, Liz and Beth in Extract 4). When a pupil was aware of having an original or important idea this was often expressed through a distinct use of volume, speed and intonation. Such ideas were sometimes expressed with great conviction, for example by Dean in Extract 1 (12); Finn in Extract 2 (2) and Karl in Extract 6 (17). In contrast, some original ideas were expressed very quietly or hesitantly, for example by Amy in Extract 1 (17); Karl in Extract 1 (29), and Faye in Extract 6 (13). It is possible that this is typical for the expression of creative ideas, which are being thought in interaction, tested out for the first time (Craft, 2000) and possibly due to meet with a lack of recognition (Extract 2, line 18), or laughter (such as the idea of a girl sleepwalking, extract 6). Vocabulary also played a central role: *may* (Extract 2), *maybe(s)* (Extracts 2, 5 and 8) and *might* (Extract 1,2,3,4,5,6,7,8) can be said to be indicative of a level of speculative thinking (Lipman, 2003) or *possibility thinking* (Craft, 2002). Dean's new, and enthusiastically endorsed, phrase *food winders* (Extract 2, 25) indicated a creative use of language (Carter, 2004), and the concept of a (magic) *bean* (Extract 8) appears to have led to the concept of a (magic) *being* due to the phonemic similarity between these two words. Finally, the video data which were available for extracts 2,4,6 and 8 added an understanding of signs from *body* language signals, such as Karl standing up (Extract 6, 17); Neil poignantly crossing his arms (Extract 4, 19) , Amy having her hand raised (Extract 4) and varying levels of engagement in the class (Extracts 2 and 4).

4.3 Individual and social creative thinking in the Community of Enquiry: a comparison of the two types of discourse analysis

A number of links can be drawn between the findings from the analysis of categorised responses (Section 4.1.1) and those from the analysis based on Conversation Analysis methods (Section 4.2)[26].

In some ways the analysis of categorised responses aided the analysis based on CA methods: as I have mentioned in section 3.3.1 of the Methodology chapter, selection of the extracts for the latter analysis was informed by the former. I believe that the CA-based analysis also benefited from a deeper understanding of each of the pupils' presence in the Community of Enquiry, as a result of my analysis of, and reflection on, the categorised responses, even though this deviates from pure CA methods (ten Have, 2007). Finally, through the results from the analysis of categorised responses I was able to validate and

[26] Findings from 4.1.3, on the results of the TTCT, are not discussed here as they did not relate to the Community of Enquiry. Relevant links between sections 4.1.1 and 4.1.3 have already been discussed.

contextualise some of my findings from the close analysis of the eight extracts. For example, my impression of Sean's presence in the close analysis was confirmed by the results of the analyses of responses, whereas my discomfort at having ignored Amy in Extract 3, was slightly alleviated by the knowledge that she had had the opportunity to make 48 responses in total.

A number of findings from the analysis of categorised responses seemed to be reflected in the CA-based analysis of the eight abstracts. Thus, the rise in total numbers of responses was evident in the longer transcripts from which the abstracts were selected; and the rise in Productive, Reasoning, Disagreement, and Initiating responses seemed to be reflected by the lengthier comments, greater complexity of thought and lesser dependence on me as facilitator, which seemed to be apparent in the later extracts.

The greater participation of some pupils compared to others, for example of Year 2 pupils compared to Year 1 pupils, was also reflected in both the analysis of responses and the extracts. Similarly, a relatively high or low expression of Disagreement by some pupils, which had been found to have an strong correlation with Reasoning, was also reflected in the extracts.

Finally, the findings that 49% of Reasoning responses were made in direct response to other responses, and that there were relatively strong Pearson correlations between both Original and Reasoning responses on the one hand, and Reproductive responses on the other, seem to be related to a major finding from the analysis based on CA: that creative thinking was often not so much produced by individual pupils in discrete thoughts, but as a chain of interactions in which ideas were repeated, rephrased, and developed until they appeared as a new concept. The following lines, taken from Extract 4 (see pages 106-108), are an example of such a chain of interactions.

Neil: ehm he ↓↑couldn't shoot the suns because it was just a reflection in the water ↓↑inside

Liz: I disagree with Neil because eh

Liz: because it said in the ↓story that (.) there was some water there=

Beth = and ehm it might be the bow and arrow might shoot down to the bottom and come flying back up and <hit the sun> ((makes moving gesture up to indicate arrow))

Mark: I agree with Beth.

Mark: Because it could have w went down through the water and went back up and hit the sun ((demonstrates with hand, Neil frowns and folds arms across chest))=.

Eric: =It couldn't (puts up hand)

Gemma: °I agree with Mark because° (2),

Gemma: I agree with Mark because it might 'uv bounced off the bottom and went up to the top but Beth didn't say it was bouncy in the bottom. (2)

However, in the last point also lies the difference between the findings from the two types of analysis. Although I had an understanding of the complexity of both social interaction and creative thinking through my facilitation of the enquiries and my analysis of the categorised responses, the CA-based analysis made me much more aware of the complexities of social interaction within the Community of Enquiry, and of how these complexities were, at times, almost indistinguishable from the complexities in creative thinking (Vygotsky, [1934] 1986). Also, by including me within the analysis of interaction, the CA-based approach did not only highlight my role in supporting or, at times, hindering, pupils' creative thinking: it also highlighted the creative thinking involved in facilitating the Community of Enquiry. Interaction patterns such as T-P-T, conventions such as the agree-disagree format, and alliances between pupils were not only seen to be the context, but also as the actual vehicles of, or obstacles to, creative thinking.

Through the CA-based analysis I was also able to identify some of the doubtlessly many things which were *not* said, through the silences, a raised hand, the *HHHH*s etc. Such evidence was disregarded in the analysis of categorised responses. The CA-based analysis also brought to light some of the dispositions and emotions, which were also absent from the analysis of categorised responses, such as laughter, sighing and excitement expressed in 'AHH!', as well as hesitations, with which creative ideas often seemed to be expressed.

On the other hand, the analysis of categorised responses provided me with a sense of 'completeness' about the analysis: by, however interpretatively, making judgements on every verbal response, I believe I obtained a set of data which, within its own constraints and definitions, appeared to represent the *whole* series of enquiries to a finite level of analysis. In contrast, as the potential for analysis appears to be infinite (ten Have, 2007: 31) the potential of the eight extracts to represent the enquiry series as a whole seemed more limited, despite the criteria I used to select the extracts, and despite the depth and complexity of the findings this analysis presented. In the Methodology Chapter I discussed the more heuristic character (Amabile, 1996: 35-37) of the CA-based analysis. Related to this, I am also aware of the limitations of my CA-based analysis, and that the extracts could have been explored more deeply, and laid bare many more complexities in interaction and creative thinking than could be described in this chapter.

One of the findings from the CA-based analysis, that creative thinking is a process and deeply related to social interaction, could, in some ways, be said to contradict the assumption which the analysis of categorised responses is based on, that creative thinking was discrete and produced by individuals. However, even in the CA-based analysis, it was clear that individual pupils played parts, took turns and expressed types of creative thinking which seemed to be, in that context, typical for them. Therefore, I believe the findings of the two types of analysis are not so much contradictory, as complementary. The findings of the analysis of categorised responses can be said to answer questions such as 'what was the nature of the creative

thinking expressed?', whereas the analysis based on CA methods looks at the in-depth 'how' of this expression of creative thinking. In the Discussion Chapter, I will now turn to the 'Why'.

Chapter 5. Discussion

5.1 Introduction

In this chapter I will explore the findings described in the previous sections, and search for reasons why the creative thinking which I identified, may have developed in the ways it did.

To begin with, I discuss in section 5.2 the main findings on the development of creative thinking in this Community of Enquiry in the context of wider dialogic pedagogy. Here I discuss changes in interaction; the opportunities and dialogic mechanisms which appear to have generated creative thinking; and the relationships with affect and action.

This is, in section 5.3, followed by an exploration of six specific issues, most of which were identified in both the findings and in the literature review: power; breaking boundaries; seeking recognition; conflict; transformation; and silence.

The chapter will be concluded in section 5.4 with a discussion of my facilitation of the enquiries, which will include sections on my facilitator emotions and dilemmas, facilitator interaction, and my facilitator role in the development of creative thinking.

5.2 Creative thinking and dialogue in this Community of Enquiry

5.2.1 *Changes in interaction*

I identified a number of changes in the interaction in this Community of Enquiry, such as: the rise in numbers of pupil responses from an average of 21 in the first half of the series of enquiries to 44 in the second half; the rise in average pupil response word length; the fact that 17 out of the 18 children who were a member of this Community of Enquiry for the full school year made more responses in the second than in the first half of the enquiries; and the fact that the *increase* in pupils' responses was balanced by a *decrease* in mine.

I believe that these changes can in part be attributed to the fact that over 20 enquiry sessions were held. However, repetition does, of course, not necessarily result in development. A further explanation for the *learning,* the fact that the pupils and I became more adept and confident at responding dialogically (Wegerif, 2005) to each other, can, I believe, be found by looking at the Community of Enquiry as a collective activity system (Engeström & Sannino, 2010): see Figure 3, page 37. As members of this Community of Enquiry, we became familiar with the *rules, tools* and *division of labour* of the activity (Engeström & Sannino, 2010), while the development of this class of pupils into a Community of Enquiry with greater levels of pupil interaction and better thinking (Lipman, 2003) was the o*bject*, or intended outcome of this activity. This outcome was approached through our encounter with two sets of contradictions (Engeström & Sannino, 2010). Firstly, within this Community of Enquiry, the challenges brought up in the dialogic and cognitive processes within the enquiries can be said

to have contributed to this transformation. Secondly, in relation to external factors, another set of contradictions existed between the *rules* (Engeström & Sannino, 2010) of the Community of Enquiry on the one hand, and on the other hand the very different conventions and expected outcomes of the majority of our lessons which were informed by the wider socio-cultural and regulatory context within which the pupils and I were situated. Our increased collective understanding of the differences between these two contexts, could, I believe, also be said to have contributed to our development as a Community of Enquiry activity system.

With reference to the interaction in some comparable dialogic pedagogical situations, Alexander reported a rise in both the quality and quantity of pupil responses in two long-term *dialogic teaching* projects (Alexander, 2005: 15,16). On the other hand, Esarte-Sarries and Paterson (2003: 175) identified in their SPRINT project that despite a greater *quantity* of pupil interaction, there was uncertainty about the rise in its *quality*. If we regard responsiveness as a measure of the quality of pupil interaction, the rather indefinite pattern in the development of Responsive responses can perhaps be seen as an indication of a similar level of complexity in the data in my study. The average number of Responsive responses *rose* between the first and second half of the enquiry series, whereas as a proportion of the total numbers of responses, Responsive responses *fell* (see Table 3, page 77 and Figure 14, page 78).

5.2.2 *Opportunities for creative thinking*

Elements of creative thinking were identified in a range of areas, such as in pupils' word choice (Carter, 2004; Wegerif, 2005), for example Dean's 'food winders' in Enquiry 6 and in their engagement with imaginative text worlds (Haynes & Murris, 2012), as we saw, for example in Extract 4 (see pages 106-108):

> Liz: because it said in the ↓story that (.) there was some water there=
>
> Beth = and ehm it might be the bow and arrow might shoot down to the bottom and come flying back up and <hit the sun> ((makes moving gesture up to indicate arrow))
>
> Mark: I agree with Beth.

Some creative thinking also appeared evident in some of my facilitator contributions, which I will discuss at the end of this chapter. However, most evidence of creative thinking in this Community of Enquiry was, naturally, found in the *content* or 'word meaning' (Vygotsky, [1934] 1986: 5) of pupils' verbal responses.

One of the main findings is that 58% of all pupil responses in this study were found to be *productive*, or, in other words, included an element of conceptual novelty. The Community of Enquiry can be seen as a dialogic space (Haynes, 2007, 2009a) which is centred around pupils' questions, in which they are invited and encouraged to search for new insights,

connections and analogies, which Wegerif (2010)[27] has identified as a creative activity. This study has, in this context, provided evidence of Lipman's (2003) suggestion that creative thinking *is* encouraged in the community of enquiry. The relatively rigid structure of each Community of Enquiry, i.e. the fact that each enquiry session contained the same procedural elements (Higgins et al., 2001; Sutcliffe & al, 2007), may have also acted as a scaffold (Mercer & Littleton, 2007: 15) in which, figuratively speaking, space was created for creative thinking. This Community of Enquiry's regular protocol may thus have acted as a support system in which pupils were able to collaborate (Miell & Littleton, 2004: 16), which also resembles the importance which Sennett (2012) attaches to *ritual* in collaboration.

Another main finding was the rise in creative[28] responses, particularly in the highest-valued category of Reasoning responses, and the drop in Reproductive responses between the first and second half of the series of enquiries (see Table 2, page 76). This may, again, be attributed to the pupils' increased understanding of the rules, tools, and object of the activity (Engeström & Sannino, 2010), which included the opportunity to 'play with ideas' (Craft, 2000; Durham, 2001).

[27] This was, of course, relative. Tikhomirov (1999: 350) has described creative activities as ones in which acts generate 'new motives, goals and operations'. Although the procedures of this Community of Enquiry evolved over time, the overall structure was fairly rigid and determined by me, within the contextual constraints which I, in turn, was dependent on.

[28] i.e. Original and Reasoning

Furthermore, this rise appears to be related to Wegerif's (2005, 2010) notion of creativity 1 and 2: he has suggested that lower-valued creative talk or what he calls *creativity 1*, is essential to achieve higher-valued creative talk or *creativity 2*. With reference to Wegerif's (2010: 51) notion of creativity 1, very little of my data resembled the off-task, playful behaviour which Wegerif has included in his definition. This is due to the whole-class nature of the enquiries; the presence of *shared ground rules* (Wegerif, 2005: 229, 2010: 33)*;* and the nature of the transcribed data: although naturally not all pupils were on task during all enquiries, no off-task talk was transcribed and analysed. Nonetheless, although Wegerif emphasises that creativity can't be 'reduced to a chain of cause and effects' (Wegerif, 2005: 235), the idea that lower-valued creativity is essential to attain higher-valued creativity seems to corroborate the importance of Tangential and Original responses which often indicated a level of 'playfulness'.

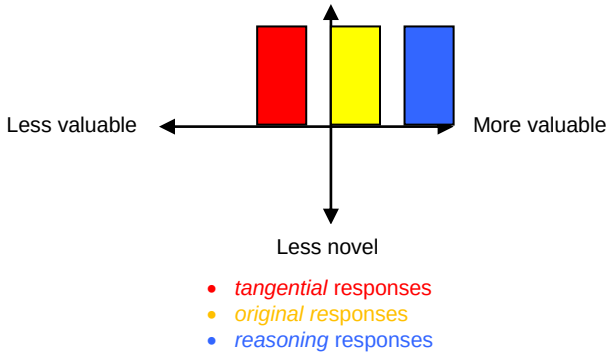


Figure 25: Tangential, Original and Reasoning responses in relation to each other

Another example of playfulness, or creativity 1 (Wegerif, 2010: 51) in this Community of Enquiry, was, I believe, evident in the children's chosen questions, such as 'What colours skyscrapers can you get?', 'How old are Frog and Toad?' and 'How could the fish drive without legs?' I would argue that the allocation of classroom time – precious in the context of a climate of performativity – to discuss such questions did not only instil the notion that pupils' questions and ideas were taken seriously, as Baumfield (2001a) and Haynes (2002, 2007) have suggested, but also that they, again, were encouraged to 'play with ideas' (Craft, 2000; Durham, 2001). Had this not been the case, I believe that fewer highly-valued Reasoning or *creativity 2* (Wegerif, 2010: 51) ideas may have been expressed: this affordance could account to some extent for the rise in Reasoning responses, or the development of creativity (Moran & John-Steiner, 2003: 65).

5.2.3 *Mechanisms of dialogic creative thinking*

Collaborative talk

However, creative thinking did not merely occur because it was *invited* and *encouraged* (Durham, 2001; Wegerif, 2010). I believe that much of the pupils' motivation to contribute to the enquiries, either verbally or silently, was *intrinsic* (Amabile, 1996) and originated within their dialogic interactions. Mercer has referred to dialogue as an Intermental Development Zone, based on Vygotsky's ZPD (Wells, 1999; Mercer & Littleton, 2007: 14,15), in which 'the teacher and learner negotiate their way through the activity' (Mercer, 2000: 141). However, although I took very frequent turns in the interaction, in terms of the content of my questioning in this Community of Enquiry I took a relatively passive approach, as will be explored in a later section in this chapter. Due to this approach and the fact that to most questions discussed, there *was* no particular right answer to which the pupils could have been guided[29], I would argue that in this Community of Enquiry, most guiding and 'stretching' (Mercer, 2000: 140) came in the shape of peer comments, rather than teacher comments – as the joint and dynamic zone of proximal development I described in section 2.3.1. This resulted in a collaborative cyclical process similar to that which was described in Moran and John-Steiner's (2003) visual representation of Vygotsky's dialectical conception of development and creativity (see Figure 26).

[29] This is, of course, a fundamental difference between teaching and facilitating any community of enquiry: high-quality facilitation enables effective dialogue and enquiry, rather than the dissemination of knowledge by the teacher (Sutcliffe & al, 2007).

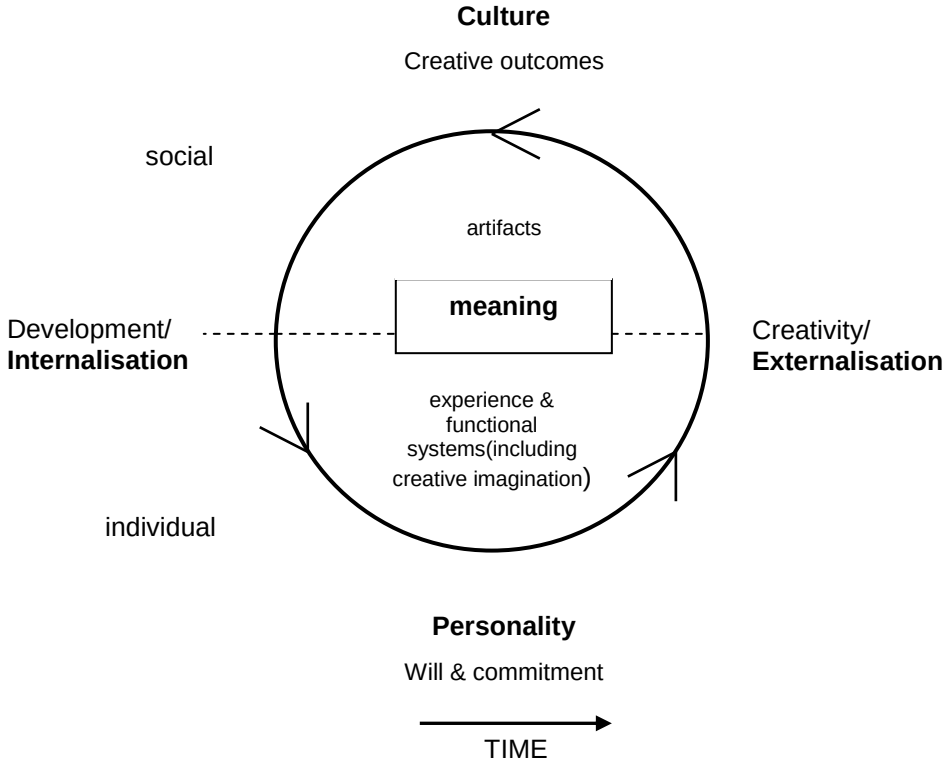


Figure 26: 'A visual representation of Vygotsky's dialectical conception of development and creativity' (Moran & John-Steiner, 2003: 64)[30]

This dialectical 'wheel of creativity' meant that pupils were drawn into the dialogue, and often appeared *compelled* to make a new contribution in response to their peers. One of many examples of this can be found in example in Extract 3 (see Findings chapter, section 4.2.1):

Dean	…..ah:ll you know them food winders=
Neil	=oh yeah I do=

Neil's acknowledgement of his understanding of Dean's original expression 'food winders' can be interpreted as creative thinking in itself (although it was not categorised as such): it shows that Neil has *internalised* the information which was *externalised* by Dean, and Neil's acknowledgement, which is in itself an *externalisation* of his understanding, then helps to further the dialogue, by inviting others to *internalise* his response, etc. In my view, this dialectical process provided for many pupils a source of intrinsic motivation (Amabile, 1996) (see section 2.1.3), and is closely related to the equally compelling, cyclical relationship between enquiry and creativity (Csikszentmihalyi, 1994: 138; Nickerson, 1999: 393): genuine questions intrinsically challenge us to search for answers, which, when found, can always lead us to ask new questions.

[30] This figure was also presented on page 35

However, in considering these processes, it is important to recall Thomas' (2007) view that although social science may be able to *explain* the phenomena it studies, it cannot *predict* them: the extent to which pupils felt driven to participate, the ways they did so, and the degree of creativity they exhibited in this process, varied strongly between individual pupils. Too mechanistic a view in exploring creative thinking can soon become irrelevant, as Lehrer (2012: XVI) has pointed out:

> … there is something profoundly mysterious about the creative process.

Ideas generated in the enquiries thus came about within the social, interactional and conceptual context of what had been said before, and, logically, were expressed either in implicit or explicit *agreement,* or in *disagreement* with what had been said before.

Cumulative talk

In terms of agreement, I found evidence that creative thinking was often the result of collaborative chains of seemingly Reproductive comments, or 'cumulative' talk (Alexander, 2005: 14). This finding, which contests the notion that ideas were independently generated by individual students, was confirmed in correlations between Reproductive thinking on the one hand, and Original and Reasoning responses on the other (r=0.51 and r= 0.66 respectively). The term *cumulative talk* originates in Dawes et al's framework (1992, in Light & Littleton, 1998: 183), in which disputational, cumulative and exploratory talk were identified; these also feature in Mercer (2008b) and Wegerif's (2005, 2010) work. Cumulative talk, according to Light and Littleton (1998: 183) 'simply adds to what has come before', and appears in this study to have been an essential element in the dialogic creative process. This finding also has some resemblance to Wegerif's (2005) view that lower-valued creative talk is essential to achieve higher-valued creative talk, which I discussed in the previous section. It could also be argued that Reproductive responses in a dialogue provide an opportunity for the incubation of ideas, which is essential for creative thinking, as discussed in section 2.1.5. *Disputational* talk (Wegerif, 2005; Mercer, 2008b; Wegerif, 2010) which is often seen in contrast to cumulative talk, is more related to critical thinking, which I will discuss next.

The role of critical thinking and disagreement

Within this dialectical 'wheel of creativity' (see Figure 1) (Moran & John-Steiner, 2003) discussed in the previous section, *disagreement* played at least as important a role as *agreement*. This was, for example, evident in the high correlation found between responses expressing Disagreement, and those identified as Reasoning (r=.70).

The rise in Reasoning responses from 9% in the first half of the enquiries to 15.4% in the second half of enquiries bears resemblance to the development of reasoning identified in other studies on dialogic pedagogies, such as: P4C (Trickey & Topping, 2004); Exploratory Talk (Mercer, 2000: 156; Wegerif, 2005; 2008b); Thinking Together (Mercer & Littleton, 2007; Wegerif, 2010); and, according to Wegerif, (ibid.) Dialogic Teaching (Alexander, 2006). Although the general definition of reasoning in these studies differs from my use of the word

in this study[31], there are clearly some strong resonances here. However, there are also some differences between the various approaches, particularly in relation to the extent to which *consensus* is encouraged. This is of interest here, because I very frequently asked pupils to identify in their response if they agreed or disagreed with a previous speaker, as is common in P4C and the Community of Enquiry (Higgins et al., 2001; SAPERE, 2007; Wegerif, 2010: 16). The evidence from my study suggests that explicit disagreement, in contrast to explicit *agreement*, had initially been new to this class, but, towards the end of the series of enquiries, had become familiar to the majority of pupils. Although this was, of course, not a cause-and-effect relationship, the links between disagreement and creativity were clear from the correlations between Disagreement and Reasoning (r=.70) mentioned earlier, and Disagreement and Original responses (r=.62), in comparison to very weak correlations between explicit Agreement and Reasoning (r=0.32), and explicit Agreement and Original responses (r= -.08). The development of creative thinking thus appeared to be clearly linked to that of critical thinking, as has been suggested by many other authors (Jeffrey and Woods, 1007, in Craft, 2000: 119; Fisher, 2000; Lipman, 2003).

Dispute in other forms of dialogic pedagogy

My frequent questioning as to whether pupils agreed or *disagree*d contrasts with some of the other approaches mentioned in the context of dialogic pedagogy, for example, Alexander's (2004) approach in Dialogic Teaching. Although he does acknowledge that dialogic teaching involves the handling of diverse of ideas, Alexander defines dialogue as:

> … achieving common understanding through structured, cumulative questioning and discussion which guide and prompt, reduce choices, minimise risk and error and expedite the 'handover' of concepts and principles. (Alexander, 2005: 12, 2006: 38).

This approach matches Alexander's view of Dialogic Teaching as a type of classroom talk which is primarily a tool for teaching curriculum content (2006: 39). In other words, learning is generated through dialogue but scaffolded by the teacher towards a shared understanding (2005: 17). In contrast to Dialogic Teaching, the Thinking Together Programme (Wegerif, 2010: 19), which is based on the notion of exploratory talk (Britten, 1970 and Barnes et al., 1969, in Miller, 2004: 291), is a collaborative problem-solving approach, usually carried out in small groups of pupils. Mercer, Wegerif and others have used this to investigate the development of reasoning through dialogue (Mercer, 2000; Mercer & Littleton, 2007; Mercer, 2008b). Mercer describes exploratory talk as:

> … a joint, co-ordinated form of co-reasoning, in which speakers share relevant knowledge, challenge ideas, evaluate evidence, consider options and try to reach *agreement* in an equitable manner' (2008b: 9),

[31] indicating the highest-valued type of creative thinking response

Although the objective here is thus still to obtain *agreement,* Mercer points out that exploratory talk includes *constructive conflict* (ibid.), which does not appear to be essential in Alexander's Dialogic Teaching. Similarly, Wegerif describes exploratory talk as follows:

> …this combines features of cumulative talk, being a kind of co-operation, with features of disputational talk, because it includes challenges and competition. However, the competition in exploratory talk is between ideas not between people. (2005: 226).

Although the latter statement would also find favour with most P4C practitioners, in the Community of Enquiry and P4C there is a much lower expectation of an agreed *consensus* as the object of an enquiry (Fisher, 1998: 149) than in exploratory talk (Alexander, 2004: 27; Mercer & Littleton, 2007: 72,73). I would thus argue that it was the specific invitation to *disagree* which was a major contributor to the creative thinking of this Community of Enquiry, such as in Enquiry 8 (Extract 4, see pages 106-108):

> T: Right, who disagrees with Neil? ((various pupils both put up hands)) Eric?

Dispute has been identified as an important factor in development elsewhere: as I discussed in the Literature Review, benefits of cognitive conflict for social creativity have been identified by John-Steiner (2000), Moran and John-Steiner (2004: 20) and Grossen (2008: 248). An explicitly critical approach could also be said to be central to Peirce's original idea of the community of inquiry (1955, in Pardales & Girod, 2006: 301). Furthermore, Murris (2008: 679) has also commented on the potential of disequilibrium for learning, and dialectical contradictions are seen as necessary for learning in Activity Theory (Engeström & Sannino, 2010). Sennett (2012: 19) has also defined dialogic discussions as those 'which do not resolve themselves by finding common ground', but which are all the more productive as a result.

The Community of Enquiry's approach to overtly invite critical thinking is more akin to Socratic dialogue (Fisher, 1998: 149) than other forms of dialogic pedagogy, whilst it shares a base in Vygotskyan theory (Mercer, 2008b) with them. Much of this is, of course, related to the 'open' character of a Community of Enquiry dialogue, which, as in this study, is often not led by curriculum objectives, but by pupil enquiry. It appears that in curriculum-content-driven dialogic pedagogies such as Dialogic Teaching (Alexander, 2006), dialogue may be more cumulative, whereas in those which are less curriculum-content-driven, the dialogue is not only less teacher-led, but also more critical and disputational (Light & Littleton, 1998: 183). Although this statement may be an oversimplification, this greater level of critical thinking could result in a greater potential for creative thinking.

Dispute and dialogic space

I agree with Mercer, Littleton (2007: 73) and Wegerif (2005, 2010) that dispute should not imply confrontation at a personal level: Wegerif (cf. Wegerif, 2005; 2010: 23) has explained the intersubjective 'dialogic space' or 'interthinking' (Mercer, 2000) in which creative thinking

can take place, with some resemblance the notion of 'dialogicality' (Marková, 2003) as follows:

> When children get carried away in the dialogue, they can challenge the group and even question their own positions. The features of successful problem solving in groups imply a different kind of identity position of temporary identification: that is that of identification, not with any limited image such as self or a group, but with the space of dialogue itself.
> (Wegerif, 2010: 23)

Dialogic space thus offers participants the freedom and opportunity to disagree and to contradict what has been said before, and as a result, offers powerful opportunities for the development of creative thinking and learning. An example of the 'questioning of their own position' as described by Wegerif (ibid.) was expressed by Finn in Enquiry 18, in an ontological discussion about the existence of a horse in the stimulus story:

Finn	I didn't actually think something made it but it might be something like a dream something and it might just have happened
T	That's right, does anybody want to agree or disagree with that?
(….)	(All talking together)
Finn	I disagree with myself!
T	Oh, that's interesting.
Finn	Because it said the gran always made her, made her the present so she couldn't have made a real horse so it might have always been a wooden horse.

Finn's 'I disagree with myself!' which appeared to come as a surprise to everyone can, in itself, be seen as a creative piece of language use. In particular, it was chosen as part of the title of this thesis, because it characterises not only Finn's aptitude for disagreement, but also his metacognitive awareness of a new, contrasting and more valued idea than one he had expressed previously, and the confidence, security and honesty to share that awareness within the Community of Enquiry. In this sense, 'I disagree with myself!' can thus be seen as an instance of the emergence of dialogic space (Wegerif, 2005, 2010).

From my observations, this appeared to be a feature which was developed in this Community of Enquiry: most pupils did not seem to feel personally attacked if someone disagreed with their opinion. Although this is, of course impossible to verify or generalise, this is important, as critical evaluations have been identified by Amabile (1996: 120) as an obstacle to social creativity. However, I will explore some particular reactions to disagreement in the section titled 'Conflict' (5.3.4), and the use of *agreement* in the section titled 'Seeking Recognition' (5.3.3) in this chapter.

The mechanisms of creative thinking

In summary, the evidence suggests that creative thinking in this Community of Enquiry was closely related to intrinsic motivation and generated in the collaborative 'wheel of creativity' of Moran and John-Steiner's model (2003). Furthermore, I would argue that cumulative,

disputational and exploratory talk are not only non-exclusive (Wegerif, 2005), but that elements of both 'cumulative' and 'disputational' talk (Wegerif, 2005: 226), or, in the terms of this study, both Reproductive responses and Disagreement, are necessary for the kind of exploratory talk (Mercer, 2008b: 9) in which creative ideas are expressed. It could also be argued that apprenticeship into what Wegerif calls the 'dialogic space' (Wegerif, 2010: 23) and a scaffolded entry into the dialogic 'wheel of creativity' (2003) may be some of the main benefits of the Community of Enquiry.

5.2.4 *Creative thinking, the affective and the effective*

Skidmore has pointed out the importance of discussing the affective element within dialogic pedagogy (2006). Although the development of 'caring thinking' (Lipman, 2003) was not the prime focus of this study, it was clear, both during my facilitation and in the analyses, that there were large differences, not only in the results, but also in the experiences of individual pupils in this Community of Enquiry. These are, of course, particularly important to discuss in to the context of the role of the affective element in social creativity (see section 2.1.3).

Ecclestone and Hayes (2009) have attacked P4C as a form of 'therapeutic education', in which pupils' emotions are foregrounded, resulting in pupils' heightened preoccupation with their emotional vulnerability, in complacency, and in an ensuing inability to identify such issues as social injustice. Haynes (Murris et al., 2009) has critiqued such attacks convincingly. She points out that although she shares Ecclestone and Hayes' concern about the dominant role and danger of pathologising perspectives in education, she sees these as mere facets of a much wider trend to objectify and marginalise children – something which P4C has the potential to counteract. In Haynes' (Murris et al., 2009) view, P4C is thus not 'dangerous', but 'not dangerous enough' (ibid.). She also points out Ecclestone and Hayes' apparent misconception of P4C. I, too, disagree with Ecclestone and Hayes' portrayal of P4C, and, like Haynes, believe that the affective aspects of P4C and the Community of Enquiry cannot and should not be ignored: Vygotsky ([1934] 1986: 10) argued that the separation of intellect and affect was a major weakness of the traditional psychology of his time, and as Damasio (2006) has pointed out, the affective element cannot, in fact, be separated from the rational (Brown, 2009: 54). In a similar vein, Lipman himself has put the benefits of the development of 'affective thinking' as follows:

> Affective thinking is a conception that cuts like a laser across the reason versus emotion dichotomy. Instead of assuming that emotions are psychological storms that disrupt the clear daylight of reason, one can conceive of the emotions as themselves forms of judgment or, more broadly, forms of thought … this is a matter whose importance for moral education cannot be underestimated … if we can temper the antisocial emotions, we are likely to be able to temper the antisocial conduct.
>
> (2003: 266, 267)

I have reported elsewhere that many practitioners recognise affective development as one of the main benefits of P4C (H. Jones, 2008b). Fisher, too, has argued that dialogue offers pupils opportunities to connect with each other, express their needs and worries, and answer

those of others (2009: 5). In this process, he suggests, they develop their self-esteem and empathy (2009). Although not many pupils were seen to express their 'needs and worries' in this Community of Enquiry, I believe that there were many opportunities for pupils to connect with each other, and that self-esteem and empathy appeared to have increased for most.

In answer to Ecclestone and Hayes (2009), I would therefore firstly argue that, as judgements and learning always include elements of the affective, it is both impossible and dangerous to ignore these, and secondly, that the development of such aspects as self-esteem and empathy are worthy goals in themselves. Thirdly, I would argue that P4C does not result in blindness to social problems, compliance and complacency, but that, on the contrary, dialogic enquiry can be a useful tool for raising pupils' critical awareness of current social and environmental issues in the social reconstructionist tradition (Zeichner & Tabachnick, 2002). Finally, and importantly, aware, reasonable (Lipman, 2003), confident, and empathic children and adults would appear most likely to be able to translate *thinking* into effective democratic *action* (Bleazby, 2006b) with which to tackle such problems. I would therefore argue that P4C, far from being a form of 'therapeutic education' (Ecclestone & Hayes, 2009), can be a powerful tool for emancipation and democracy, and I return to this in the Conclusions chapter.

However, in relation to the importance of emotional support in children's creativity (Fumoto et al., 2012), there are potentially problematic areas related to affective aspects of the Community of Enquiry, which also need to be acknowledged.

In the next section I will explore a number of such issues in relation to creative thinking in this Community of Enquiry.

5.3 Six issues

As mentioned above, one of the findings related to the wide variety in the number and types of responses given by individual pupils. Concurrently, I identified a number of major issues related to social creativity in the Literature Review chapter. Some of these factors were positive, such as motivation, trust, support, tensions, complementarity and inclusiveness (Amabile, 1996; Moran & John-Steiner, 2004; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008), whereas others had been found to have a negative impact, such as: negative evaluations, social inhibitions and anxiety (Amabile, 1996); impatience (Paulus, 2000); ownership and unfriendliness (Morgan & Thomas, 1997; Moran & John-Steiner, 2004); the taking up of roles (Eteläpelto & Lahti, 2008); unequal power relations (Burbules, 2000; Lefstein, 2006); and 'cognitive interference' (Paulus, 2000). As many of these issues were also evident in my findings, I will next explore these in six mini-case studies, under the headings Power; Breaking Boundaries; Seeking Recognition; Conflict; Transformation; and Silence. In each, I will explore one theme with a specific focus on one or more pupils in this Community of Enquiry, in whom each of these issues may be exemplified.

I am aware that in my portrayal of these three Year 1 pupils and four Year 2 pupils, I run the risk of reducing them to mere stereotypes. Therefore I would like to emphasise that, of course, each child's personality had many other characteristics which are not described here. Similarly, the issues were not limited to these six pupils only: nearly all pupils had, at times, enacted any of these roles and encountered many of these issues. Despite these caveats, I believe that the pupils chosen exemplified these specific issues to such an extent that an exploration of these issues through their perceived Community of Enquiry identities may enrich this discussion. Each case study will be informed, not only by findings available for each of these pupils from their Community of Enquiry responses, the results in the Torrance test of Creative Thinking (Torrance, 1998) where relevant; and my fieldnotes from the enquiries, but also by the various categories of knowledge which were available to me as the class teacher, such as their educational attainment, their social relationships, their likes and dislikes, some of their out-of-school experiences etcetera, which I discussed in sections 3.1.3 and 3.2.1 of the methodology chapter. However, another caveat needs to be pointed out: in my accounts of pupils below I express a number of statements about pupils' feelings and home backgrounds. Although these are based on evidence gained in my extensive contacts with the pupils and my interactions with their parents and carers, such knowledge is, of course, limited, and the subjective nature of my discussion needs, once again, to be acknowledged.

Finally, it could appear that my focus on individual pupils indicates a return to a perspective on creative thinking which is based on the individual. However, these case studies explore how the pupils were affected by their social environment: my discussion will be informed by my adaptation of two theoretical models, which focus on the social and socio-cultural context. I will first describe these in the two sections below.

A social network

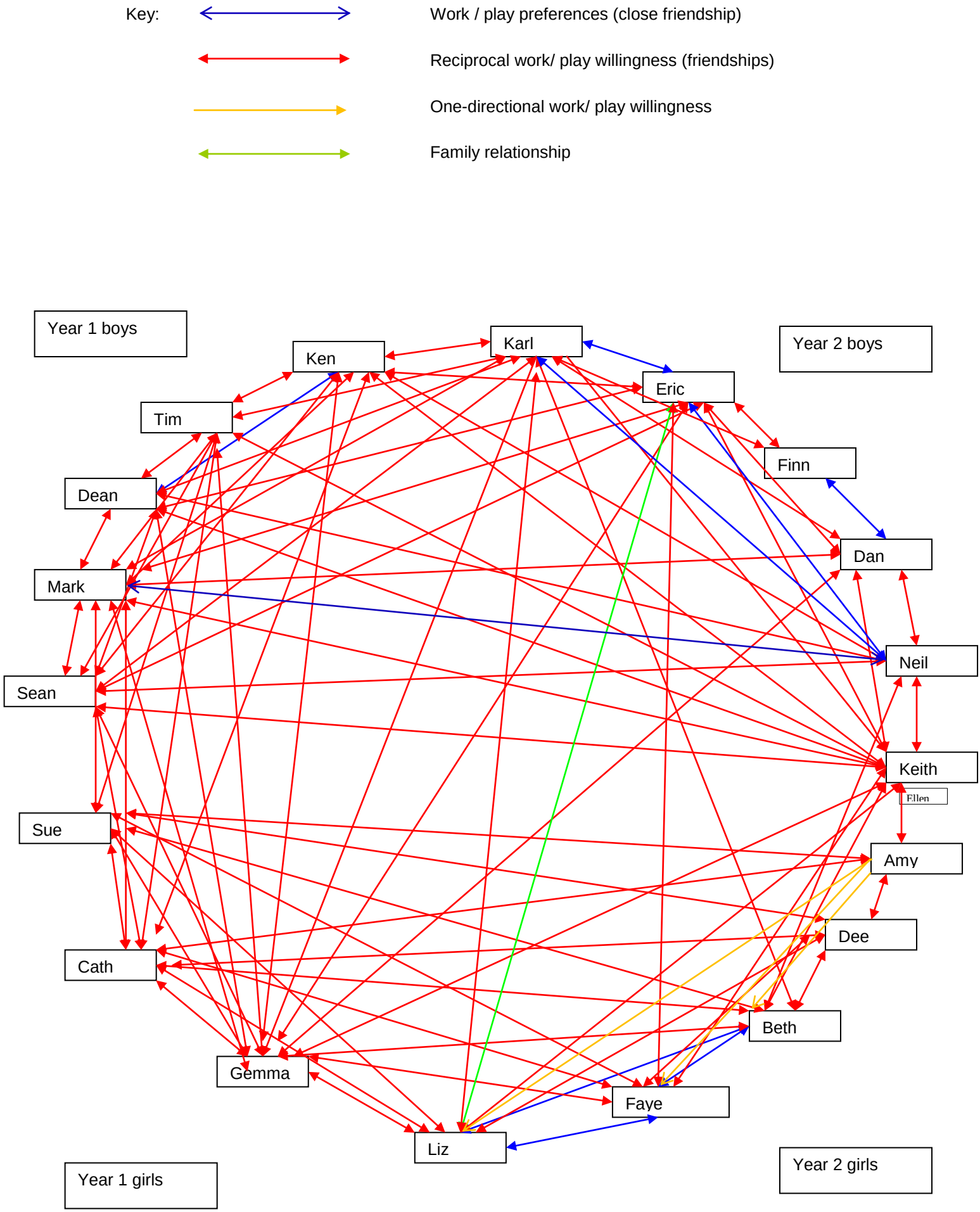
The first model is a simplified diagram adapted from Social Network Theory, which could be described as 'a map of specified ties, such as friendship' (Anon., 2012), and which was described in the Methodology chapter. In this diagram, I have represented whether, in my view, each of the pupils would generally be willing, or prefer, to play or work with each of the other children in the class. The result is a map of social 'ties' which gives an indication of my impression of each child's social capital within the class (see Figure 27: A social network diagram of the class, page 138).

Although Social Network Theory is generally used to depict complex *quantitative* data relating to social interaction (Garside, unpublished), my adaptation is qualitative, highly interpretative and could be said to have a number of weaknesses. Firstly, it is completely based on my impressions of pupils' relationships – there must have been many elements of their social lives which as a teacher I was not aware of (Devine, 2003). It is also reductionist in the sense that it gives a seemingly static overview from a whole year, whereas of course these relationships were dynamic, and fluctuated throughout. Furthermore, the diagram was drawn

up sometime after teaching the pupils, so although I believe that my bias was consistent across the group of pupils, it relies on my memory, rather than on my immediate observations. Finally, and related to this, it was influenced by the findings from this study, i.e. the transcribed reactions of pupils towards each other in part impacted on my understanding of the relationships, and thus on the diagram.

On the positive side, I believe that this social network diagram provides a reflection of many relationships in this class, and, within the parameters of this study, can contribute to my discussion of the social behaviour of the pupils. A few observations from this model can immediately be made (see Figure 27): for example, the numbers of friendship contacts varied considerably between pupils, and more friendships existed within gender groups across both year groups (indicated by lines within either the top or bottom half of the circle) than within year group across gender (indicated by lines within either the left-hand side or the right-hand side of the circle). Although this is perhaps not surprising, it is interesting as the two year groups had been taught in separate classes in the previous year, and greater cross-gender coherence might have been expected as a result. It is also apparent that, of course, some pupils had friendships with pupils of both genders and year groups.

Figure 27: A social network diagram of the class



Expanded mediation

The second model is an adaptation of Engeström's 'complex model of an activity system' (ibid in Daniels, 2001: 234; Engeström, 1987, in Engeström & Sannino, 2010). As I discussed in section 2.3.3 of the Literature Review chapter, Engeström based this model on Leont'ev's mediational triangle (Wells, 1999: 234) of S*ubject*, *Tools* and O*bject*, which is centred on the mediated actions of individual learners. Engeström added to this the extra elements of *Rules, Community* and *Division of Labour* to represent the cultural activities in which actions are situated within an activity system. Wells has suggested that this 'expanded triangle of mediated action' (Wells, 1999: 250) can be applied in education to all levels of 'action', i.e. a series of lessons; a lesson; part of a lesson or a microgenetic dialogical sequence. In my adaptation (see Figure 28), I have brought Engeström's model back to focus on individuals, albeit whilst still taking account of the social and cultural factors which impact on their actions. Although I have thus taken the model out of its original activity-theory context, I believe that it offers a powerful visual presentation of the interrelating socio-cultural factors which influence an individual participant's mediation, and outcomes within the ZPD of the Community of Enquiry, as follows:

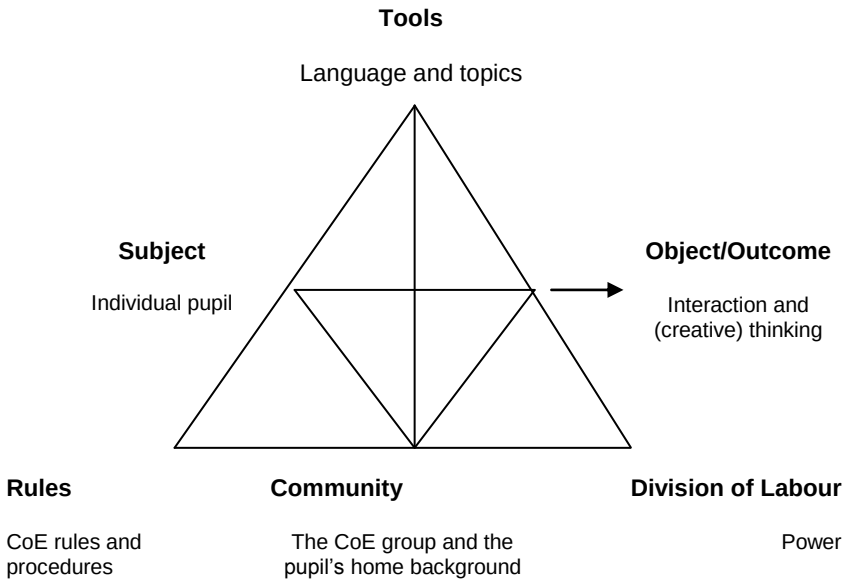


Figure 28: Expanded mediation triangle (Wells, 1999: 248) of a pupil's interaction in the Community of Enquiry (CoE) – adapted from Engeström's model (1999: 31)

Having introduced these two models in Figure 27 and Figure 28, I will now present the six mini-case studies.

5.3.1 *Power*

Flyvbjerg has argued that the meaningful value of social science lies in the Aristotelian concept of *phronesis* or 'the analysis of values' (Flyvbjerg, 2001: 57), providing that an analysis of *power* is included. Furthermore, and with particular reference to creativity, Tikhomirov sees power, or 'the Division of Labor' as the single determining factor influencing creativity (Tikhomirov, 1999: 352). Although this comment refers to society as a whole, I believe that this point can, again, be applied to the Community of Enquiry: power appeared to be a major factor in the responses given in the enquiries. Therefore, I will start my discussion with an exploration of power in this Community of Enquiry. Undoubtedly much of the power was held by me as the teacher/ facilitator, as I will explore specifically in the later section on facilitating the Community of Enquiry.

Regarding the pupils in this Community of Enquiry, a large amount of power was held and generated by Finn. As I mentioned in the Findings chapter, he was the youngest Year 2 pupil, who was an extremely able reader[32], with a very wide vocabulary for his age and a high level of general knowledge, and very impressive ICT skills. He could be very imaginative: he once made up a completely new alphabet in which he appeared to be able to read and write, and he loved stories. Socially, however, he was much less well-developed: in many situations he appeared to relate more easily to adults than to other pupils, and he would often prefer to play or work on his own rather than with others, rather like what Rufus (2003) calls a *loner.* Apart from his friendship with Dan, Finn had relatively few friendship ties in the class (see Figure 27). However, Finn was not what Collins (1996) calls a *quiet child*: in most whole-class lessons he would readily take an active part and demonstrate his knowledge. Not surprisingly, then, Finn really took to the Community of Enquiry and, according to both him and one of his parents, it soon became his favourite 'lesson'. The extract below from Enquiry 2 (see Findings chapter, section 4.2.1, Extract 2) gives an example of Finn's early confidence and level of motivation, while frustration with group dialogue (Paulus, 2000) and the rules of the activity (Engeström & Sannino, 2010) are also already apparent

T:	Did: the spell: <u>really:</u> make him feel: better?
Finn :	↓NO!
T:	Put up your hand if you can tell me about that=
Finn	↓=no!
T:	if you can <u>explain</u> to other people [whether or not it did.
Finn:	[↓No!
T:	Don't just shout [no, s say yes
( ) :	[hhhh. (sigh)
T:	and tell me why: or say ↓no and [tell me why

[32] In my teacher assessment of his reading ability, he was deemed to have reached most elements of Level 4, or the expected level of an 11-year old, at age 6.

Finn [I ↓know!

T ↓ Finn.

Finn's number of contributions (79) was much higher than that of any other pupils – in comparison, the second most-frequent contributor, Amy, made only 48 contributions (see Appendix 3). 68% of Finn's contributions were productive, which placed him among the top four pupils in terms of proportion of novelty in their contributions, and a high 29% of his responses were coded as Reasoning. Interestingly, Finn expressed 13 disagreements, and only 4 agreements. During all stages of the enquiries Finn tended to be highly engaged, active and competitive - he was clearly driven to make his voice heard in all stages of the enquiry[33], and his engagement could, at times, be said to have bordered on Csikszentmihalyi's notion of 'flow' (Csikszentmihalyi, 1997; Fumoto et al., 2012: 24). Many of Finn's contributions to the enquiries showed evidence of both critical and creative thinking (Fisher, 2000; Lipman, 2003). Finn's ideas in the Community of Enquiry often came about during head-to head discussions, often with his friend Dan, who was from a similar background, and incidentally had the highest percentage (81%) of Productive responses within the Community of Enquiry (see, for example, section 4.2.1, Extract 7). Here, in a process of collaborative creativity (John-Steiner, 2000), both participants sparked ideas off each other. Finn did not only disagree with others: in enquiry 18, Finn coined the perceptive phrase ' – I disagree with myself!' which was mentioned in the previous section, and appeared two more times in the following enquiries.

However, there were also a number of incidents in which it was apparent that Finn's powerful position in the group meant that the creativity of other participants was held back, or at least not easily expressed, as we saw in Extract 2 in the Findings chapter, and which concurs with Eteläpelto & Lahti's (2008: 226) finding about high levels of disputational talk in whole-class situations.

Using the expanded mediation triangle (Figure 29), I believe that much of Finn's power in this Community of Enquiry stems from his excellent control of the language of the Community of Enquiry *(tools and signs*). This, I believe, originated in his home background (*Community)*, where I knew Finn was the only child of well-educated parents. Thus socio-culturally advantaged, he did not only have a wide vocabulary, and speaking and listening skills which were very advanced for his age, but also the ability to engage in dialogue and to discuss abstract concepts. This excellent control of what can be described as the instruments and potential topics, cultural tools (Wells, 1999; Wegerif, 2010: 55) or cultural capital (Bourdieu,

[33] The formulation and selection of questions was also an area of great interest for Finn. For example, one of the few enquiries in which Finn did not take part was one where his question was narrowly beaten by another child's, and he spent the first part of the session demonstrating his lack of engagement in apparent protest.

1986) of the Community of Enquiry, gave Finn a strong advantage over other pupils from the beginning of the enquiries, enforced the dominant role which he often displayed in other whole-group activities, and strengthened his identity in such situations *(Subject)*. His high, goal-oriented motivation in taking part in the enquiries *(Object)* was driven by this strong *Subject,* as well as by contradictions (Hakkarainen, 1999) and disagreements or 'disputational talk*'* (Wegerif, 2005: 226). As mentioned above, for Finn the Community of Enquiry often did not appear so much as an opportunity for collaborative meaning-making, but, in a dialectical sense (Engeström & Sannino, 2010) as an opportunity for arguments and counter-arguments, sometimes with himself. As a result of this strong drive and his excellent use of the *tools*, Finn had a position of power in the Community of Enquiry which most others seemed to respect *(Division of Labour*). It could also be argued that within the class as a whole Finn relished his power in the Community of Enquiry to offset the social difficulties which were also, at times, apparent in the classroom.

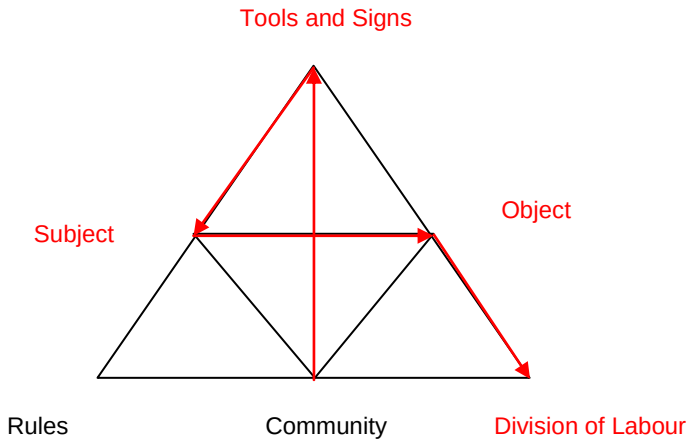


Figure 29: Expanded mediation triangle (Wells, 1999: 248) of Finn's interaction in the Community of Enquiry (CoE) - adapted from Engeström's model (1999: 31)

Power in this Community of Enquiry was thus often afforded to those who could easily access the conceptual challenges and meet the linguistic demands of the enquiries (Burbules, 2000), and were motivated to be actively involved in the discussions. To some extent, this also explains the fact that many other Year 2 pupils were much more active in the enquiries than the Year 1 pupils, as I discussed in section 4.1.1. Not only did they, on the whole, have a more developed use of language due to their age, but it can also be assumed that they had a greater command of the tools of my particular pedagogic approaches, or cultural capital (Bourdieu, 1986), as they had already been in my class (as Year 1 pupils) during the previous year. From my knowledge of the pupils after the data-gathering year, I can also comment that the ability of most of the 'Year 1' pupils to take part in dialogical discussions developed over

the years. The familiarity with the *tools* was thus seen to have a large impact on the *Division of Labour,* or power, within the group.

In the final section in this chapter I will discuss how, in my facilitation, I tried to balance Finn's needs with those of other pupils, and in the Conclusions chapter some strategies are described of how this might have been done more effectively.

5.3.2 *Breaking boundaries*

Breaking the boundaries of the expected is often associated with creativity (Amabile, 1996: 88, 89), and of course inherent in original or novel thinking. Although, of course, many pupils showed, at times, signs of originality and each of the 228 Productive responses communicated a level of novelty, one Year 1 pupil of whom the unexpected could be said to be expected, was Gemma. However, as I will discuss, I believe that her originality was, paradoxically, supported by the extent to which she was *integrated* within the various structures of this Community of Enquiry and the wider socio-cultural context.

My first encounter with Gemma took place several years before I taught this class, during a face painting activity at the annual school fair. Having already been asked by a large number of girls to paint butterflies, flowers etc. on their faces, Gemma, at the time no older than three or four, approached me with the request for 'an eye with a dagger sticking in it and blood coming out', which was an early indicator to me of Gemma's capacity for originality.

This original and independent side was apparent when Gemma joined my class as a Year 1 pupil in this Community of Enquiry year, too. However, this originality was never shown in a boastful way. At the heart of her risk-taking seemed to lie a quiet self-reliance which gave her the confidence not to worry about the impressions of her peers too much: in some ways she matched Cain's description of introverts (2012). This is not to say that she had poor social skills: despite her previous liking for daggers and blood, she was easy-going and gentle, and well-liked by many children, as can be seen in the Social Network diagram (see Figure 27, page 138). Although she did not have any particular strong relationships with one specific other pupil, she stood out by the fact that she did not only have many positive and reciprocal relationships with both Year 1 and Year 2 pupils, but also with many boys as well as with girls, thus breaking the gender friendship boundaries which for many pupils were apparent.

Gemma enjoyed school and learning, and seems to fit many of John Holt's descriptions of 'the bright child':

> The bright child is curious about life and reality, eager to get in touch with it, embrace it, unite himself with it. ... if he (*sic)* can't do something one way, he'll try another. ... the bright child is willing to go ahead on the basis of incomplete understanding and information. He will take risks, sail unchartered seas, explore when the landscape is dim, the landmarks few, the light poor … for the bright child feels that the universe is, on the whole, a sensible, reasonable, and trustworthy place.
>
> (1984: 272-274)

Gemma's motivation to participate in the Community of Enquiry was thus similar to that in other lessons – she appeared simply to enjoy the social interaction and cognitive stimulation of most classroom activities, and in Vygotskyan terms could be said to have a large zone of proximal development (Vygotsky, [1934] 1986: 187). Gemma had a strong imagination which was evidenced in her creative writing, her use of vocabulary, and, in her very high age-standardised scores in the Torrance Test of Creative Thinking (Torrance, 1990b) – 125 in Test A and 119 in Test B (see Appendix 7).

As mentioned in the Findings chapter, with her 23 categorised responses Gemma was the second most-frequent Year 1 contributor to the enquiries. Fourteen of her responses were Productive, six of which (or a high 26%) were categorised as Reasoning. Most of her contributions were made in direct response to those of other pupils, and she expressed more explicit Disagreements than Agreements: Gemma expressed explicit Agreement in only three responses, whereas she expressed Disagreement seven times, most of which in the last three enquiries. In another example of her breaking boundaries, she was, in Enquiry 6, the first Year 1 child to express, albeit tentatively, a Disagreement:

Mark	I agree with ↓Neil because it might <u>not</u> (.) it might not ↓have any rubbish in
T	o:kay?, Gemma?
Gemma:	I ( ) agree with ↑him because it (I think) it <u>might</u> have rubbish in

Using the expanded mediation triangle, see Figure 30, it is easy to see how different elements of Gemma's creative thinking in this Community of Enquiry are interconnected. I believe that much of Gemma's identity *(Subject*) in the Community of Enquiry, which allowed her to break outside the boundaries of the expected, originated in both aspects signified by *Community*: both her level of integration in this class (which, in turn, was related to her kind and calm personality), and her family background provided her with her high levels of trust and confidence (Moran & John-Steiner, 2004: 21; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008). From talking to the parents, and having taught an older sibling of Gemma's previously, who had, incidentally also been a very positive contributor in the Community of Enquiry in their class, I knew that stories, talk and mutual care and respect (in other words, some of the key elements of a successful Community of Enquiry) were seen as very important in this family. As a result, Gemma was not only growing up as a confident child with well-developed *social* skills, but she also had the *cultural* capital (Bourdieu in Lareau, 1987; and in Mac Ruairc, 2011) to take a full part in school activities (and follow the *Rules* element of the expanded mediation triangle), and a good command of language *(Tools*) which enabled her to take an active and motivated part *(Object*) in activities such as the Community of Enquiry in particular. Power, either her own or that of other people, did not appear to be of great interest to Gemma, which leaves the *Division of Labour* as the only un-connected element in my version of the expanded mediation triangle representing her. However, this does not necessarily deny

Tikhomirov's point about the links between creativity and power mentioned earlier (1999: 352): it could be argued that Gemma held a position of relative power without being very aware of it.

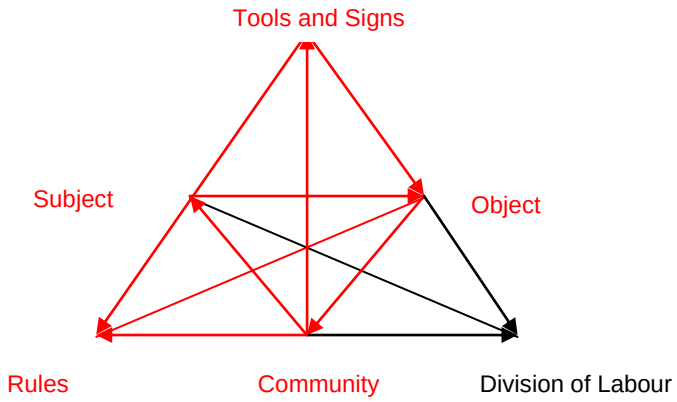


Figure 30: Expanded mediation triangle (Wells, 1999: 248) of Gemma's interaction in the Community of Enquiry (CoE) – adapted from Engeström's model (1999: 31)

A capacity for originality based in *social capital* and *confidence*, which I have exemplified here by my portrayal of Gemma, was characteristic for a number of other pupils. This was, in particular seen in the many times when pupils supported their friends during the enquiry sessions (see Findings chapter, section 4.2.1, Extract 4, regarding Liz and Beth's relationship, but also Extract 8, regarding Beth and Finn's new alliance). This appears to confirm Amabile's findings on the importance of the interpersonal (Stone, 1998: 163), affective and motivational factors in social creativity (Amabile, 1996; Craft, 2000; John-Steiner, 2000).

It could also be argued that the discourse, or Rules, of the Community of Enquiry was co-constructed by the innovative contributions of such pupils as Gemma, in that they 'paved the way' and showed it was acceptable, for example, for Year 1 pupils to express explicit Disagreement.

5.3.3 *Seeking Recognition*

In the definition of creative thinking used throughout this study, i.e. ideas which are both novel and of value (Amabile, 1996; Csikszentmihalyi, 1996; Cropley, 2001; Craft, 2005), the recognition of the quality of our ideas is, as I have explained, vital. One pupil in this Community of Enquiry for whom the judgements of others were extremely important was Year 2 pupil Amy.

Like Finn and Gemma, Amy, too, had a family which was supportive of the school and in which books and stories were highly valued, but her family was highly protective of her, which, in contrast to Gemma described in the previous section, coincided with Amy's heavy dependence on other people's judgement. She was extremely sensitive (Cain, 2012: 135-154) and easily hurt, and as she, perhaps, had expectations of her peer group which were higher than could be met, she would regularly get upset by the actions and comments of others. This had unfortunately created an apparent cause-and-effect cycle, in which she simultaneously craved friendships but did not find them very easy to build (see Figure 27, page 138).

As I mentioned in the Findings chapter, Amy achieved good academic results (see Appendix 6) and was very imaginative. Her story writing, for example, was often full of imaginative ideas, and once, sitting next to me on a coach on a school journey, she told me enthusiastically and in great detail about a fantasy of a whole world made out of chocolate. Amy quite often confided such fantasies to me personally, and her ability to have and express ideas of this kind was confirmed in her fairly high scores in the Torrance Test of Creative Thinking (see Appendix 7). As a result I had high expectations of her creative thinking during the data-gathering year. However, I had not realised that it was possibly much easier for her to express her original ideas to me, rather than in the whole-class situation of the Community of Enquiry. Although Amy was keen to participate, was often very thoughtful in the sessions, and, as I mentioned in the Findings chapter, made a high total of 48 contributions, an average 48% of which were Productive, I coded *none* of her contributions as Reasoning. She expressed explicit Agreement in 14 of her contributions (compared to only six in which she expressed Disagreement). Similarly, she made 22 Responsive contributions (equalling 46% of her responses), but only one of her responses was followed up by other pupils.

Amy's contribution in the following extract from Enquiry 15 was fairly typical:

Finn:	They might be very strong and be able to fight, or win a fight, but they might not want a fight and then just like each other and they just happen to be strong.
T:	And they might still say sorry?
Finn:	Yes.
Karl	I've got a good idea.
T:	OK who's got an idea to that, Keith?
Keith:	I disagree with Dan because strong people don't say sorry because they just beat them up.
T:	Right, who's got something to say to Keith about that? Right, why don't you put up your hand Finn? Finn?
Finn:	You can get very nice strong people.
T:	Yes, Amy?
Amy:	I agree with Finn with what he said before, that was very true
T:	What was very true Amy?

Amy: Finn said that strong people can say sorry [34]

Although I may have overestimated Amy's capacity for highly *valued* as well as *novel* thinking, I believe that much of Amy's plentiful contributions but surprising absence of responses categorised as Reasoning, can be explained by a lack of the level of confidence and trust enjoyed by such pupils as Gemma (Moran & John-Steiner, 2004: 21; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008), with a corresponding lack of desire to take risks (Craft, 2000: 127). In terms of her high levels of Agreement and Reproductions, she also had an apparent desire to placate other members of the Community of Enquiry, which could, in itself, indicate a high level of dialogic skill (Wegerif, 2010). However, unfortunately this was not often reciprocated: as mentioned, only one of the issues she raised was responded to by others. Despite the high number of Amy's contributions, she often appeared rather anxious and defensive, which, as I described in the Literature Review chapter, have been identified as negative factors in collaborative creativity (Amabile, 1996; Paulus, 2000: 241; Eteläpelto & Lahti, 2008), and which can also result in roles being assigned (Morgan & Thomas, 1997: 78; Thomas, 2012). Nonetheless, as a facilitator I was often aware of Amy's high levels of engagement. This is apparent from some comments she made at the start of Enquiry 18:

T Right, OK. What I'd also like to ask you before we get to the rules is what do you think of doing the Community of Enquiry. I'm really interested to find out what you think about it. Whether you enjoy doing it? Whether you don't enjoy doing it even. How you think of it when I say to you we're doing a community of enquiry how does it make you feel? Have a think and see if you can tell us. Mark?

Mark: Quite happy.

T: Quite happy, OK, what do you think Amy?

Amy: I think it's really fantastic because I like all the questions you ask and all the different disagrees and agrees

T: OK.

Amy: And I like the stories

However, I was also aware of the low numbers of responses which her contributions tended to evoke from others, and my apparent inability or motivation to change this: although as facilitators we can lay down ground rules for respectful behaviour (Haynes, 2002; Mercer & Littleton, 2007), we cannot control the extent to which participants will spontaneously react towards each other's responses. However, in analysing the transcript I also became aware (Mason, 2002) how rarely I had asked for follow-up comments to Amy's contributions, and, how critical my coding of Amy's responses (i.e. none of them coded as Reasoning) was. This may indicate that both as a teacher and as a researcher I may have been influenced by

[34] This was coded as Original, as Finn had not actually said that.

Amy's social position in the group, which could point to the extent to which I was, and continued to be, part of this Community of Enquiry activity system.

Using the expanded mediation triangle to represent Amy's identity in the Community of Enquiry (see Figure 31), *Community* is, again, a key element. If, again, we look at *Community* as both the home background and the Community of Enquiry, we can say that Amy's family background had equipped her with the *Tools* to engage thoughtfully in the Community of Enquiry, which impacted on her motivation to take part (*Object)*, and could account for the numerous contributions which she made. However, the degree to which she often appeared to lack the support from her co-participants in the Community of Enquiry could be represented by a 'contradiction' between Amy's elements of C*ommunity* and *Subject* in the Community of Enquiry, which Hakkarainen (1999) represents with the symbol  . As I have argued, this may have prevented her from making more challenging contributions which I might have coded as Reasoning. As this contradiction was not 'solved' during the year (Hakkarainen, 1999: 235), it did not lead to a major change in Amy's creative output in this Community of Enquiry context, and I feel Amy was one pupil for whom there was little evidence that participation in this Community of Enquiry had particularly increased her self-esteem (Fisher, 2009).

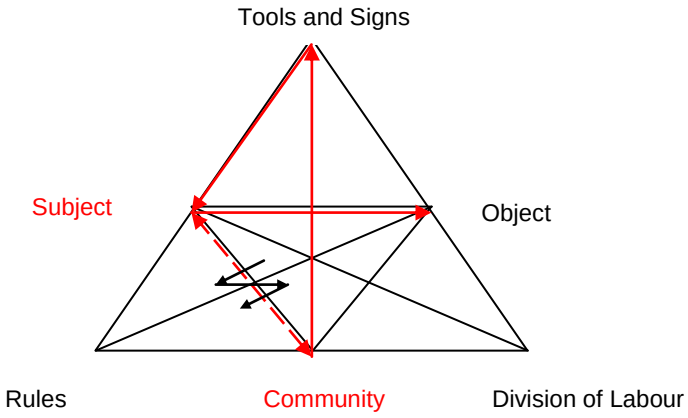


Figure 31: Expanded mediation triangle (Wells, 1999: 248) of Amy's interaction in the Community of Enquiry (CoE) - adapted from Engeström's model (1999: 31)

As we have seen then, it appears that the type of comments made by individual pupils in the Community of Enquiry was influenced by individual pupils' position in the group. In particular, it appears that where social support seemed to be lacking, this could result in a lessened capacity for risk-taking (Craft, 2002), for critical thinking, and for highly-valued thinking. There

is, of course, a possibility that my encouragement to critical thinking and explicit *disagreement* which I have reported the benefits of in this chapter, may have impacted on the vulnerability and lack of trust of pupils such as Amy. Although this is impossible to verify within the data in my case study (Thomas, 2011) it is important to acknowledge this tension, which I will return to in section 5.4 in this chapter.

5.3.4 *Conflict*

As I pointed out in the Literature Review, conflict has been identified as a key factor which can have either a positive (Paulus, 2000; Moran & John-Steiner, 2004: 20; Craft, 2008a) or negative (Eteläpelto & Lahti, 2008) impact on collaborative creativity. In this study, this was corroborated in the correlations between Reasoning and Disagreement discussed earlier.

In this Community of Enquiry, conflict was usually cognitive rather than personal or social, and it was one of my aims to teach the pupils to accept cognitive conflict or disagreement with others, as part of the conventions of dialogue (Azmitia, 1998; Wegerif, 2010). However, at times conflict had an affective impact and was taken personally, as seems to be the case in the following line from Extract 4, (see Findings chapter, section 4.2.1).

> Mark: Because it could have w went down through the water and went back up and hit the sun ((demonstrates with hand, Neil frowns, folds arms across chest)) =.

Here, Year 1 pupil Mark disagrees with the earlier expressed opinion of his Year 2 friend Neil. Although of course we must be careful with our assumptions of the meaning of gestures (Mason, 2002: 248), Neil's frowning and folding of his arms seemed to indicate a level of disapproval of Mark's comment. An understanding of the social context of Neil and Mark's relationship seems relevant here: the mothers of the boys were friends, and Neil's mum had told me that on Mark's arrival in the class, Neil had been instructed to 'look out for him'. Neil had taken this task upon himself willingly, and could be seen in a range of situations to help and protect the younger Mark (see Figure 27, page 138). However, his support was not always reciprocated: the statement above represents Mark's first active contribution to the Community of Enquiry, and Neil appeared not to be happy that this was in opposition to what he had said, possibly interpreting this as a sign of disloyalty. Interestingly, Liz and Beth had also contradicted Neil's comment, but Neil only seemed to take Mark's response personally.

I chose Neil to exemplify conflict in the Community of Enquiry for another reason, too: there appeared to be a potential conflict between the discourse of his home background and the conceptual and linguistic demands of a Community of Enquiry. This was signified by the first line from the same extract, based on the question 'How did the boy shoot the reflection of the suns in the water?'

> Neil: ehm he ↓↑couldn't shoot the suns because it was just a reflection in the water ↓↑inside

In my commentary to this extract in the Findings chapter, I mentioned that Neil was not 'willing to *buy into* the story', and that he emphasised this point with a strong use of the rising intonation typical of his broad North-Eastern-English accent (Mac Ruairc, 2011: 545). Here, too, a socio-cultural understanding of Neil's background can shed some light: Neil's regional accent was also a marker of his family's working-class background. Neil's family was proudly down-to-earth: his mother, for example, had repeatedly told me that she accepted 'no nonsense from him or from anyone else'. Although this family, too, had high aspirations for their son (Lareau, 1987), I had the impression that talk about abstract and fictional ideas here was less common and less valued than, for example, in Amy or Finn's family (discussed earlier). Neil was confident and had a good use of the spoken *tools and signs* (Vygotsky, 1978; Wells, 1999; Engeström & Sannino, 2010), but was perhaps less familiar with the abstract concepts which were often the topic of the enquiries, such as the metaphor (Fichtner, 1999) contained in the question in this enquiry: 'How did the boy shoot the reflection of the suns in the water?' This lack of familiarity with imaginative worlds may also have accounted for Neil's difficulties in his creative writing. As I mentioned in the Findings chapter, Neil preferred practical activities, and could, at times, find it hard to concentrate during speaking and listening activities such as the Community of Enquiry. Mac Ruairc and others (Barrow, 2010; 2011) point out the disadvantage which working-class children have at school as the language varieties, and language usage, valued in the education system are closer to that of the middle classes. Like many other authors (B. Bernstein, 1990; Hatcher, 2012; Thomas, 2012), Mac Ruairc (2011) points out the challenges to inclusion and equity caused by the alienation and disengagement which working class children may experience as a result of a perceived lack of the social capital required at school. As Burbules (2000, 2001) and Lefstein (2006) have argued, dialogic teaching methods are no exception to this, and Neil's apparent frustration appears to be a reminder that the Community of Enquiry is not 'a level playing field' (Chetty, 2008; Barrow, 2010). However, the potential challenges did not stop Neil from taking an active part in this Community of Enquiry and he made, as I mentioned in the Findings chapter, 43 comments in the Community of Enquiry, 23 of which were Productive, and five were coded as reasoning (see also Appendix 3). A high number of Neil's responses were made in relation to those of others: in 17 of his comments he responded to other pupils' comments, and six of his responses initiated further discussion, although he expressed only four explicit Disagreements and three Agreements. Many of Neil's comments could thus be said to have invigorated the enquiries and stimulated other children's creative thinking (Bakhtin in Engeström et al., 1999; Engeström & Sannino, 2010; Wegerif, 2010), in the formation of a *critical community* (R. J. Bernstein, 1991: 328) and Peirce's notion of c*ommunity of inquiry* (Pardales & Girod, 2006).

Using the expanded mediation triangle (see Figure 32), we can represent Neil's *Subject* as confident and well-supported by the *Community* of both his family and his friendships within

this Community of Enquiry. Building on this, he was quite often (but not always) motivated to engage in the discussions *(Object*). Oppositions between the common-sense perspectives of his home and on the one hand the abstract topics *(Tools and signs)* of the enquiries and background, and on the other the discourse of the Community of Enquiry, *(Rules*) have been discussed. However, where there were such conflicts, these tended to be solved (Hakkarainen, 1999), as could be evidenced from Neil's many valuable contributions, driving the enquiry as a whole further.

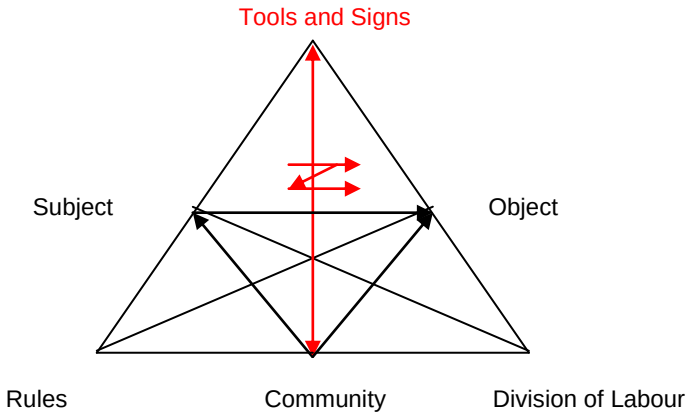


Figure 32: Expanded mediation triangle (Wells, 1999: 248) of Neil 's interaction in the Community of Enquiry (CoE) – adapted from Engeström's model (1999: 31)

I hope to have illustrated with this case study the discrepancy which existed between the home language and discourse of some pupils in the class, and the language use and conceptually abstract topics expected within the Community of Enquiry (Burbules, 2000: 5), the difficulties this may have caused for them, and the challenges this will have provided to their capacity to think creatively. Such views are, of course, not new. With reference to Halliday and Vygotsky, Wells summarises the influence of language and background as follows:

> Putting these two theoretic contributions together, therefore, we might propose the following account: Children's ability to engage effectively in the different tasks that they may be expected to undertake in school depends on the extent to which they have internalized the sociosemantic functions of the specific modes of discourse that mediate these tasks, both inter-mentally and intramentally; and this depends on the extent to which these functions have been highlighted in their interactions with the significant others in their immediate family environments which, in turn varies according to the family's

> relationship to the larger social structure. In particular, it varies to ethnic and social class membership.
>
> (1999: 39)

If P4C is to be used as an emancipatory (Barrow, 2010) tool in the social constructionist tradition (Zeichner & Tabachnick, 2002), as I argued earlier in his chapter, it is clearly of great importance to acknowledge and tackle such issues, as Chetty (2008) has argued. In order to maximise inclusion and participation for all, it is, for example, essential to aim to bridge the gap that may exist between pupils' *Community* and the *Tools and Signs* used, both by communicating with parents and by welcoming pupils' own language use and interests. At the same time, however, it is of course extremely important not to make simplistic presumptions about pupils' home lives and draw connections between their levels of motivation and imagination on the one hand, and their social-economic background on the other (Thomas, 2012: 6), as I may have done in this section. Creativity and motivation are variable and unpredictable: 'Not everyone can become a great artist, but a great artist can come from anywhere', (Pixar in Lehrer, 2012: 139). However, I would add to this that a minimum threshold level of use of the tools, trust and power needs to be in place before creativity can flourish (Tikhomirov, 1999).

5.3.5 *Transformation*

There are a number of reasons why I chose to include transformation as the title for a section in this chapter: although not all creativity leads to transformation and not all transformation is creative, there are numerous links between the two concepts. In this study, the Community of Enquiry as a whole can be said to have undergone a transformation, as discussed at the beginning of this chapter. With particular relevance is also Barrow's discussion of the *transformative* or emancipatory potential of Philosophy for Children (Barrow, 2010), which I will exemplify with Tim's case study.

As I mentioned in the Findings chapter, Tim was the youngest pupil in the class. Ten of his 13 responses were Productive, which gave him the second-highest percentage (77%) of Productive responses in the class, and the highest percentage of Reasoning responses (23%) of the Year 1 group. However, none of Tim's responses were made before Enquiry 13: during the first twelve enquiry sessions, Tim would usually appear to listen attentively to the comments made by others, but never volunteered any of his own responses. Knowing Tim's thoughtful responses to stories in 1:1 situations, I approached Tim after Enquiry 12 and asked if he enjoyed the sessions and whether he would not like to join in the discussions. In answer, he told me that he liked the enquiries, but that he 'never knew that what he thought was right', to which I replied that in my view the best thinkers are often not sure that what they think is right, and encouraged him to try joining the discussions. During Enquiry 13, based on *A Necklace of Raindrops* (Aiken, 1975), a 'Round' was held to gather answers to my question as to pupils' ideas about what the North Wind might do once it had found out where the stolen necklace was.

H: Right, OK, Cath?

Cath: Mine was the same as Liz's

H: OK, Sue?

Sue: Pass.

H: Pass,

Pupil: Pass.

H: Dan?

Dan: Pass.

H: We've had some good ideas there. Dee? No? Tim?

Tim: Meg might take, Meg might have the necklace ... and the North Wind might see her because he's up in the sky and then he might go down and then sneak in and grab it off her and go and give it back to Laura.

This lengthy, complex and somewhat surprising first Community of Enquiry response, placed after a large number of 'Passes' appeared to come as a surprise to many, stimulated much further discussion during the enquiry, and was followed by at least one response from Tim in every following enquiry. Tim's comments were increasingly listened to with interest and respect by the rest of the Community, which seemed to indicate a clear shift in identity. Of course it is likely that it was not so much Tim's creative thinking which developed during the Community of Enquiry sessions, but rather his ability to express this. However, after Enquiry 13, there was also an apparent rise in Tim's general confidence in other whole class discussions, which was also reflected in his much higher scores in test B of the Torrance Test of Creative Thinking. His greater confidence in many lessons seemed evidence of the transformative impact which the Community of Enquiry had had on Tim (Barrow, 2010).

Using the expanded mediation triangle (see the first model in Figure 33), Tim's contributions in the first 12 sessions could be represented by oppositions between both *Rules* and *Division of Labour* and Tim's attentive Subject, which then created an opposition between his *Subject* and *Objec*t, in the sense that he did not feel compelled to take an active verbal part. However, once he did start to participate from Enquiry 13, he showed that he could use all the rules, tools and conventions of the Community of Enquiry fully – even if, perhaps, not with as much confidence and frequency as, for example, Finn and Neil. Although the action involved in Finn's transformation seemed to be a quiet word held outside the Community of Enquiry, Tim's real transformation was the result of the activity of twelve enquiry sessions, and possibly also wider classroom interactions, during which he took part as an attentive listener, and, probably, a creative thinker. It could be argued that during this time he internalised the rules and tools of the Community of Enquiry, after which he was ready to externalise (Moran & John-Steiner, 2003) them and take a more active part. Vygotsky ([1934] 1986: 35) has argued that thinking is developed through the process in which 'vocal speech' first develops into 'egocentric speech', and then into 'inner speech'. It could perhaps be argued that the process we have seen in Tim indicates a movement in dialogic pedagogy from *passive* social

speech (i.e. listening to the dialogues) via 'inner speech' to *active* social speech. However, such developments take time, both at a microgenetic and ontogenetic (Wells, 1999) level, which can be difficult to afford in the context of models of educational progression currently held.

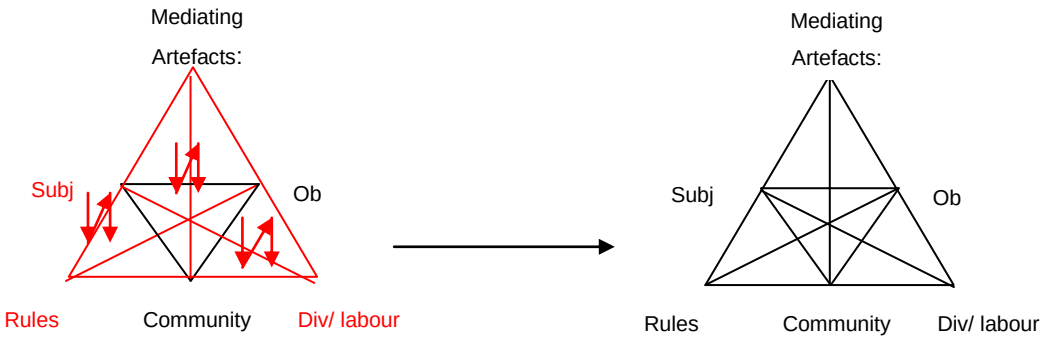


Figure 33: Expanded mediation triangle (Wells, 1999: 248) of Tim 's interaction in the Community of Enquiry (CoE)- adapted from Engeström's model (1999: 31)

Tim's sudden transformation was more spectacular than that of any other pupils. However, it is representative in the sense that most pupils made more comments in the second half of the series of enquiries than in the first, and the average word length of responses (Moyles et al., 2003) grew over the series of enquiries. This appears to indicate that there was a general rise in the ability and the wish to take part actively in the Community of Enquiry. It could thus be said that the Community of Enquiry may have had a developmental and emancipatory (Barrow, 2010) impact on the majority of pupils in their ability to express their thoughts in a dialogic context.

5.3.6 *Silence*

> The area of inner speech is one of the most difficult to investigate
>
> (Vygotsky, [1934] 1986: 226)

Haynes (2007) has pointed out the importance of silence as an intentional element within dialogue. There are two other issues which I would like to address related to silence: that the ideas which were verbally expressed in this Community of Enquiry can be assumed to have only been a small part of all the creative thinking which took place, and that not all pupils used the opportunity to take part verbally.

In relation to the first point, I argued in the Methodology chapter that the creative thinking expressed during the enquiries can be assumed to have been only 'the tip of the iceberg'. It could, of course, be said to be immaterial to discuss and especially *quantify* things which are,

as I described it, epistemologically out of reach, and the question can be asked as to how we define discrete 'thoughts', especially in view of the finding that single ideas were often generated through chains of responses. Furthermore, it may be assumed that much creative thinking will also have taken place during the discussions that was not related to the topic of the enquiries! Despite these apprehensions, it is tempting to make a hypothesis about 'hidden' creative thinking on the basis of the findings. The video evidence showed that, generally, at least three quarters (14) of the pupils appeared to be listening and engaged. As 541 pupil responses were expressed, and if, apart from my facilitator questions, each of these responses, could be estimated to have triggered at least 14 unexpressed cognitive pupil responses, it would follow that many thousands of ideas may have been generated during the discussions, many of which can be assumed to have been creative. Although there is no real evidence of this, I believe that is important to acknowledge this hidden thinking, and that this will have been an important part of the process of learning within the Community of Enquiry, as pupils did not only internalise (Moran & John-Steiner, 2003: 63) and appropriate (Wells, 1999: 117) the dialogic (Wegerif, 2010) conventions of this Community of Enquiry, but also the potential conceptual content (Fisher, 2000; Higgins et al., 2001; Lipman, 2003) of the discussions. However, it is also important to be aware of the danger of Paulus 'cognitive interference', which he uses to describe the phenomenon of participants in group situations forgetting their own ideas, or not getting the opportunity to develop them while others are talking (Paulus, 2000: 241). Beth's line 'I've forgotten' in the transcript of E14 (Appendix 4) could be seen as an example of this.

Regarding the second point, there were a small number of pupils who only took part in the Community of Enquiry sessions to a very limited extent. I will, in this last case study discuss both Sean and Dee's participation, who both made very few comments, but whose identities in the Community of Enquiry varied widely.

As I mentioned in the Findings chapter, Year 1 pupil Sean was usually quite quiet in class and rather shy towards adults. He displayed some of the characteristics of being introverted, which Cain has argued does not imply that he would have difficulties making friends (Cain, 2012) or being a 'loner' (Rufus, 2003): Sean was on friendly terms with most other pupils (see Figure 27, page 138). He made 8 responses during the Community of Enquiry sessions, only two of which were original. However, neither of these showed the high level of originality which Sean had showed pictorially in the Torrance test A or which he regularly showed in his drawing and writing:

The following lines are from Enquiry 6: the Old Field:

H:	Sean?
Sean:	I agree with Dean because rubbish might be on the field. (coded as Reproductive)
H:	Can you say why it makes you think that there was rubbish on the field? What makes you think it's about rubbish?

Sean: Because people may have dropped it on the floor… (coded as Original)
H: But is there something in the poem that talks about that?[35]
Pupil: No.
H: No? OK …

Although Sean's six Reproductive comments were made throughout the year, he made his only two Original comments in Enquires 4 and 6, which represented, in contrast to most other pupils, a *decrease* in the number of Productive comments made. Interestingly, he was also one of only three pupils whose age-standardised score in the Torrance Test of Creative Thinking had decreased (albeit marginally), from a relatively high 90 points in Test A to 89 points in Test B. However, although Sean tended to be rather quiet in class discussions such as the Community of Enquiry, he appeared to be attentive in most. He took more a more active part in small group situations and academically made good progress during this year, and could not be described as an underachiever unwilling to join in with interactive teaching situations (Myhill, 2002: 343).

Using the expanded mediation triangle (see Figure 34), I believe that Sean as a *Subject* was well-supported both by the C*ommunities* of both his home background and his friendships in the classroom, and that the tools of language were accessible to him in small groups. However, he appeared to be less at ease in the large-group format (*Rules* and *Tools*) of this Community of Enquiry, which deterred him from being actively and verbally involved *(Object)* in the discussions.

[35] Inadvertently, it looks as if I may have given Sean the impression here that comments could only be made about things for which there had been evidence in the stimulus text, which might account for his further absence of Original responses. This could be an example of a 'critical evaluation', which Amabile (1996: 120) had identified as a negative factor in social creativity.

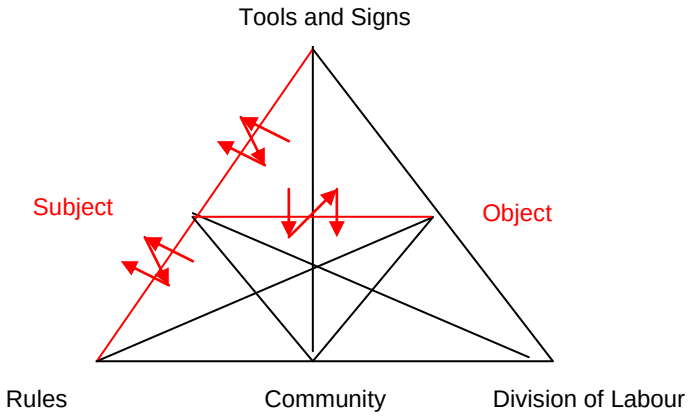


Figure 34: Expanded mediation triangle (Wells, 1999: 248) of Sean's interaction in the Community of Enquiry (CoE) - adapted from Engeström's model (1999: 31)

Of course, Sean may have been engaged in listening to the dialogues and internalising the ideas discussed. However, the level of Sean's interaction in the Community of Enquiry appears to indicate that whole class-dialogic teaching methods are not the preferred platform for the sharing of ideas for all pupils. Cain (2012) has argued clearly that some people prefer not to work in large groups, and indeed, cannot perform to their maximum potential if they do, whereas Azmitia has argued that

> …we should also consider whether our fascination with peer interacting minds may have led us to underestimate the contribution of solitary work and reflection to cognitive development, or at least to fail to recognize that cognitive development requires both social interaction and solitary reflection. (1998: 227)

Similarly, Humes has pointed out that silence does not always 'signal resistance, hostility or laziness' (2010: 11). Indeed, as Cain has argued, the assumption that whole-class dialogue benefits everyone seems unfounded, and too great an emphasis on students' achievements in whole-class lessons could disadvantage some pupils (2012). However, where relevant, I believe that it is important to try to include and support quieter pupils like Sean in whole class dialogue situations, as Collins has suggested (1996), as this could, over time, give them the confidence to take a more active part, as was exemplified with Tim.

A greater and possibly less 'easy' silence in the Community of Enquiry was kept by Year 2 pupil Dee. She only joined the class after Enquiry 10, and thus not had the same opportunity as other pupils to construct and appropriate her understanding of the Community of Enquiry conventions (Wells, 1999: 117) or *Rules,* nor had she been able to build relationships to the

extent of most other pupils. Importantly, Dee's home life was more troubled than that of most pupils, and this may, conceivably, have taken up some of her mental and emotional focus. She also did not appear to have the confidence which many other pupils could rely on. Finally there were also indications that there may have been a discrepancy between her home language use and that used in class. All of these elements can be assumed to have provided obstacles for Dee to take a full part in the Community of Enquiry, which might explain her single response in the 10 enquiries in which she was present (see Appendix 3). Although I tried to gently introduce Dee to the other pupils, the Community of Enquiry and our other classroom practice, I did not succeed in giving her a voice (Barrow, 2010) in this Community of Enquiry, nor did I have an understanding of the extent to which she may have taken part actively if quietly, and may have been involved in creative thinking during the enquiries.

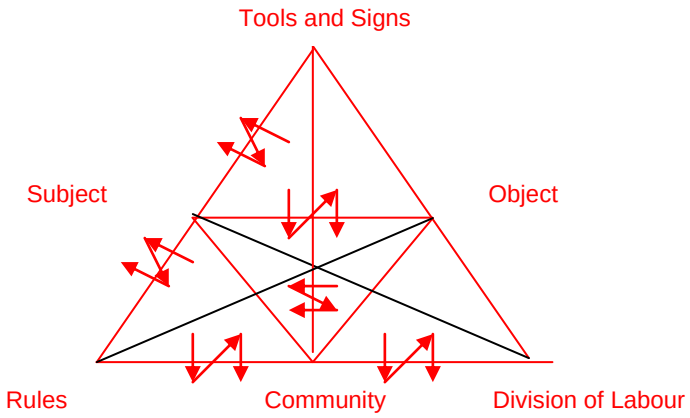


Figure 35: Expanded mediation triangle (Wells, 1999: 248) of Dee's interaction in the Community of Enquiry (CoE) - adapted from Engeström's model (1999: 31)

Using the expanded mediation triangle (see Figure 35), a large number of oppositions are represented which obstructed Dee's active participation. Many of her difficulties clearly stretched far beyond this classroom, and it is clear how much pupils like Dee have 'the odds stacked against them' (Collins, 1996: 9), how social inequalities impact on children's education, and how dialogic teaching methods in particular can put up 'barriers of exclusion' (Burbules, 2000: 2). However, the temporality of the expanded mediation triangle and the potential for change is also indicated: in the years following the data collection year, Dee managed to become friends with a number of other pupils in the class (*Community*). As her familiarity with her new school increased, her confidence grew and she became a more active

and able, if never very loud, participant in whole class activities and dialogues (*Rules, Tools and Object*).

In this section I have raised a number of critical points: I have acknowledged that much creative thinking will have taken place which I have no evidence of, and I have discussed that whole-class dialogic teaching methods cannot be assumed to be the preferred learning medium for all pupils. Finally, I have exemplified once more how important it is not to assume that such methods are in themselves democratic contexts in which all participants have equal opportunities (Burbules, 2000; Lefstein, 2006; Chetty, 2008).

Conclusion of the six case studies

In the above six sections, titled *Power*, *Freedom*, *Seeking Approval*, *Conflict*, *Transformation* and *Silence*, I have aimed to provide the reader with an understanding of just some of the different talents and needs of some of the pupils in this Community of Enquiry, and how I believe these related to their apparent or assumed creative thinking. As in any other classroom, there were wide variations in the different abilities and needs of all these pupils. To add to this, there was also a wide variety in the extent to which they chose, or were able, to use the Community of Enquiry as a platform to express their creative thinking.

Many of the abilities and needs of the pupils discussed, appeared to be able to be explained by their social and socio-cultural contexts, and, put simply, indicated how the *individual* and the *social* were interwoven. This also confirmed Burbules (2000), Lefstein's (2006) and Chetty's (2008) point that inequality may not be much less inherent in dialogue than it is in other social and educational situations. This inequality appears to have had a real impact on the extent to which creative thinking was expressed, especially for the pupils in the Year 1 group. However, children's creative thinking was not *predictable* from their socio-cultural context. There was, for example a large difference between the responses of Finn and those of Amy, although they came from potentially comparable family backgrounds and both had a similar social standing in the group. Similarly, Tim's transformation after Enquiry 13 was not linked to a change in his social circumstances, although the respect he gained in the group after his first responses can be presumed to have helped to develop his confidence.

It appears, then, that although the specific individual outcome cannot be predicted, a certain minimum threshold level of social trust, confidence and use of the tools of the Community of Enquiry needed to be in place before pupils were able to share their thinking in this context.

I will now turn my role as facilitator in this Community of Enquiry, and the extent to which I succeeded in supporting pupils in the development of their creative thinking. Some consideration will also be given to the extent to which I was successful in overcoming some of the inequalities discussed.

.

5.4 Facilitating this Community of Enquiry

It is clear that as the facilitator I held a large amount of power in this Community of Enquiry Not only did I decide the 'When, Where, and How' (Burbules, 2000) of the enquiries, but in quantitative terms through the IR/IR/IR pattern identified, it can be assumed that half of all turns were taken by me as the facilitator. I allocated pupil turns, decided which ideas would be discussed further, and, to a large extent, decided how this would be done, etc. Although the questions were always formulated by pupils, in Enquiries 5, 7 and 8 I also chose the questions to be discussed, in contradiction to regular P4C/Community of Enquiry procedures (Higgins et al., 2001; Sutcliffe & al, 2007).

In the following sections I will explore to what extent, and how, I managed to use this power to enable pupils to think creatively and maximise equality, and discuss the dilemmas I encountered in this process. In section 5.4.1 I will discuss emotions and dilemmas which I experienced; in section 5.4.2 I will focus on facilitation and interaction; and in section 5.4.3 I will focus on the role of facilitation and the development of creative thinking. As mentioned in earlier chapters, no teacher responses were categorised in the first discourse analysis, but I will draw on all available data from the study to provide this discussion.

5.4.1 *Joys, dilemmas and creative thinking in facilitation*

> Facilitating dialogue is not easy (Fisher, 2009: 9)

In many ways I greatly enjoyed facilitating this Community of Enquiry: I often felt highly privileged to work with these pupils, to support their development, and to witness the creativity of their thinking. Not only did *pupil*s think creatively, but in my field notes and in the analysis based on CA methods (see Findings chapter, Extracts 1 and 2), it became clear that the process of facilitation also involved a considerable amount of creative, or at least novel, thinking on my part: during the enquiries I had to continuously, and promptly, generate my next *new* response to develop the enquiry further in relation to what had just been said by whom. As both the *topic* of the enquiry and the *course* of a Community of Enquiry session is unpredictable (Haynes, 2009b: 85), facilitating a Community of Enquiry session demands, in my experience, a much greater level of creative thinking than that which is required in planned lessons led by curriculum objectives. Haynes comments as follows:

> Classroom enquiry … provokes attention to teaching, to facilitation of discussion and to questions of power, freedoms and control in relationships among adults and children. It does call for certain skills and sensitivities to be brought into play. It is both surprising and satisfying, both demanding and comforting (2002: 15)

There were, however, many times when I found this work, besides enjoyable, extremely demanding as a result of conflicting demands (Higgins et al., 2001: 120; DiPardo & Potter, 2004; Fisher, 2009: 9). I became aware in in-enquiry and on-enquiry reflections (Schön, 1996) that three aims of the Community of Enquiry appeared to conflict with each other (Pollard,

2002), which relate to Engeström's elements of *Subject*, *Object* and *Community* (Engeström & Sannino, 2010). Firstly, one of the aims is the development of pupils' critical and creative *thinking* through the series of enquiries (Fisher, 2000; Lipman, 2003). The second aim is pupils' *social* development and the well-being of the group as a whole. Thirdly, the fulfilment of *individual* pupils' needs and maximisation of equality was also an aim I was strongly aware of. Although these aims are generally seen as coherent and unproblematic (Lipman, 2003), I found that when having to choose between different pupils wanting to make the next contribution, I was often highly aware of their conflicting needs. It might, for example, have appeared likely that a further probing into the logic of a single pupil's current argument (thinking) might not be likely to engage and involve the majority of the group (Esarte-Sarries & Paterson, 2003). On the other hand, the interest of the majority of the group might, at times, appear as potentially disadvantaging single pupils. Alternatively, following the interests of an apparent majority of the group might, at times, appear to risk losing opportunities to create further cognitive challenge. Such decisions could be felt as dilemmas between the provision of cognitive challenge to stimulate creative and critical thinking (Amabile, 1996: 120), and the building of a climate of mutual trust, inclusion and participation (Moran & John-Steiner, 2004; Craft, 2008a; Eteläpelto & Lahti, 2008). As a result, I was regularly aware that my decision-making floundered within this metaphorical triangular space (see Figure 36: Triangular model of facilitation choices):

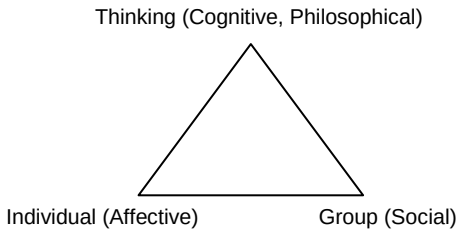


Figure 36: Triangular model of facilitation choices

Each of the three points can be seen to represent ideological preferences for facilitators in the Community of Enquiry. Although no community of enquiry facilitators would deny the importance of any of the three, in P4C the development of philosophical thinking is prioritised (Lipman et al., 1980; Lipman, 2003; Sutcliffe & al, 2007), whereas for those interested in a non-philosophical Community of Enquiry, the emphasis could be said be on *social* thinking (Baumfield, 2001a; Higgins et al., 2001). Similarly, for those for whom affective thinking (Noddings, 2002; Nussbaum in Lipman, 2003) and the reduction of inequality (Burbules, 2000) is most important, care for the *individual* might be paramount. Some resemblance to this triangular model within the expanded mediation triangle can be recognised, although the two were initially not related.

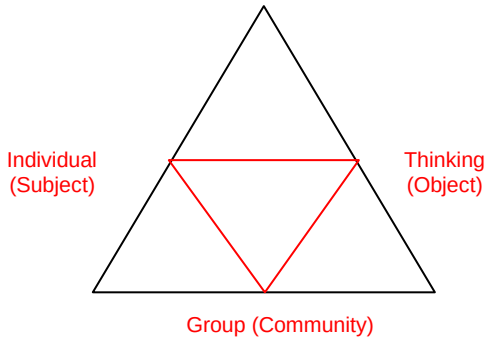


Figure 37: An amalgamation of the triangular model of facilitation choices within Engeström's model (1999: 31)

All teachers are driven by ideological commitments (Pardales & Girod, 2006: 304; Chetty, 2008), and of course these can often compete with each other (Pollard, 2002). Although my awareness of all three ideological elements made the process of my facilitation very complex, I also feel that it enriched and stimulated my decisions (Jackson, 2008), and at times led to some new ideas. I found, for example, that tensions between two points in the triangular model could often be alleviated by focusing on the opposite point in the model: for example, where there was a dilemma between following the interests of one pupil (individual) as opposed to those of the majority (group), a return to the enquiry question or a focus on the concepts being discussed (thinking) could overcome the individual vs. group paradox. Similarly, where one child (individual) was struggling with a particular concept (thinking), it often helped to ask the other pupils (group) for help. And where a number of pupils (group) were either entangled in disagreement or in complete agreement on a particular issue (thinking), it would often help to ask another pupil (individual) for their view. Although a formulaic use of this model would not be helpful, I feel it provided me with a framework to make some productive facilitation decisions. Thus, similarly to the way that contradictions were found to be a mechanism for pupil creative thinking, the dilemmas involved in facilitation at times led to some creative thinking on my part.

There were other sets of contradictions and tensions, too, which, like those of the pupils I have described in this chapter, can be discussed with the used of the expanded mediation triangle (see Figure 3, page 37). For the *Subject* - me in my role as a highly motivated facilitator –, the *Object* was, seemingly unproblematically, the development of dialogic interaction and thinking in this Community of Enquiry. However, as was seen in the case studies, the elements within the expanded mediation triangle all have their socio-cultural impact on each other. As I did in the case studies, I will interpret *Community* as both the enquiry participants, and the wider community of which I was part. With regard to the former, as mentioned in the previous section, the divergent pupil needs at times presented facilitation dilemmas. With regard to my wider community, I felt generally well-supported, but at times I was aware of conflicting advice within my *Community* relating to the practice of facilitation, as

I will discuss in section 5.4.3. Also, the education *Community* is, of course, directly linked to the regulatory constraints or *Rules* set by, for example, the government directives and Ofsted. Such constraints meant that the time available for the Community of Enquiry sessions was limited to a maximum of one fortnightly session, and that they could usually only be held in the afternoon session after swimming lessons, when some of the pupils may have been tired. The SATs tests which were carried out with the Year 2 children in this class also added considerable strain (H. Jones, 2010). There were, at times, also tensions in the Division of Labour: over the series of enquiries there is some evidence that some of my power was relinquished to the pupils, but much of the power lay with me. With hindsight it is likely that it would have been beneficial if I had involved pupils more in the decision-making processes, and made the Community of Enquiry much more something that was done 'with' rather than 'to' the children (Haynes, 2007). Finally, as was clear in some of the Extracts in the Findings chapter, there were times when my awkward use of the *Tools* made it difficult to hear or understand pupils, or express my own thoughts coherently.

5.4.2 *Facilitation and interaction*

As I pointed out in the Findings chapter, and as was clear in the commentaries to the extracts (section 4.2.1), interaction and thinking within the Community of Enquiry were very closely linked. Esarte-Sarries and Paterson (2003: 65) refer to these elements respectively as 'surface and deep features of interactive pedagogy'. In this section I will discuss how I supported *interaction* within the enquiries, whereas in the next section I will focus on my support of *content*.

The ground rules (Haynes, 2002; Sutcliffe & al, 2007; Mercer, 2008b) which I set for this series of enquiries, and which were reviewed with the class at times, included the rule that pupils who wanted to make a contribution during the enquiries should put up their hand. On the basis of this, turns were then allocated by me, although of course there are many other and more effective ways to involve all pupils (Esarte-Sarries & Paterson, 2003), such as involving the pupils in who should have the next turn, giving thinking time (Alexander, 2005), and pair and small group work.

The majority of my comments throughout the series of enquiries were made in what Walsh (2011: 212) refers to as 'classroom context mode', i.e. with a main focus on eliciting views. This, I believe, functioned to aid the collaborative cyclical process in which pupils' creative thinking was generated, or, as Moran and John-Steiner (Moran & John-Steiner, 2003) would suggest, externalised and internalised – as discussed at the beginning of this chapter under the heading 'Mechanisms of creative thinking'. Over time, the mode of my other types of interaction appeared to shift slightly from 'managerial mode' to 'skills and systems mode' (Walsh, 2011: 212), in which the focus is on content. There were other developments in my facilitation style, which, of course corresponded with the developments in pupils' responses: at the beginning of the series of enquiries my turns were longer, whereas towards the end

they were equalled by, or shorter than, pupil turns, which Moyles et al. have used as an indication of interactive teaching (Moyles et al., 2003). Similarly, at the beginning of the series my comments initiated and followed those of pupils in an IR/IR pattern, whereas in later enquiries there were more instances when pupils would respond directly to each other. Interaction patterns were also changed with the introduction of a 'Round' in most enquiries after E12, which involved very little questioning or discussion after each of the pupil statements.

A feature of interaction within the sessions was the IR/IR/IR or T/P/T/P pattern, which differs from the conventional IRF pattern of interaction (A. D. Edwards & Westgate, 1994; Walsh, 2011) in that explicit feedback was largely absent. In their meta-analysis of the efficacy of different teaching strategies, Higgins et al. (2011) have highlighted the importance of teacher feedback in learning processes. There is, of course, an essential difference here between learning in lessons with curriculum objectives, in which feedback is an important tool for scaffolding (Alexander, 2006; Mercer & Littleton, 2007: 15; Higgins et al., 2011), and the learning in a Community of Enquiry. As there were no particular content objectives to be met or 'elements of a task that are initially beyond the learner's capacity to be controlled' (Stone, 1998: 156), the analogy of providing scaffolding is perhaps less than appropriate than that of the shining of a torchlight to illuminate the unknown area ahead, or 'leading the child from behind' (Galton et al., 1980: 157). The learning of social, interactional, cognitive and metacognitive skills, which is of course the pedagogic objective of the Community of Enquiry, was regularly discussed after, rather than during, the enquiry sessions in order not to break the content-focused dialogue.

My insistence on the 'I agree/disagree with...' format (Higgins et al., 2001: 69) was, at times, seen to obstruct the flow of the discussion and to confuse, polarise or over-simplify the issues (see, for example, Extracts 3, 4, 5 and 7 in the Findings chapter). In such cases the term *difficilitation* might have been more appropriate than *facilitation*. However, it could also be pointed out that in many cases the agree/disagree format was unproblematic, possibly helped pupils to connect their comments to those of other pupils (Higgins et al., 2001), and raised their metacognitive awareness of the stance they were taking in the dialogue (McGregor, 2007: 224). Importantly, the expression of explicit but acceptable *disagreement* seemed to be a interactional and conceptual dialogic novelty to most pupils during the series of enquiries, of which I have discussed the benefits earlier in this chapter (Fisher, 2000; Lipman, 2003; Moseley et al., 2005). In terms of equality, it could be argued that my invitation to disagreement had been to the advantage of such already powerful pupils as Finn, and disadvantaged quieter pupils such as Sam, Sean and Dee. On the other hand, the affordance of disagreement may, in the long run, also have contributed to pupils' general assertiveness, which could be argued is specifically in the interest of less powerful individuals. Finally, it could also be argued that my encouragement to explicitly use 'I agree/ disagree with…' helped to develop pupils' dialogic capacity to connect and *implicitly* agree or disagree with

previous comments, as an internalised strategy (Moran & John-Steiner, 2003). These benefits of the agree/disagree format, then, appear to have offset at least some of my awkward requests for agree/disagree pupil statements, which were discussed in the Findings chapter. However, as there seemed some confusion about the meaning of the terms (see Findings chapter, Extract 3), it would have been beneficial to teach the meaning and use of these terms more explicitly. Certainly my over-emphasis and, at times, insensitive insistence on its use would best have been avoided. As Haynes (2002: 42) has pointed out:

> It is important to avoid formulaic procedures that become habitual. It is necessary to locate enquiry and dialogue firmly within the experience of the participants.
> (Haynes, 2002: 42)

5.4.3 *Facilitation and the development of creative thinking*

As mentioned in the above section, I generally aimed to avoid giving feedback to pupils' responses. Apart from the fact that there were no content-driven objectives to scaffold pupils' learning towards, as I have discussed, I was specifically keen to avoid commenting on the *originality* of the ideas offered – for a number of reasons. Firstly, I wanted to avoid influencing pupils' thinking about the quality of ideas offered (SAPERE, 2010); and secondly, I aimed to model openness to new ideas (Amabile, 1996: 120; Craft, 2000) by generally acknowledging all new ideas, but not commenting on any in particular. Thirdly, from a research perspective, I wanted to avoid influencing the data by praising specific types of ideas[36]. However, I did not always achieve this open approach. For example, in extract 5 (see section 4.2.1) the discussion and the generation of new ideas appeared to have been restricted by my insistence on pupils sharing my view.

It could be argued that a more encouraging supportive approach involving some positive feedback (as was seen in Extract 8) may have been beneficial, as a potentially heightened sense of self-esteem (Craft, 2000: 117) may have made it easier for some pupils to feel included in this Community of Enquiry. This could, as we saw in Gemma's case, have given pupils greater opportunities for the expression of their creative thinking. On the other hand, a greater level of pupil dependence on my praise and judgment may have been detrimental to both the integrity of the Community of Enquiry and their creative thinking (Amabile, 1996; A. Kohn, 1999; Baumfield, 2001a). The measure of feedback about the creative thinking which was expressed was thus one of a number of dilemmas which I was aware of as facilitator.

Similarly complex is the issue of asking probing questions and deconstructing the dialogue conceptually, which many authors in the field of P4C advocate (Cam, 1995; Haynes, 2002;

[36] However, this view was informed by my initially rather positivist research perspective, and occasionally my own stance and preference about the content of some answers over others was nevertheless overt (see, for example, Findings chapter extract 6 and 7). From my more interpretative current research perspective (Thomas, 2009), a more naturalistic approach would have been just as desirable.

Lipman, 2003; Gregory, 2007; Sutcliffe & al, 2007; Fisher, 2009). However, in a desire not to 'close down the dialogue' (Haynes, 2007: 9) and influence pupils' thoughts, but to respect their dialogic space, on the advice of my initial supervisor (Baumfield, 2001a), I rarely went beyond Walsh's Classroom context mode of eliciting opinions (Walsh, 2011: 212), as can be seen in the full transcription of Enquiry 14 (see Appendix 4). However, this, too, created a dilemma in my facilitation style, referred to earlier in this section, as advice received in SAPERE P4C training sessions had made me keen to question pupils' explications, definitions, implications, assumptions etc. (Sutcliffe & al, 2007)[37]. Such contradictory ideologies, again, led me to develop the triangular model discussed previously. Alexander describes as 'pseudo-enquiry' a form of interaction which resembles some of the characteristics of my facilitation of this Community of Enquiry:

> ... an endless sequence of ostensibly *open* questions which stem from a desire to avoid overt didacticism, are unfocused and unchallenging, ... (2005: 3)

In the same paper Alexander points out that..

> A long answer is not enough. It's what happens to the answer that makes it worth uttering, and transforms it from a correct or incorrect response to a cognitive stepping stone. (2005: 17)

It appears that in enquiries where I *did* ask specific questions to probe comments expressed, there seemed to be evidence that my challenges gave greater opportunities for pupils to think creatively, as in the extract from E 14 below (see Appendix 4):

T	So do you think he (the lion) was real Cath? ..You don't think he's real. You had to really think about that didn't you? Why did you have to think like that Cath? What were you thinking?
Cath:	I think she may be imagining it or it might be a toy Lion.
T:	But you had to think for a long time Cath, is there anything that makes you think that perhaps he was a real lion?
Cath:	Yes.
T:	Yes there is, can you explain a little bit more?
Cath:	Well he is talking…

Although I do acknowledge that there may be a risk of lowering pupils' autonomy in the Community of Enquiry (Baumfield, 2001a), on the basis of my experiences as a facilitator of many P4C enquiries since, I believe that concept-based facilitator questions (Sutcliffe & al, 2007) are an effective tool for stimulating creative thinking.

[37] Using this model of facilitation, I would, for example in E14 (Appendix 4) have asked the pupils to identify and discuss what they understood with such concepts as reality in stories; friendships between animals and people; sleep; imagining things; etc. This may have led to a more productive and, ultimately, creative discussion.

To conclude this section, it could perhaps be said that creative thinking developed in this Community of Enquiry regardless of the quality of my facilitation. In this, my study has some of the characteristics of Flyvbjerg's description of critical cases (2006): in other words, it could be deduced that if creative thinking developed with this low level of facilitator input, it could be expected to develop at least as well in Communities of Enquiry with a more active level of facilitation.

Chapter 6. Conclusions

Introduction

In this final chapter I firstly, in section 6.1, revisit my main research question and provide a brief overview of my research journey. This will, in section 6.2, be followed by my restatement of the eight sub-questions and a summary of my answers to all eight. In section 6.3 I discuss some of the limitations of this study. In section 6.4 I will explore implications for theory; practice; policy and research, and in the final section, 0, I will make some concluding remarks about the wider perspectives to which, in my view, this study is related.

6.1 A brief overview

To what extent did this Community of Enquiry encourage and develop creative thinking?

In order to explore this main research question of my study, I operationalised the creative thinking of young children in a Community of Enquiry context through two main methods of discourse analysis. The first of these was based on an original categorisation of pupil responses, whereas in the second method, based on Conversation Analysis methods, I investigated creative thinking and interaction. Evidence was found that pupils' creative thinking had indeed been stimulated and developed. However, the extent to which individual children had been able to use the Community of Enquiry as a platform for their creative thinking had varied widely, due to factors of a largely socio-cultural nature. In combining the fields of social creativity, dialogic pedagogy, and socio-cultural theory, I believe I have been able to make a modest (Thomas, 2009: 233), but original and valuable, contribution to all three.

My research journey has taken me from an interest in the creative thinking of individual children, via a much more social understanding of creativity, to a view of creativity as an element in a much wider socio-cultural context. This was reflected by and related to the shift in my research perspective, which developed from a fairly positivist view, to a much more interpretivist approach (Thomas, 2009). My development as a researcher has also coincided with my progression from being a classroom teacher to being an academic teacher-educator. These shifts were, of course, not unrelated: my change of profession was to a large extent due to my interest in doing education research; the development in my research perspectives and methods was greatly facilitated by the opportunities afforded to me as an academic, and my research in turn informs my work as a teacher educator.

Through these developments, however, some things have stayed the same: neither my fascination with the community of enquiry and creative thinking, nor my enjoyment in tackling the many questions generated in the enquiry has diminished. Many times I found myself 'disagreeing with myself', and, on a good number of occasions, experiencing the excitement of 'aha!' moments (Csikszentmihalyi, 1997: 103): the study has, I believe, given me the opportunity to generate a considerable amount of creative thinking (Thomas, 2009: 80) of my own.

Two other notions have also been enduring. Firstly, throughout the research I have used a definition of creative thinking as thinking which is both novel and valuable (NACCCE, 1999; Sternberg, 1999; Cropley, 2001). The problematic nature of this definition was discussed in a number of the chapters, and in the Methodology chapter I have argued that a definition can only be approached from an interpretivist viewpoint. Secondly, there was the on-going awareness that not all creative thinking is expressed verbally. I have explored some reasons for this within this Community of Enquiry in the Discussion chapter, but the understanding that much creative thinking in this study was methodologically out of my reach, remains.

6.2 Questions and answers

The main research question generated the following eight sub-questions:

1. What is creative thinking for children aged 5-7?
2. What is creative thinking in a Community of Enquiry context?
3. To what extent could evidence be found that creative thinking was developed within this Community of Enquiry?:
    a. To what extent could evidence be found that creative thinking was developed for the group as a whole?
    b. Was there any difference in the creative thinking developed in specific groups, such as Year 1 compared to Year 2; or boys compared to girls?
    c. To what extent could evidence be found that creative thinking was developed for individual children?
4. To what extent could evidence be found that creative thinking was developed within the social interaction processes of the Community of Enquiry?
5. What role did language play?
6. What factors either encouraged or hindered creative thinking?
7. What was my role as the teacher in encouraging/ developing creative thinking?
8. Was creative thinking found to be primarily a social or individual process?

In my answers to these eight questions below, I draw on all elements of the research.

1. The creative thinking of children 5-7

The enquiry transcripts supported Vygotsky's ([1967] 2004: 11) and Alexander's (2010: 96) claims that children's ability to think creatively is fully developed, but that it is hampered by their lack of experiences and knowledge of the world. Pupils were seen in 313 (or 58%) of their 541 responses to introduce novel concepts to the dialogues, but I categorised only 74 (or 13.7%) of the total as highly creative, or Reasoning. Many of those responses which were original but classed as of lower value, could have been explained by the limited experience and knowledge of these young children. However, this did not indicate that the pupils were 'ignorant of the constraints of the external world' (Rosenblatt and Winner, 1988, in Cropley, 2001: 91) – rather, in their sharing of views and experiences, there were many examples of collaborative knowledge-building. A cyclical process of

internalisation and externalisation (Moran & John-Steiner, 2003) could be recognised in many of the pupil responses, and showed the close links between notions of learning and creative thinking.

2. Creative thinking in a Community of Enquiry context

Creative thinking in the Community of Enquiry was defined as the generation of pupil ideas which were novel and valuable in the dialogic enquiry context, and found to be very closely related to interaction. I viewed both novel and valuable as concepts on a continuum, and devised a creativity quadrant diagram, which helped me to identify and comment on levels of creativity in pupils' responses in both series of discourse analysis. Degrees of creative thinking were also identified in pupils' word use, in pupils' engagement with fictional text worlds, in pupils' questioning of questions, and, incidentally, in my facilitator responses.

3. Development of creative thinking in this Community of Enquiry

3a. Evidence for the development of creative thinking for the group as a whole was, in the first series of discourse analysis, found in the fact that the average percentage of novel responses rose between the first and second half of the enquiries from 55.3% to 59.7%. This rise was composed of a drop in lower-valued Tangential and Original responses, and a rise in the highest-valued category of Productive responses, Reasoning, from 10.4% to 15.5%. This rise was also corroborated in the second series of discourse analysis. Evidence suggested that the occurrence of lower-valued Tangential and Original responses preceded and supported higher valued Reasoning responses (Wegerif, 2005, 2010). The implication of this is the notion that the development of creative thinking takes *time.*

3b. Year 2 pupils were found to have made far more contributions in all categories of responses than Year 1 pupils. However, there was little evidence of a disproportionate, age-related quality in the creative thinking between Year 1 and Year 2 pupils. In contrast to many other studies (Myhill, 2002; Godinho & Shrimpton, 2003; Jule, 2003), I identified no significant differences based on gender in the number or type of contributions made.

3c. There was a very large variation between the participation of individual children, their overall levels of creative thinking, and their development. Total numbers of responses, for example, varied from 1 to 79, and percentages of individual pupils' Productive responses out of their total number of responses varied from 0% to 77%. Many children participated actively more in the second half of the enquiries than in the first half.

4. Creative thinking and social interaction

In the first series of discourse analysis, pupils' responses were found to be increasingly made in response to those of others (see Figure 14, page 78). It was also apparent that pupils were increasingly likely to express disagreement with each other, whereas their tendency to express *agreement* was unchanged (see Figure 19, page 81). The second series of discourse analysis showed that new ideas were nearly always constructed socially and collaboratively, and that creative thinking and interaction were very closely linked (Vygotsky, [1934] 1986). It was evident that this was

nearly always a process of different pupils linking their responses, either by adding to, or contradicting, responses made previously, on a turn-by-turn basis. Apart from conceptual associations, at times such chains could also consist of connections in word use, pitch and tone. Rather than contradicting the findings from the first series of discourse analysis, in which individual pupils' comments had been analysed, this corroborated results from that first analysis: responses categorised as Original and Reasoning had there been found to correlate highly with Reproductive responses (r=.51 and r=.66 respectively), emphasising the importance of both 'cumulative talk' (Mercer, 2000; Alexander, 2005: 14; Wegerif, 2005: 226) and 'disputational talk' (Mercer, 2000; Wegerif, 2005: 226), which I will return to in the answer to question 6. I also observed that creative thinking was generated in a dialogic and cyclical process in which enquiry alternated with creativity, and internalisation alternated with externalisation (Moran & John-Steiner, 2003). Finally I found that most pupils did not seem to feel personally attacked if someone disagreed with their opinion, which was evidence of the development of a 'dialogic space' (Wegerif, 2010).

5. The role of language

Language naturally played an absolutely crucial element in this process, as its function was not only as the main tool for interaction, but also that for thinking (Vygotsky, 1978, in Mercer, 2002: 142). Occasionally, language was also found to be an area of creativity in its own right (Carter, 2004)} – identified, for example, in pupils' word use and expressions. Ideas appeared to be expressed in specific ways: thoughts which were identified as creative were often articulated either hesitantly or with strong emphasis and conviction, and social and conceptual alliances were often expressed in congruency, or resonance of speech (Wegerif, 2005).

6. Factors impacting on creative thinking

A number of factors which had encouraged or hindered creative thinking were identified. Firstly, I found an important link between creative thinking and what Wegerif calls disputational talk (2005: 226): both Original and Reasoning responses correlated highly with Disagreement (r=.62 and r=.70 respectively). Although it has to be remembered that this was not a cause-and-effect relationship, it was also evident in the CA-based analysis in the many occasions where pupils brought in new concepts to clarify their disagreement with other pupils' earlier statements. Secondly, insights from socio-cultural theory (Engeström & Sannino, 2010) have further deepened my understanding. Not only could these to a large extent explain the factors which had had a positive or negative impact on individual pupils' creative thinking, but they could also explain how these factors had impacted on each other. It was also clear how such factors did not only have an impact on the creative thinking of individual pupils, but also, in a cyclical process, on the social relationships within the Community of Enquiry. For a number of children this led to roles being taken up (Morgan & Thomas, 1997: 78), and some unequal power relations (Burbules, 2000; Lefstein, 2006; Eteläpelto & Lahti, 2008: 226) were evident. Intrinsic motivation (Amabile, 1996), for example, was often seen to be linked to familiarity with the cultural tools, or language and topics, of the Community of Enquiry (Wells, 1999; Wegerif, 2010: 55). Essential trust, support, and inclusiveness (Moran & John-Steiner, 2004; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008) were seen to be linked to this use of language, but also to pupils'

relationships within this Community of Enquiry and their home background. For some pupils, this appeared to contribute to social inhibitions and anxiety – which can be presumed to have stifled creative thinking, hindered its expression or both (Amabile, 1996: 120; Paulus, 2000: 241). There were thus social inequalities within the micro-system of the Community of Enquiry which may be presumed to have impacted on creative thinking, and which, in at least some cases, appeared to be directly linked to inequality on the macro-scale of the socio-cultural context.

7. My role as the facilitator

I have identified and discussed a number of complexities within my facilitator role, such as the need to balance the needs of (a) the group, (b) the individual, and (c) the development of thinking. I have also discussed some criticisms of my facilitation: my teacher responses often took the shape of asking for general further views, whereas with a more specific approach in my responses (Haynes, 2007; Sutcliffe & al, 2007), I might have stimulated more creative thinking. My frequent insistence that pupils decide on whether their view was in agreement or disagreement with the previous view also at times appears to have constricted creative thinking. On the other hand, I believe that the pupils benefited from my decision to hold the series of enquiries, from the evolution of our Community of Enquiry as an activity system (Engeström & Sannino, 2010), and from all the opportunities for dialogue and creative thinking which ensued.

8. Social or individual?

I feel that my study has contributed to a body of knowledge on creativity in which both the individual and the social are recognised (Dewey, 1897; Sawyer, 2003a: 37; Craft, 2008a: 242, 2009: 10): I found that creative thinking in the Community of Enquiry was both an individual and a social phenomenon. Although there were, at times, tensions between individual and social perspectives, this has, in the end, not been a source of major contradiction. As explained in my response to Questions 4 and 6, it was evident that creative thinking in the Community of Enquiry was a largely social process, in which socio-cultural relationships were not only highly important in the momentary action of the dialogue, but also in the longer-term ability of pupils to contribute. Creative thinking in this can be said to have been generated socially, but expressed by individuals in their own specific ways, which could not always be attributed to social or socio-cultural conditions. This is similar to the fact that findings from my first and second series of discourse analysis, based on individual responses and group interaction respectively, were found to complement, rather than contradict, each other. As Dewey (1897) commented:

> I believe that the psychological and social sides are organically related and that education cannot be regarded as a compromise between the two, or a superimposition of one upon the other.

Bleazby (2006a) has argued that the Community of Enquiry is an educational activity in which individual and social processes are assimilated, and the findings from this study appear to corroborate that claim.

6.3 Limitations of this study

As mentioned earlier, this study is only about the creative thinking which was expressed. As much other creative thinking can be presumed to have also been generated, this creates an immediate first limitation. There are a number of others:

Firstly, as Thomas has pointed out at length (2009), a small case study of this kind can provide a very good understanding of the subject of the study, but its capacity for the application of the findings to other contexts may be limited.

Secondly, as I have mentioned in the Methodology chapter, I have used and adapted a range of theoretical and practical approaches in a very flexible way. For example, the Community of Enquiry approach used in the study is based on Philosophy for Children (Lipman, 2003), but intrinsically different from it, and arguably similar to what Murris has described as a 'diluted form of P4C' (2008: 676): findings therefore cannot be transferred to P4C. Similarly, my second discourse analysis was based on Conversation Analysis (ten Have, 2007), but it did not follow either all its theoretical perspective, or its practical methods. Models from Activity Theory (Engeström & Sannino, 2010) and Social Network Theory (Scott, 2000, in Garside, unpublished: 8) have also been adapted and loosely applied, without adherence to the perspectives within which these are normally used. I am deeply indebted to the authors writing within the original disciplines for the insight these methods have given into my enquiry, and realise that my unorthodox use of them may raise some methodological objections.

Thirdly, my quantitative use of qualitative and interpretative data in the first series of discourse analysis can be questioned. Although I aimed to apply the criteria thoroughly and consistently, and carried out the coding twice, making amendments where they seemed necessary, different interpretations and therefore categorisation of many of the responses could have been possible. Such differences in categorisation could, of course, have changed the reported results, and this too, could be said to have lowered the validity of this study. Validity may also have been higher if a greater number of categorised responses could have been moderated by other raters. On the other hand, as another limitation it could be argued that the categorisation of Productive responses into Tangential, Original and Reasoning responses was rather crude. Especially the category of Original, which 230 responses were allocated to, could have been divided into further subcategories, which, arguably, could have led to more refined, if even more interpretative, results.

Fourthly, more could, arguably, have been done to gather data about the 'silent' creative thinking which I have discussed as epistemologically out of my reach. It may, for example, have been possible to ask pupils to express their views in small groups at certain intervals, and to record their thinking either in writing or in drawing at different stages during the enquiries. This may have added a whole extra, and very valuable, data set.

Finally, related to the above point, and perhaps paradoxically, this study was carried out with a minimum of pupil participation in the research process (Todd, 2012). Although I did carry out some

post-enquiry pupil interviews, the quality of the largely one-word responses was such, that I was not able to draw on these as a data source, and the results have not been discussed in this study. The reasons for this were related to time and resources, as immediately after the enquiries I would be in my role of the class teacher rather than researcher. However, it could also be argued that had I given pupil voice higher priority, time might have been found and higher quality interviews could have been carried out. This could have added another important perspective to the study.

6.4 Implications

We are not there yet. But then, that's dialogue. (Alexander, 2005: 18)

As I mentioned in the previous section, Thomas (2007, 2009, 2011) has pointed out the difficulties relating to the extent to which findings from a small case study such as this can be generalised. Whilst respecting this view, I feel that the knowledge gained in this study may contribute to that of the wider fields in which the study is situated, especially as many of my findings concurred with points raised by other authors. In sections 6.4.1 to 6.4.4 I will discuss some of these contributions, related to theory, practice, policy and research.

As a general point I would like to point out the central importance in this study of the shift in my professional and methodological paradigms. I have, in section 3.1.3, and in section 6.1, discussed how, over the course of this study, my standpoint changed from teacher researcher to academic researcher, and how this change coincided with, and impacted on, my views of the data; my methodological perspectives; my methods; my analyses and my conclusions. I have also pointed out, how, in turn, the study informs my standpoints and the content of my work as a teacher educator and this is expected to inform my future research. This dialectical interplay between professional and research perspectives has, in itself, implications for theory, practice and research – a point which I will return to in the following sections..

6.4.1 *Implications for theory*

The results of this study have confirmed Lipman's (2003) claim that the Community of Enquiry can be a very powerful platform for creative thinking, providing that minimum levels of social confidence, pupils' command of (and familiarity with) the discourse, and interest are experienced by the participants.

Both *dialogic contradiction* and *collaboration* were identified as mechanisms for both dialogue and creative thinking. The disputational (Wegerif, 2005), conflict-driven (Moran & John-Steiner, 2004; Grossen, 2008) element of the enquiries which involved disagreement in particular, was seen to be related to the highest-valued creative comments. Although this is not a cause-and-effect link, the evidence from my study seems to suggest that when disagreement and contradiction are expressed within a 'dialogic space' (Haynes, 2007, 2009a; Wegerif, 2010) opportunities for creative dialogue may be particularly available. The Community of Enquiry was seen as a very effective approach to introduce young children to the concept and experience of dialogic space in which disagreement can

be expressed without personal confrontation. Engeström and Sannino's (2010: 5) point that contradiction drives transformation could thus be said to be applicable to communities of enquiry.

The minimum requirements of social confidence and command of the discourse mentioned in the first paragraph of this section are related to both social-cultural theory and findings from the field of social creativity (Amabile, 1996; Morgan & Thomas, 1997; Paulus, 2000; Moran & John-Steiner, 2004; Wegerif, 2005: 233; Eteläpelto & Lahti, 2008). On the basis of my evidence, I have argued that a minimum level of these elements would also be a requirement for creative thinking in other forms of dialogic pedagogy. It is likely that inherent or developed inequalities in these requirements lead to power differentials and role-taking, with very different results in the creative thinking expressed by individual participants, which is a major challenge to the emancipatory aims of dialogic education (Burbules, 2000; Lefstein, 2006).

Moran and John-Steiner's (2003: 64) visual representation of the dialectical circular process of internalisation and externalisation was found to be applicable to dialogic and microgenetic situations and I have suggested that creativity and enquiry, too, can be seen as dialectical elements in dialogue. Furthermore, I put forward a triangular model to represent the ideological and dialogical complexities faced by enquiry facilitators. In this model, three elements are juxtaposed which facilitators have to balance: the quality of the discussion and thought generated; the needs of the group as a whole, and the needs of individual participants. The model can be used to demonstrate emphasis on a microgenetic or ontogenetic scale, and also indicate possible solutions to facilitator challenges. Implications of this model for practice will be discussed in the next section.

Finally, I have discussed the interplay between conceptual standpoints and their relationships to professional and methodological contexts.

6.4.2 *Implications for practice*

The following recommendations would apply first and foremost to Community of Enquiry settings. However, I believe that they may also have validity for the other forms of dialogic pedagogy and pedagogical practice in a wider sense.

General points

Firstly, as the Community of Enquiry was seen to provide a stimulating platform for the development and expression of creative thinking, as well as for the development of dialogic skills, it is my view that all pupils should have regular opportunities to participate in such activities. However, as Craft (2005, 2006, 2008b; 2008a) has pointed out, the development of creativity without wisdom may be less than desirable. In line with the Pragmatist tradition (Peirce, 1955, in Pardales & Girod, 2006), however, I would argue that wisdom, too, is developed in the communities of enquiry, as participants collaboratively search for the 'truth' (Dillon, 2008: 111). The Community of Enquiry could thus provide a unique approach towards the development of creativity and wisdom in tandem.

However, as is clear from the section on 'Implications for theory', teachers aiming to provide their pupils with such opportunities in the dialogic space of the community of enquiry may encounter - as I

did - a number of challenges which need careful consideration, and could be supported in Continuing Professional Development (CPD) in the shape of specific courses (Chandley & Sutcliffe, 2010) and practitioner research (Lofthouse & Leat, 2011). Based on the evidence from my study, I believe that the analysis of transcripts and video data can play an important role in this process. Challenges to consider include, in my view, the maximisation of, firstly, pupils' social confidence plus, secondly, their familiarity with, and use of, the enquiry *tools and instruments* (Engeström & Sannino, 2010), such as language and concepts of *disagreement* as well as agreement, and the topics and discourse of dialogue, which are imperative for the development of creative thinking, and thus, I would argue, high-quality thinking, in such contexts.

Important aims related to this are, in my view, the maximisation of equality and inclusion to counteract existing social and socio-cultural inequalities which I will explore in the next section; openness; the active promotion of 'dialogic space' (Wegerif, 2010); and both implicit and explicit encouragement to both critical and creative thinking. Encouragement to think creatively may, according to Craft (2008b: 60), involve the sharing of deep subject knowledge, the modelling of flexibility, the celebration of new perspectives, and giving pupils time to incubate ideas and to develop their creativity, all of which can be demonstrated by the facilitator in the Community of Enquiry. Of these, I believe that allowing time for the incubation of ideas in the fast-moving, dialectic and compelling process of dialogue - as exemplified by Moran and John-Steiner's (2003: 64) diagram – may well be one of the most difficult elements to achieve. Finally, I have raised the possibility that specific facilitator questions aimed to create 'disequilibrium' (Murris, 2008) may be more likely to draw out creative thinking than general questions asking for further views only. This would also apply to facilitators asking for justification; examples and counterexamples; contradictions; assumptions, etc., as is advised in P4C (Sutcliffe & al, 2007), Again, these are potential topics for reflection and research-informed CPD.

I will consider explore some approaches for maximisation of equality in the following section.

Maximising inclusion and creative thinking

Whereas, of course, other authors have raised the importance of an inclusive environment in dialogic pedagogy through, for example, the establishment of ground rules (Mercer, 2000; Haynes, 2002; Sutcliffe & al, 2007; Chandley & Sutcliffe, 2010: 23), I believe that such concepts as trust, inclusion and command of language are concepts which may, in my own practice, too easily be taken for granted. Rather like originality and value, they are best seen as notions on a continuum, and there is a need to continuously query, assess and rework them in practice in order for them to be maximised. Furthermore, as I have discussed in this study and as other authors have suggested (Burbules, 2000; Lefstein, 2006; Chetty, 2008), inclusion is threatened by existing inequalities in the command of language and social confidence between individual participants, which need to be acknowledged. As many such inequalities originate in the wider socio-cultural context, it would be naïve to presume that they can be overcome within the Community of Enquiry. However, acknowledgement of them can help practitioners to find ways in which the impact of such inequalities can at least be reduced, and attempts can be made to make learning environments as inclusive (Gibson, 2009: 12) as possible:

> … promoting the kind of environment that positively affects self-worth is at the heart of the reduction of failure. (Thomas, 2012: 10)

Thomas (2012: 11) has discussed a number of approaches to 'bridge' social capital, such as the use of cooperative activities, Circle Time, and parents' involvement, the shared consideration of social and political issues and a generic belief in 'equal potential, respect and recognition for all'.

Methods to develop familiarity with dialogue for *all* pupils should, naturally, extend far beyond those of the Community of Enquiry. The use of similar forms of dialogic and/or enquiry-based pedagogies (Wolfe & Alexander, 2008; Alexander, 2010) would be advisable. Furthermore, the building of an inclusive community can, and should, in my view, be encouraged in *all* classroom activities.

With specific reference to the Community of Enquiry, however, the evidence from this study suggests that both pupils' social confidence and use of language *can* in themselves be developed within the Community of Enquiry, and that the building of a Community of Enquiry can itself be seen as a 'bridging activity' (Lipman, 2003; Thomas, 2012: 11). On the other hand, I also identified a danger that inequalities, and identities of power and deficit, may be reinforced during the enquiry processes, and stifle creative thinking. Within whole-class enquiries, it seems therefore important to reduce such inequalities in power as much as possible. This could be achieved by: variation in patterns of interaction; limitations on the number of responses made by dominant pupils (Sutcliffe & al, 2007) such as Finn, to encourage thinking time between different responses; and the explicit giving of turns to quieter pupils.

It is also crucial to ensure that the 'tools' of the Community of Enquiry are understood by and accessible to all. Vocabulary used, such as 'agree' and 'disagree' should be discussed and where relevant taught explicitly, as could ways in which pupils can enter a dialogue-in-progress. The use of 'Rounds' in this study was a useful tool to include greater numbers of pupils, and it is advisable to vary whole-class Community of Enquiry dialogues with pair and small-group dialogues, as Sutcliffe et al. (2007) have suggested. This will not only help to break up monopolies such as that of Finn's in this study, but also give far more participants the opportunity to express their views in a more comfortable social situation, and to familiarise themselves with dialogic language and topics. Periods of quiet reflection can also be built in (Azmitia, 1998; Haynes, 2007; Cain, 2012) to increase opportunities for those participants who find it easier to think by themselves as Cain (2012) has pointed out , and for the incubation of ideas (Craft, 2000: 33). Opportunities for the expression and sharing of thinking in writing and drawing can also be created. Attempts can, of course, also be made to bring the dialogue language and topics closer to those which the participants are familiar with. This can, arguably, be recognised in the non-philosophical Community of Enquiry approach (Baumfield, 2001a; Baumfield & Mroz, 2002) taken in this study. Without denying the power of imaginative picture books for enquiry (Haynes & Murris, 2012), this might also include a range of stimuli and topics which are much closer to the experience of pupils, and more relevant for them (Hatcher, 2012: 260). The use of the home language can be encouraged, and especially if translation is available, this could be a very powerful way of increasing inclusion of pupils with EAL. It is also likely that social confidence will be increased

by sharing the aims and practice of the Community of Enquiry with parents. Social inequality in itself can of course also be discussed as a topic of enquiry, as Bleazby and Thomas have suggested (Bleazby, 2006b; Thomas, 2012).

Finally, in order for the Community of Enquiry to be considered as a genuinely emancipatory form of dialogue according to Burbules' view (2000) and that of Haynes (2007), and a truly 'creative activity' according to Tikhomirov's definition (1999: 350), an approach could be aimed for in which the group itself, rather than the facilitator, generates more of the aims, tools and methods of the enquiry. On the other hand, it could be argued that the tight structure of the Community of Enquiry, and its management by the facilitator as in this study, can free up cognitive 'space' for the content of the enquiry.

Facilitator choices

Ideological choices, which are of course at the heart of all teaching, may be particularly significant during the facilitation of enquiries. The following model (Figure 38) represents the three aims which are generally seen as compatible in the Community of Enquiry, but which can often compete: the interest of the enquiry, the interest of the group as a whole, and the interests of individual participants, which I would consider as particularly important when the participants are young children and/or participants who may be socially disadvantaged. The predicted pupil outcome of a facilitation move generated by one aim will often appear to conflict with that of another aim. This visual representation does not only clarify such ideological choices, but can also be used within the process of facilitation: the point opposite the line between two competing issues can often indicate a clear way forward for the dilemma to be resolved.

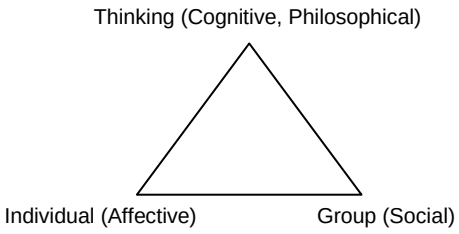


Figure 38: Triangular model of facilitation choices

This does not deny, however, the considerable complexities involved in facilitation processes. Our teaching priorities and ideologies can fluctuate, which makes continued and continuous reflection all the more imperative (Craft, 2008b; Jackson, 2008; Murris, 2008).

I would argue that the theoretical understanding of dialogic pedagogy, as well as the practical development of dialogic teaching and facilitation skills, are essential elements in the provision of high-quality Initial Teacher Education and Continuing Professional Development.

Finally, the importance of methodological standpoints and their relationship to professional context is an important focus for reflection for practitioners, practitioner-researchers and supervisors of practitioner research.

6.4.3 *Implications for policy*

At the time of writing, there are substantial threats to the potential for creative, dialogic and democratic forms of education in England.

The current Secretary of State for Education Michael Gove's mentioning the 'appreciation of human creativity' after 'respect for the best that has been thought and written' (2012) is an indication that his interests lie in children learning about the products of other people's 'big C' creativity, rather than developing their own 'little c' creativity' (Craft, 2001, 2002), and it appears that Gove (2012) does not share the socio-constructivist perspective which the Community of Enquiry is based on. Although he has given assurances that 'spoken language will be embedded across the curriculum' (ibid.), as this is important for pupils' linguistic, cognitive and social development' (DfE, 2012: 3), Gove (ibid.) declares his view of the formal role of the 'spoken language' as follows:

> The importance of spoken language in supporting the development of reading and writing will be emphasised, and there will be an expectation that pupils master formal English through poetry recitation, debate and presentation.

It is hoped that practitioners will be able to find a justification for dialogic practice in Gove's word 'debate' (ibid.), and in the statement within the draft proposals for English which mentions that 'Pupils should also be taught to understand and use the conventions for discussion and debate' (DfE, 2012: 3). However, there are heavily disputational and exclusive, rather than inclusive, meanings associated with 'debate', rather than 'dialogue'. Many practitioners may find it increasingly difficult in this climate to build Communities of Enquiry, and to encourage creativity in the pupils they teach. Pollard has written an early critique of the proposals, writing that

> … The constraining effects on the primary curriculum as a whole are likely to be profound and the preservation of breadth, balance and quality of experience will test even the most committed of teachers. (Pollard, 2012).

In order to prepare pupils for the challenges faced in today's world (Fielding & Moss, 2011), I would plead strongly not only for the recognition of the importance of dialogue, but also for the recognition of the importance of pupils' own creativity (NACCCE, 1999). As Craft (2005) has argued, and as was seen here in, for example, Tim's mini-case study, this includes the opportunity to invest resources and time, and to take risks. Enquiry-based learning and dialogic pedagogies (Wolfe & Alexander, 2008: 5) should, I believe, be recognised as key elements of worthwhile education.

This, of course, does not apply to classroom practice only. Instead of being continuously challenged in a culture of performativity (Ball, 2003), teachers' professionalism should be respected (Pollard, 2012) They should be trusted to develop their own creativity (Craft, 2000), if they are to be able to encourage pupils to do so. And if lessons really are to be learned from the 'high performing jurisdictions' such as Finland which the Government of State is so keen to duplicate (Alexander,

2012), teachers should be encouraged and supported to engage with research and theory in self-directed Continuing Professional Development (Alexander, 2010).

6.4.4 *Implications for research*

Two sets of implications for research can be distinguished: *tools* for future research, and *suggestions* for further research, and I suggest they apply to both practitioner and academic research.

Tools for other research

Firstly, the categorisation of responses, which was based on a Grounded Theory approach (Corbin & Strauss, 2008), was, within the framework of this study, found to be a useful tool for the identification of creative thinking. Although these categories could have been refined further, similar sets of categories could be applied to other discourse-analysis studies into creative thinking. Such types of discourse analysis are particularly useful for gaining findings from a large number of transcripts, and can show longitudinal development.

The adaptation of CA methods, too, was found to be an effective and stimulating tool for understanding creative thinking processes within interaction. Although the time involved in a CA-based approach means that the number of transcripts which can be analysed is limited[38], the depth of understanding gained is much greater than that of an analysis based on the allocation of responses to categories. The combination of such complementary types of analysis can provide both breadth and depth.

Adaptations of existing visual and conceptual tools such as the expanded mediation triangle (Wells, 1999: 234; Engeström & Sannino, 2010), Moran and John-Steiner 's visual representation of internalisation and externalisation (2003: 63), and the representation of relationships from Social Network Theory (Garside, unpublished) have greatly assisted my understanding of complex processes. Similarly, images developed in the process of this study, such as the creativity quadrant diagram and the triangular facilitation model, clarified my understanding of events and processes, and I would recommend the development and use of such visual tools to other researchers.

The Torrance Test of Creative Thinking (Torrance, 1962, 1966) could be presumed *not* to have been a useful tool. Due to the very different nature of dialogic enquiry on the one hand, and the solitary drawing of ideas on the other, the findings from the tests did not correlate with those from this study. There were also underlying differences in the definition of creativity, as *originality* carries more weight than *value* in the context-free TTCT test results. Also, although the quantitative nature of the tests implies that the tests have an objective basis of analysis, scoring of the test was found to be no less interpretative than other data from my study; and the limitations in the quantitative use of qualitative data, which I commented on earlier, apply, I believe, also to the Torrance Test. However, despite these caveats, the Torrance Test of Creative Thinking has had its benefits: by scoring pupils' test papers I gained a clear and operationalised understanding of at least *some* perspectives of creativity.

[38] Detail and depth of CA analyses can, of course, vary: in practitioner research CA may be carried out in less depth due to time limitations, but still reveal interesting interaction patterns.

And although not all pupils' ability to think creatively was reflected in their results in the TTCT, I gained some insight into the capacity for original thinking of pupils such as Sean, who had not displayed this in the Community of Enquiry, or in many other classroom situations. I believe that the Torrance Test is thus, within the parameters of its relevance, not without value as a research tool.

Areas for further research

Although it could be argued, from a strict interpretation of the methodological framework within which this study was carried out (Thomas, 2011), that the findings of this case study cannot be transferred to other contexts, I believe that other studies could be carried out to investigate the strengths and outcomes of my study by applying the research design of this study to other contexts. Where possible, however, it would be recommended that the weaknesses identified under 'limitations of this study' (section 6.3) could be ameliorated, for example by raising the importance of participants' views of their own creative thinking. Other research designs could, of course, also be used to investigate creative thinking, such as the use of interviews, journals and questionnaires.

The creative thinking in other community of enquiry settings, and in P4C in particular, could thus be the focus of further studies. It would, I believe, be interesting to investigate if inclusion within the community of enquiry can be maximised by following the recommendations which I have made in this chapter, and if this has an impact on the creative thinking of all participants. Investigations in creative thinking within other types of dialogic and enquiry-based pedagogy, such as the Mantle of the Expert (Heathcote, 1984; Wolfe & Alexander, 2008) or Dialogic Teaching (Alexander, 2006), would also be very valuable. Discourse analysis of teacher responses in relation to pupils' creative thinking would be worthwhile, and the creative thinking of facilitators in dialogic pedagogy would also be a valuable topic of investigation.

As mentioned before, theoretical and professional standpoints need to be considered in research. Their dialectical interplay could, in itself, be a topic for further research.

6.5 Concluding remarks

During the period in which I have carried out this study, the world has undergone huge changes: we have seen a sharp rise in political and religious extremism and fundamentalism, we have seen increasing and catastrophic impacts of environmental damage and climate change, and we have seen the failure of the free market economy, resulting in huge increases in inequality and poverty both within and outside Europe.

These vast challenges can, on the one hand, be seen as threats to democracy and equality, but on the other hand I believe that cooperation (Sennett, 2012) and democracy can be the way to overcome many of them, too. In my view Dewey's ([1916] 1966: 99) summary of the major role of education in democracy still holds truth:

> A society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through interaction of the different forms of associated life is in so far democratic. Such a society must have a type of education which gives

> individuals a personal interest in social relationships and control, and the habits of mind which secure social changes without introducing disorder.

For humanity and civilisation to survive, much wisdom (Craft et al., 2008a) and creative thinking will be necessary in the coming decades by the young people who are now at school (Craft, 2005: 149). The Community of Enquiry offers no panacea, but it can, along with other forms of democratic pedagogy, help pupils to learn to ask meaningful questions, to learn to agree and disagree with others as well as with themselves, and, in doing so, to find new and valuable solutions. Where this can be achieved and developed, I believe that there remain many reasons to be hopeful.

References

Adey, P. (2004) *The Professional Development of Teachers: Practice and Theory*. Dordrecht, Kluwer Academic Publishers.

Adey, P., Robertson, A. & Venville, G. (2002) Effects of a cognitive acceleration programme on Year 1 pupils, *British Journal of Educational Psychology*, 72(1), 1-25.

Aiken, J. (1975) A Necklace of Raindrops, in: *A Necklace of Raindrops and Other Stories*. Puffin Books, Penguin.

Alexander, R. (2004) *Culture & Pedagogy*. Oxford, Blackwell Publishing Ltd.

Alexander, R. (2005) Culture, dialogue and learning: notes on an emerging pedagogy. Paper presented at the Education, Culture and Cognition: intervening for growth - IACEP 10th International Conference, University of Durham.

Alexander, R. (2006) *Towards Dialogic Teaching*. 3rd edition. Thirsk, Dialogos.

Alexander, R., Ed (2010) *Children, their World, their Education*. Oxon, Routledge.

Alexander, R. (2012) Entitlement, freedom, minimalism and essential knowledge: can the curriculum circle be squared? Paper presented at the CPPS Westminster Seminar - How can we achieve maximum benefit from the new national curriculum?, London.

Almeida, L., Prieto, L. P., Ferrando, M., Olveira, E. & Ferrándiz, C. (2008) Torrance test of Creative Thinking: The question of its construct validity, *Thinking Skills and Creativity*, 3(1), 53-58.

Alves, J., Marques, M. J., Saur, I. & Marques, P. (2007) Creativity and Innovation through Multidisciplinary and Multisectoral Cooperation, *Creativity and Innovation Management*, 16(1), 27-34.

Amabile, T. M. (1996) *Creativity in Context*. Oxford, Westview Press.

Anon. 2012 *Social network analysis*. Available online at http://en.wikipedia.org/wiki/Social_network_analysis (accessed 17/03/2012).

Azmitia, M. (1998) Peer interactive minds- Developmental, theoretical, and methodological issues, in: Dorothy; Faulkner, Karen; Litlleton and Martin Woodhead (Eds) *Learning relationships in the classroom*. London, Routledge.

Ball, S. J. (2003) The teacher's soul and the terrors of performativity, *Journal of Education Policy*, 18(2), 215-228.

Banaji, S., Burn, A. & Buckingham, D. (2010) The rhetorics of creativity: a literature review - 2nd edition. Newcastle upon Tyne: Creativity, Culture and Education. Available online at http://www.creative-partnerships.com/data/files/1-b-rhetorics-of-creativity-2nd-edition-12.pdf (accessed May 2011).

Bannerman, C. (2008) Creativity and Wisdom, in: Anna Craft, Howard Gardner and Guy Claxton (Eds) *Creativity, Wisdom and Trusteeship*, 133-141. London, SAGE.

Barrow, W. (2010) Dialogic, participation and the potential for Philosophy for Children, *Thinking Skills and Creativity*, 5, 61-69.

Baumfield, V. (2001a) advice and discussions relating to the 'Integrity of the Community of Enquiry'. Newcastle upon Tyne.

Baumfield, V. (2001b) The origins of the Community of Enquiry. Personal communication to the author.

Baumfield, V. (2004) Thinking through Teaching: creativity and professional development. Paper presented at the ESRC Seminar in Creativity and Thinking Skills, Newcastle University.

Baumfield, V. & Higgins, S. (1998) A Defence of Teaching General Thinking Skills, *Journal of Philosophy of Education*, 32(3).

Baumfield, V. & Mroz, M. (2002) Investigating pupils' questions in the primary classroom, *Educational Research*, 44(2), 129-140.

BERA 2011 *Ethical Guidelines for Educational Research*. Available online at http://www.bera.ac.uk/files/2011/08/BERA-Ethical-Guidelines-2011.pdf (accessed 22/12/2011).

Bernstein, B. (1990) *Class, Codes and Control: The Structuring of Pedagogic Discourse*. 4. London, Routledge & Kegan Paul.

Bernstein, R. J. (1991) *The New Constellation*. Cambridge, Polity Press.

Bleazby, J. (2006a) Autonomy, Democratic Community, and Citizenship in Philosophy for children: Dewey and Philosophy for Children's Rejection of the Individual/Community Dualism, *Analytic Teaching*, 26(1).

Bleazby, J. (2006b) Reconstruction in Philosophy for Children, *Practical Philosophy*.

Boden, M., A (2004) *The creative mind - myths and mechanisms*. 2nd edition. London, Routledge.

Bourdieu, P. (1986) The forms of capital, in: J. Richardson (Ed) *Handbook of Theory and Research for the Sociology of Education*, 241-258. New York.

Brown, T. (2009) Education and After-education: Exploring Learning as a Relational Process. *Perspectives on Participation and Inclusion - Engaging Education*. Suanne Gibson and Joanna Haynes. London: Continuum.

Bruner, J. S. (1979) *On knowing - essays for the left hand*. expanded edition edition. Cambridge, Massachusetts, Harvard University Press.

Bruner, J. S. (2006) *In Search of Pedagogy, volume II*. London, Routledge.

Bruner, J. S. ([1960] 2003) *The Process of Education*. Cambridge, MA, Harvard University Press.

Burbules, N. C. (2000) The Limits of Dialogue as a Critical Pedagogy, in: Peter Trifonas (Ed) *Revolutionary Pedagogies*. New York, Routledge Falmer.

Burbules, N. C. (2001) Theory and Research on Teaching as Dialogue, in: Virginia Richardson (Ed) *Handbook of research on teaching*, 1102-1121. 4th edition. Washington, DC, American Educational Research Association.

Bush, J. & Paul, K. (1991) *The Fish Who Could Wish*. Oxford, Oxford University Press.

Cain, S. (2012) *Quiet - the power of introverts in a world that can't stop talking*. London, Penguin Books.

Cam, P. (1995) *Thinking Together*. Sydney, Hale & Iremonger Pty Ltd.

Carter, R. (2004) *Language and Creativity*. London, Routledge.

Chandley, N. & Sutcliffe, R., Eds (2010) *SAPERE Handbook to accompay the Level 1 Course*, 3rd edition. Oxford, SAPERE.

Chetty, D. (2008) Philosophy for Children and antiracist education - To What Extent Does P4C Complement Antiracism? MA in Education: Culture, Language and Identity, Goldsmiths College, University of London.

Claxton, G., Craft, A. & Gardner, H. (2008) Concluding Thoughts. Good Thinking - Education for Wise Creativity, in: Anna Craft, Howard Gardner and Guy Claxton (Eds) *Creativity, Wisdom and Trusteeship*. Thousand Oaks, California, SAGE Ltd.

Cohen, L., Manion, L. & Morrison, K. (2003) *Research Methods in Education*. London, Routledge Falmer.

Colapietro, V. (2006) Charles Sanders Peirce, in: John R. Shook and Joseph Margolis (Eds) *A Companion to Pragmatism*. Malden MA,, Blackwell Publishing.

Cole, M. & Wertsch, J. V. (1996) Beyond the Individual-Social Antinomy in Discussions of Piaget and Vygotsky, *Human Development*, (39), 250-256.

Coles, M. J. (1995) Critical Thinking. Talk and a Community of Enquiry in the Primary School, *Language and Education*, 9(3), 161-177.

Collins, J. (1996) *The Quiet Child*. London, Casssell.

Corbin, J. & Strauss, A. (2008) *Basics of Qualitative Research*. 3 edition. Thousand Oaks, Sage Publications, Inc.

Cowley, S. (2005) *Letting the Buggers be Creative*. London, Continuum.

Craft, A. (1997) Identity and creativity: educating teachers for postmodernism?, *Teacher Development*, 1(1), 83-96.

Craft, A. (2000) *Creativity across the Primary Curriculum*. London, Routledge/Falmer.

Craft, A. (2001) 'Little c Creativity', in: Anna Craft, Bob Jeffrey and Mike Leibling (Eds) *Creativity in Education*, 45-61. London, Continuum.

Craft, A. (2002) *Creativity and Early Years Education*. London, Continuum.

Craft, A. (2005) *Creativity in Schools- Tensions and Dilemmas*. Oxon, Routledge.

Craft, A. (2006) Fostering creativity with wisdom, *Cambridge Journal of Education*, 36(3), 337-350.

Craft, A. (2008a) Studying collaborative creativity: Implications for education, *Thinking Skills and Creativity*, 3(3), 241-245.

Craft, A. (2008b) Tensions in Creativity in Education. Enter Wisdom and Trusteeship?, in: Anna Craft, Guy Claxton and Howard Gardner (Eds) *Creativity, Wisdom and Trusteeship*. London, SAGE Ltd.

Craft, A. (2009) Changes in the landscape for creativity in education, in: Anthony Wilson (Ed) *Creativity in Primary Education*, 5-21. 2nd edition. Exeter, Learning Matters Ltd.

Craft, A., Cremin, T., Burnard, P. & Chappell, K. (2007) Teacher stance in creative learning: A study of progression, *Thinking Skills and Creativity*, 2(2), 136-147.

Craft, A., Gardner, H. & Claxton, G. (2008a) *Creativity, Wisdom and Trusteeship*. London, SAGE.

Craft, A., Gardner, H. & Claxton, G. (2008b) Nurturing Creativity, Wisdom and Trusteeship in Education - a collective debate, in: Anna Craft, Howard Gardner and Guy Claxton (Eds) *Creativity, Wisdom and Trusteeship*. London, SAGE.

Craft, A., Jeffrey, B. & Leibling, M., Eds (2001) *Creativity in education*. London, Continuum.

Cropley, A. J. (2001) *Creativity in education and learning*. London, Kogan Page Limited.

Cropley, A. J. & Cropley, D. (2008) Revolving the paradoxes of creativity: an extended phase model, *Cambridge Journal of Education*, 38(3), 355-377.

Csikszentmihalyi, M. (1994) The Domain of Creativity, in: David Henry Feldman, Mihaly Csikszentmihalyi and Howard Gardner (Eds) *Changing The World: A Framework for the Study of Creativity*. Westport, Praeger Publishers.

Csikszentmihalyi, M. (1996) *Creativity*. New York, Harper Perennial.

Csikszentmihalyi, M. (1997) *Creativity- Flow and the Psychology of Discovery and Invention*. New York, Harper Collins Publishers, Inc.

Csikszentmihalyi, M. (1999) Implications of a Systems Perspective for the Study of Creativity, in: Robert J. Sternberg (Ed) *Handbook of Creativity*, 313-335. Cambridge, Cambridge University Press.

Dahl, R. (1994) *Danny the Champion of the World*. London, Puffin Books.

Damasio, A. (2006) *Descartes' Error* London, Vintage Books.

Daniels, H. (2001) *Vygotsky and Pedagogy*. London, Routledge Falmer.

Daniels, H. (2004) Activity, Theory, Discourse and Bernstein, *Educational Review*, 56(2).

De Bono, E. (1993) *Six Thinking Hats*. London, Penguin.

Devine, D. (2003) *Children, power and schooling - How childhood is structured in the primary school*. Stoke on Trent, Trentham Books.

Dewey, J. (1897) My Pedagogic Creed, *School Journal*, 77-80. Available at http://dewey.pragmatism.org/creed.htm (accessed May 2011).

Dewey, J. ([1910] 1997) *How we think*. Mineola, New York, Dover Publications, Inc.

Dewey, J. ([1916] 1966) *Democracy and Education*. Toronto, Collier-Macmillan.

DfE 2012 *National Curriculum for English Key Stages 1 and 2 – Draft*. Available online at http://media.education.gov.uk/assets/files/pdf/d/draft%20national%20curriculum%20for%20english%20key%20stages%201%202%20%20%20%2011%20june%202012.pdf (accessed July 2012).

DfES & QCA (2000) *The National Curriculum, Handbook for Primary Teachers in England, Key Stages 1 and 2*. London, The Stationery Office.

Dillon, P. (2008) Creativity, Wisdom and Trusteeship- Niches of Cultural Production, in: Anna; Craft, Howard Gardner and Guy Claxton (Eds) *Creativity, Wisdom and Trusteeship*. London, SAGE Ltd.

DiPardo, A. & Potter, C. (2004) Byond cogntion - A Vygotskian Perpective on Emotionality and Teachers' Professional Lives, in: Alex Kozulin, Boris Gindis, Vladimir S. Ageyev and Suzanne M. Millller (Eds) *Vygotsky's Educational Theory in Cultural Context*. Cambridge, Cambridge University Press.

Durham, C. (2001) *Chasing Ideas*. Finch Publishing Pty Limited.

Ecclestone, K. & Hayes, D. (2009) *The Dangerous Rise of Therapeutic Education*. Abingdon, Routledge.

Edwards, A. D. & Westgate, D. P. G. (1994) *Investigating Classroom Talk*. Edited by Robert G. Burgess. 2nd edition. London, RoutledgeFalmer.

Edwards, G. (in press) Standpoint theory, Realism and the Search for Objectivity in the Sociology of Education, *British Journal of Sociology of Education*.

Engeström, Y. (1999) Activity theory and individual and social transformation, in: Yrjö Engeström, Reijo Miettinen and Raija-Leena Punamäki (Eds) *Perspectives on activity theory*, 19-38. Cambridge, Cambridge University Press.

Engeström, Y. (2001) Expansive Learning at Work: toward an activity theoretical reconceptualization, *Journal of Education and Work*, 14(1), 133-156.

Engeström, Y., Miettinen, R. & Punamäki, R.-L., Eds (1999) *Perspectives on Activity Theory*. Cambridge, Cambridge University Press.

Engeström, Y. & Sannino, A. (2010) Studies of expansive learning: Foundations, findings and future challenges, *Educational Research Review*, (5), 1-24.

Esarte-Sarries, V. & Paterson, F. (2003) Scratching the Surface- A typology of interactive teaching I, in: Janet; Moyles, Linda; hargreaves, Roger; Merry, Fred; Paterson and Veronica Esarte-Sarries (Eds) *Interactive teaching in the Primary School*. Maidenhead, Open University Press.

Eteläpelto, A. & Lahti, J. (2008) The resources and obstacles of creative collaboration in a long-term learning community, *Thinking Skills and Creativity*, 3(3), 226-240.

Feldman, D. H. (1999) The Development of Creativity, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Feldman, D. H., Csikszentmihalyi, M. & Gardner, H. (1994) A Framework for the Study of Creativity, in: *Changing the World*. London, Praeger.

Fichtner, B. (1999) Metaphor and learning activity, in: Yrjö Engeström, Reijo Miettinen and Raija-Leena Punamäki (Eds) *Perspectives on actitivity theory*, 314-324. Cambridge, Cambridge University Press.

Fielding, M. & Moss, P. (2011) *Radical Education and the Common School- A Democratic Alternative*. London, Routledge.

Fisher, R. (1995) *Teaching Children to Think*. First published by Blackwell, 1990. Cheltenham, Stanley Thornes.

Fisher, R. (1998) *Teaching Thinking: Philosophical Enquiry in the Classroom*. London, Continuum.

Fisher, R. (2000) *Teaching Thinking*. London, Continuum.

Fisher, R. (2009) *Creative Dialogue - talk for thinking in the classroom*. Abingdon, Routledge.

Flyvbjerg, B. (2001) *Making Social Science Matter*. Cambridge, Cambridge University Press.

Flyvbjerg, B. (2006) Five Misunderstandings About Case-Study Research, *Qualitative Inquiry*, 12(2), 219-245.

Freebody, P. (2003) *Qualitative Research in Education- Interaction and Practice*. London, SAGE Publications.

Freire, P. ([1970] 2000) *Pedagogy of the Oppressed*. London, Continuum.

Fumoto, H., Robson, S., Greenfield, S. & Hargreaves, D. J. (2012) *Young Children's Creative Thinking*. London, SAGE Publications Ltd.

Furlong, J. & Salisbury, J. (2005) Best practice research scholarships: An evaluation, *Research Papers in Education*, 20(1), 45-83(39).

Galton, M., Simon, B. & Croll, P. (1980) *Inside the Primary Classroom*. London, Routledge.

Gardner, H. (1993) Seven creators of the modern era, in: J Brockman (Ed) *Creativity*, 28-47. New York, Simon and Schuster.

Garrison, J. & Neiman, A. (2003) Pragmatism and Education, in: Nigel Blake, Paul Smeyers, Richard Smith and Paul Standish (Eds) *The Blackwell Guide to the Philosophy of Education*. Oxford, Blackwell Publishing.

Garside, D. (unpublished) The indomitable teacher: Analysing dialogic talk in philosophical communities of inquiry with children.

Georgakopoulou, A. & Goutsos, D. (2001) *Discourse Analysis, An Introduction*. Edinburgh, Edinburgh University Press.

Gibson, S. (2009) Inclusion Versus Neo-liberalism:Empowering the 'Other', in: Suanne Gibson and Joanna Haynes (Eds) *Perspectives on Participation and Inclusion - Engaging Education*. London, Continuum.

Glassman, M. (2001) Dewey and Vygotsky: Society, Experience, and Inquiry in Educational Practice, *Educational Researcher*, 30(4), 3-14.

Godinho, S. & Shrimpton, B. (2003) Boys' and girls' use of Linguistic space in small-group discussions: Whose talk dominates?, *Journal of the Australian Literacy Educators' Association: a thematic issue on Boys and Literacy*, 26(3), 28-43.

Gove, M. 2012 *Letter to Tim Oates, regarding the National Curriculum review*. Available online at http://media.education.gov.uk/assets/files/pdf/l/secretary%20of%20state%20letter%20to%20tim%20oates%20regarding%20the%20national%20curriculum%20review%2011%20june%202012.pdf (accessed July 2012).

Gregory, M. R. (2007) A framework for Facilitating Classroom Dialogue, *Teaching Philosophy*, 30(1).

Grix, J. (2002) Introducing Students to the Generic Terminology of Social Research, *Politics*, 22(3)(175-186).

Grossen, M. (2008) Methods for studying collaborative creativity: An original and adventurous blend, *Thinking Skills and Creativity*, 3(3), 246-249.

Gruber, H. E. & Wallace, D. B. (1999) Understanding Unique Creative People at Work, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Guildford, J. P. (1967) *The nature of human intelligence*. New York, McGraw-Hill.

Hakkarainen, P. (1999) Play and motivation, in: Yrjö Engeström, Reijo Miettinen and Raija-Leena Punamäki (Eds) *Perspectives on activity theory*, 231-249. Cambridge, Cambridge University Press.

Hannam, P. & Echeverria, E. (2009) *Philosophy with Teenagers*. Network Continuum Education.

Hatcher, R. (2012) Social Class and Schooling, in: Michael Cole (Ed) *Education, Equality and Human Rights*. Oxon, Routledge.

Haynes, J. (2002) *Children as Philosophers*. Routledge Falmer.

Haynes, J. (2007) Listening as a critical practice: learning through Philosophy with Children. PhD thesis, University of Exeter.

Haynes, J. (2009a) Dialogue as a playful and permissive space in communities of philosophical enquiry, *Journal of Critical and Reflective Practice in Education*, 1(1).

Haynes, J. (2009b) Freedom, Inclusion and Education, in: Suanne Gibson and Joanna Haynes (Eds) *Perspectives on Participation and Inclusion - Engaging Education*. London, Continuum.

Haynes, J. (2009c) Listening to the Voice of the Child in Education, in: Suanne Gibson and Joanna Haynes (Eds) *Perspectives on Participation and Inclusion - Engaging Education*. London, Continuum.

Haynes, J. & Murris, K. (2012) *Picturebooks, Pedagogy and Philosophy*. Abingdon, Routlledge.

Heathcote, D. (1984) *Collected Writings on Education and Drama*. Evanston, Northwestern University Press.

Henry, J. (2004) Creative collaboration in Organisational Settings, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*, 158-175. London, Free Association Press.

Hermans, H. J. M. (2001) The Dialogical Self: Toward a Theory of Personal and Cultural Positioning, *Culture and Psychology*, 7(3), 243-281.

Higgins, S., Baumfield, V. & Leat, D. (2001) *Thinking Through Primary Teaching*. Cambridge, Chris Kington.

Higgins, S., Hall, E., Baumfield, V. & Moseley, D. (2005) A meta-analysis of the impact of the implementation of thinking skills approaches on pupils. London: EPPI-Centre. Available online at http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=338 (accessed May 2011).

Higgins, S., Kokotsaki, D. & Coe, R. (2011) Toolkit of Strategies to Improve Learning - Summary

for Schools Spending the Pupil Premium. Durham: The Sutton Trust/ Durham University. Available online.

Holliday, A. (2007) *Doing and Writing Qualitative Research*. 2nd edition. London, SAGE.

Holt, J. (1984) *How Children Fail*. 2nd edition., Penguin Books.

Humes, W. (2010) Challenging the Discourse of Professional Development, Keynote Lecture. Paper presented at the UCET conference 2010, Hinckley.

Ivinson, G. (2004) The social consequence of classroom art: collaboration, social identities and social representations, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*, 96-113. London, Free Association Press.

Jackson, L. (2008) Dialogic Pedagogy for Social Justice: A Critical Examination, *Studies in Philosophy & Education*, (27), 137-148.

James, M. & Gipps, C. (1998) Broadening the basis of assessment to prevent the narrowing of learning, *The Curriculum Journal*, 9(3), 285-297.

Janis, I. L. (1982) *Groupthink : psychological studies of policy decisions and fiascoes*. 2nd edition. Boston, Houghton Mifflin.

Jarrett, C. (1996) *Catherine and the Lion*. London, Harper collins Publishers Ltd.

Jeffrey, B. & Craft, A. (2001) The Universalization of Creativity, in: Anna Craft, Bob Jeffrey and Mike Leibling (Eds) *Creativity in Education*. London, Continuum.

Jenkins, R. (2004) *Social Identity*. London, Routledge.

John-Steiner, V. (2000) *Creative Collaboration*. Oxford, Oxford University Press.

John-Steiner, V. (2000b) Patterns of Collaboration among Artists, in: *Creative Collaboration*. Oxford, Oxford University Press.

John-Steiner, V. (2000c) Partnerships in Science, in: Vera John-Steiner (Ed) *Creative Collaboration*. Oxford, Oxford University Press.

Johnson, S. (2010) *Where Good Ideas Come From: The Natural History of Innovation*. Riverhead Hardcover.

Jones, H. (2004) Creative thinking in a Community of Enquiry. Paper presented at the Teacher Research Conference 2004, Birmingham.

Jones, H. (2008a) Conversation Analysis principles and the search for creative thinking in the community of enquiry: a new way of looking. *BERA conference*. Edinburgh.

Jones, H. (2008b) Thoughts on Teaching Thinking - perceptions of practitioners with a shared culture of thinking skills education, *The Curriculum Journal*, 19(4), 309-324.

Jones, H. (2010) National Curriculum tests and the teaching of thinking skills at primary schools - parallel or paradox?, *Education 3-13*, 38(1), 69-86.

Jones, H. & Steele, A. (2002) Using Odd One Out as a formative assessment tool for number. NUT. Available online.

Jones, R. & Wyse, D., Eds (2004) *Creativity in the Primary Curriculum*. Oxon, David Fulton Publishers.

Jule, A. (2003) Girls' talk: girls' silence. Paper presented at the British Educational Research Association Annual Conference, Heriot-Watt University, Edinburgh.

Kent, J. (Year) Released The Wizard of Wallaby Wallow. New York: Weston Woods Studios.

Kerr, J. (1995) *Mog and the Granny*. London, Harper Collins Publishers Ltd.

Kohn, A. (1999) *Punished by Rewards*. New York, Houghton Mifflin Company.

Kohn, N. W. & Smith, S. M. (2010) Collaborative Fixation: Effects of Others' Ideas on Brainstorming, *Applied Cognitive Psychology*, online publication in advance of print.

Kozulin, A. (1986) Vygotsky in Context, in: *Thought and Language*. London, The MIT Press.

Lareau, A. (1987) Social class differences in family-school relationships: the importance of cultural capital, *Sociology of Education*, 60, 73-85.

Leat, D. (1999) Rolling the Stone Uphill: teacher development and the implementation of Thinking Skills programmes, *Oxford Review of Education*, 25(3).

Leat, D. & Higgins, S. (2002) The role of powerful pedagogical strategies in curriculum development, *The Curriculum Journal*, 13(1).

Lefstein, A. (2006) Dialogue in schools: Towards a pragmatic approach. *Working Papers in Urban Language & Literacies*. London: King's College London.

Lehrer, J. (2012) *Imagine- How Creativity Works*. Edinburgh, Canongate Books Ltd.

Light, P. & Littleton, K. (1998) Cognitive approaches to group work, in: Dorothy; Faulkner, Karen; Littleton and Martin Woodhead (Eds) *Learning Relationships in the Classroom*, 171-186. London, Routledge.

Lipman, M. (1991) Squaring Soviet Theory with American Practice, *Educational Leadership*, (May, 1991), 72-76.

Lipman, M. (1995) Moral education, higer-order thinking and philosophy for children, *Early Child Development and Care*, 107, 61-70.

Lipman, M. (1998) Teaching students to think reasonably: Some findings of the Philsophy for Children Program, *The Clearing House*, (May/June 1998), 277-280.

Lipman, M. (2003) *Thinking in Education*. Cambridge, Cambridge University Press.

Lipman, M., Sharp, A. M. & Oscanyan, F. S. (1980) *Philosophy in the Classroom*. Philadelphia, Temple University Press.

Littleton, K. & Miell, D. (2004) Collaborative creativity: Contemporary perspectives, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative creativity: Contemporary perspectives*. London, Free Association Press.

Littleton, K., Rojas-Drummond & Miell, D. (2008) Introduction to the special issue:'Collaborative creativity: Socio-cultural perspectives', *Thinking Skills and Creativity*, 3(3), 175-176.

Lofthouse, R. & Leat, D. (2011) Getting to grips with feedback processes in curriculum development by teachers. *Curriculum for the 21st century: theory, policy and practice seminar series - ESRC*. University of Stirling.

Loveless, A. (2009) Thinking about creativity: developing ideas, making things happen, in: Anthony Wilson (Ed) *Creativity in Primary Education*, 22-36. second edition. Exeter, Learning Matters.

Mac Ruairc, G. (2011) Where words collide: social class, schools and linguistic discontinuity, *British Journal of Sociology of Education*, 32(4), 541-561.

Marková, I. (2003) Constitution of the Self: Intersubjectivity and Dialogicality, *Culture and Psychology*, 9(3), 249-259.

Mason, J. (2002) *Researching Your Own Practice - The Discipline of Noticing*. London, Routledge.

Matusov, E. & Hayes, R. (2002) Building a Community of Educators versus Effecting Conceptual Change in Individual Students: Multicultural Education for Pre-service Teachers, in: Gordon Wells and Guy Claxton (Eds) *Learning for Life in the 21st Century*. Oxford, Blackwell Publishing.

Mayer, R. E. (1999) Fifty Years of Creativity Research, in: Robert J. Sternberg (Ed) *Handbook of Creativity*, 449-460. Cambridge, Cambridge University Press.

McCall, C. C. (2009) *Transforming Thinking - Philosophical Inquiry in the primary and secondary classroom*. Abingdon, Routledge.

McGregor, D. (2007) *Developing Thinking Developing Learning - A guide to thinking skills in education*. Maidenhead, Open University Press.

Mehan, H. (1979) *Learning lessons: Social organization in the classroom*. Cambridge MA, Harvard University Press.

Menand, L. (2001) *The Metaphysical Club*. London, Flamingo.

Mercer, N. (2000) *Words and Minds: How we use language to think together*. London, Routledge.

Mercer, N. (2002) Developing Dialogues, in: Gordon Wells and Guy Claxton (Eds) *Learning for Life in the 21st Century*, 141-154. Oxford, Blackwell Publishers Ltd.

Mercer, N. (2008a) The seeds of time: why classroom dialogue needs a temporal analysis, *Journal of the Learning Sciences*, 17, 1, 33-59 (2008)(1), 33-59. Available at http://thinkingtogether.educ.cam.ac.uk/publications/journals/Mercer2008.pdf (accessed June 2011).

Mercer, N. (2008b) Talk and the development of reasoning and understanding, *Human Development*, 51(1), 90-100.

Mercer, N. & Littleton, K. (2007) *Dialogue and the Development of Children's Thinking - A sociocultural approach*. Oxon, Routledge.

Michouroud, C. & Lubart, T. (2002) Social creativity: A cross-sectional study of 6- to 11- year-old children, *International Journal of Behavioural Development*.

Miell, D. & Littleton, K., Eds (2004) *Collaborative Creativity - Contemporary perspectives*. London, Free Association Books.

Miller, S. M. (2004) How Literature Discussion Shapes Thinking, in: Alex Kozulin, Boris Gindis, Vladimir S. Ageyev and Suzanne M. Millller (Eds) *Vygotsky's Educational Theory in Cultural Context*, 289-316. Cambridge, Cambridge University Press.

Moran, S. & John-Steiner, V. (2003) Creativity in the Making: Vygotsky's contemporary contribution to the dialectic of development and creativity, in: R. Keith Sawyer (Ed) *Creativity and Development*, 61-90. New York, Oxford University Press, Inc.

Moran, S. & John-Steiner, V. (2004) How Collaboration in Creative Work Impacts Identity and Motivation, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary Perspectives*, 11-26. London, Free Association Press.

Morgan, H. & Thomas, K. (1997) A psychodynamic perspective on group processes, in: Margaret Wetherell (Ed) *Identities, Groups and Social Issues*. London, SAGE Publications Ltd.

Moseley, D. (2005) Interim NRAIS evaluation 2004. Newcastle upon Tyne: Newcastle University. Available online.

Moseley, D., Baumfield, V., Elliott, J., Gregson, M., Higgins, S., Miller, J. & Newton, D. (2005) *Frameworks for Thinking*. Cambridge, Cambridge University Press.

Moseley, D. & Jones, H. (2008a) Costs and benefits of Thinking for Learning, *Teaching Thinking and Creativity*.

Moseley, D. & Jones, H. (2008b) Does Thinking for Learning live up to its name?, *Teaching Thinking and Creativity*.

Moyles, J., Hargreaves, L., Merry, R., Paterson, F. & Esarte-Sarries, V. (2003) *Interactive Teaching in the Primary School- digging deeper into meanings*. Maidenhead, Open University Press.

Murris, K. (1992) *Teaching Philosophy with Picture Books*. London, Infonet Publications.

Murris, K. (2008) Philosophy with Children, the Stingray and the Educative Value of Disequilibrium, *Journal of Philosophy of Education*, 42(3-4), 667-684.

Murris, K., Bramall, S., Egley, S., Gregory, M., Haynes, J. & Williams, S. (2009) What Philosophy with Children is *not*: responses to some critics and constructive suggestions for dialogue about the role of P4C in Higher Education. Paper presented at the Philsophy of Education Society of Great Britain- Annual conferenceAvailable at http://www.philosophy-of-education.org/conferences/pdfs/MurrisSymposium_Introduction.pdf (accessed August 2010).

Murris, K. & Haynes, J. (2000) *Storywise*. Newport, Dialogue Works.

Myhill, D. (2002) Bad Boys and Good Girls? Patterns of Interaction and Response in Whole Class Teaching, *British Educational Research Journal*, 28(3), 339-352.

NACCCE (1999) All Our Futures: Creativity, Culture and Education. London: National Advisory Committee on Creative and Cultural Education. Available online at http://www.dfes.gov.uk/naccce/index1.shtml (accessed July 2003).

Newton, L. E. (2012) *Creativity for a New Curriculum: 5-11*. London, Routledge.

Nickerson, R. S. (1999) Enhancing Creativity, in: Robert J. Sternberg (Ed) *Handbook of Creativity*, 392-431. Cambridge, Cambridge University Press.

Noddings, N. (2002) *Starting at Home -*

Caring and Social Policy. London, University of California Press, Ltd.

Nottingham, J., Sutcliffe, R. & Williams, S. 2009 *History of P4C*. Available online at http://p4c.com/about/p4c/history (accessed March 2013).

Nystrand, M. (1997) *Opening Dialogue- understanding the dynamics of language and learning in the English classroom*. New York, Teachers College, Columbia University.

O'Hear, S. & Sefton-Green, J. (2004) Creative 'communities': How technology mediates social worlds.

Paley, V. G. (1981) *Wally's stories*. Cambridge, Massachussets, Harvard University Press.

Pallant, J. (2001) *SPSS Survival Manual*. Maidenhead, Open University Press.

Pardales, M. J. & Girod, M. (2006) Community of Inquiry: Its past and present future, *Educational Philosphy and Theory*, 38(3).

Paulus, P. B. (2000) Groups, Teams, and Creativity: The Creative Potential of Idea-generating Groups, *Applied Psychology: an international review*, 49(2), 237-262.

Perret-Clermont, A.-N. (1980) *Social Interaction and Cognitive Development in Children*. London, Academic Press Inc (London) Ltd.

Piaget, J. & Inhelder, B. (1978) *De psychologie van het kind*. Rotterdam, Van Loghum Slaterus.

Plucker, J. A. & Renzulli, J. S. (1999) Psychometric Approaches to the Study of Human Creativity, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Pollard, A. (2002) *Reflective Teaching - effective and evidence-informed professional practice*. London, Continuum.

Pollard, A. 2012 *Proposed primary curriculum: what about the pupils?* Available online at http://ioelondonblog.wordpress.com/2012/06/12/proposed-primary-curriculum-what-about-the-pupils/ (accessed August 2012).

QCA 2000a *Aims for the school curriculum*. Available online at http://curriculum.qcda.gov.uk/key-stages-1-and-2/Values-aims-and-purposes/index.aspx (accessed May 2010).

QCA 2000b *The National Curriculum*. Available online at http://www.nc.uk.net/home.html (accessed May 2010).

Robinson, W. (1995) Why "Philosophy for children?", *Early Child Development and Care*, 107, 5-15.

Rojas-Drummond, S., Mazón, N., Fernandéz, M. & Wegerif, R. (2006) Explicit reasoning, creativity and co-construction in primary school children's collaborative activities, *Thinking Skills and Creativity*, 1(84-94).

Rufus, A. (2003) *Party of one - the loners' manifesto*. Cambridge, Masachusets, Da Capo Press.

Runco, M. A. & Sakamoto, O. S. (1999) Experimental Studies of Creativity, in: Robert J. Sternberg (Ed) *Handbook of Creativity*, 63-93. Cambridge, Cambridge University Press.

SAPERE (2007) Chapter B. Building a Community of Enquiry (principles and practices), in: Lizzy Lewis, James Nottingham, Jill Potter and Roger Stutcliffe (Eds) *SAPERE Level 1 Handbook*. 2nd edition. Oxford, SAPERE.

SAPERE (2010) Chapter 2. The Range of Practice, in: Nick Chandley and Roger Sutcliffe (Eds) *SAPERE Handbook to accompany the Level 1 course*. Oxford, SAPERE.

Sawyer, R. K. (2003a) Emergence in Creativity and Development, in: R. Keith Sawyer (Ed) *Creativity and Development*, 12-60. New York, Oxford University Press.

Sawyer, R. K. (2003b) Introduction, in: R. Keith Sawyer (Ed) *Creativity and Development*, 3-11. New York, Oxford University Press Inc.

Sawyer, R. K. (2006) *Explaining Creativity - The Science of Human Innovation*. Oxford, Oxford University Press.

Sawyer, R. K. (2007) *Group Genius - the creative power of collaboration*. New York, Basic books.

Sawyer, R. K., John-Steiner, V., Moran, S., Sternberg, R. J., Feldman, D. H., Nakamura, J. & Csikszentmihalyi, M. (2003) Key issues in creativity and development, in: *Creativity and Development*. Oxford, Oxford University Press.

Schön, D. (1996) From technical rationality to reflection-in-action, in: Richard Edwards (Ed) *Boundaries of adult learning*. London, routledge.

Seedhouse, P. (2004) *The Interactional Architecture of the Language Classroom: A Conversation Analysis perspective*. Oxford, Blackwell Publishing, Ltd.

Sennett, R. (2012) *Together - The Rituals, Pleasures and Politics of Cooperation*. London, Penguin Books Ltd.

Sharp, A. M. (1995) Philosphy for children and the development of ethical values, *Early Child Development and Care*, 107, 45-55.

Sharp, T. & Lutz, J. (2004) Thinking outside the (music) box: Collaborations between composers and architects, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*. London, Free Association Press.

Sigurborsdottir, I. (1998) Philosophy with children in Foldaborg, a preschool in Reykjavik for children from 1-6 years, *International Journal of Early childhood*, 30(1), 14-16.

Skidmore, D. (2006) Pedagogy and dialogue, *Cambridge Journal of Education*, 36(4), 503-514.

Smith, F. (1992) *To think in language, learning and education*. London, Routledge.

Sprod, T. (1995) Cognitive development, philosophy and children's literature, *Early Child Development and Care*, 107, 23-33.

Stainton-Rogers, W. (2006) Logics of Enquiry, in: Stephen Potter (Ed) *Doing Postgraduate Research*, 73-92. 2nd edition. London, SAGE Publications.

Sternberg, R. J., Ed (1999) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Sternberg, R. J. & Grigorenko, E., L (2000-1) Guilford's Structure of Intellect Model and Model of Creativity: Contributions and Limitations, *Creativity Research Journal*, 13(3 & 4), 309–316.

Sternberg, R. J. & Lubart, T. I. (1999) The Concepts of Creativity: Prospects and Paradigms, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Sternberg, R. J. & O'Hara, L. A. (1999) Creativity and Intelligence, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University Press.

Stoll Dalton, S. & Tharp, R. (2002) Standards for Pedagogy: Research, Theory and Practice, in: Gordon Wells and Guy Claxton (Eds) *Learning for Life in the 21st Century*. Oxford, Blackwell Publishers Ltd.

Stone, C. A. (1998) What is missing in the metaphor of scaffolding?, in: Dorothy; Faulkner, Karen; Litlleton and Martin Woodhead (Eds) *Lerning Relationships in the Classroom*. London, Routledge.

Storey, H. & Joubert, M. M. (2004) The emotional dance of creative collaboration, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*, 40-52. London, Free Association Books.

Sutcliffe, R. & al, e., Eds (2007) *SAPERE Level 1 Handbook*. Oxford, SAPERE.

ten Have, P. (2007) *Doing Conversation Analysis - A Practical Guide*. Edited by David Silverman. 2 edition. London, SAGE Publications Ltd.

Thomas, G. (2007) *Education and theory: strangers in paradigms*. Maidenhead, Open University Press.

Thomas, G. (2009) *How to do Your Research Project*. London, SAGE.

Thomas, G. (2011) *How to do Your Case Study- a guide for students and researchers*. London, SAGE.

Thomas, G. (2012) A review of thinking and research about inclusive education policy, with suggestions for a new kind of inclusive thinking, *British Educational Research Journal*, 38, 1-18.

Tikhomirov, O. K. (1999) The theory of activity changed by information technology, in: Yrjö Engeström, Reijo Miettinen and Raija-Leena Punamäki (Eds) *Perspectives on activity theory*, 347-359. Cambridge, Cambridge University Press.

Todd, L. (2012) Cririca dialogue, critical methodology: bridging the research gap to young people's participation in evaluating children's services, *Children's Geographies*, 10(2), 187-200.

Topping, K. J. & Trickey, S. (2007a) Collaborative philosophical inquiry for schoolchildren: Cognitive gains at 2-year follow-up, *British Journal of Educational Psychology*, 77, 787-796.

Topping, K. J. & Trickey, S. (2007b) Impact of philosophical enquiry on school students' interactive behaviour, *Thinking Skills and Creativity*, 2, 73-84.

Torrance, E. P. (1962) *Thinking Creatively with Pictures Figural Booklet A*. Bensenville, Il, Scholastic testing Service, Inc.

Torrance, E. P. (1966) *Thinking Creatively with Pictures Figural Booklet B*. Bensenville, Il, Scholastic Testing Service, Inc.

Torrance, E. P. (1990a) Streamlined Scoring Sheet. Bensenville, Il: Scholastic Testing Service, Inc.

Torrance, E. P. (1990b) *Torrance Tests of Creative Thinking - Directions Manual Figural Forms A and B*. Bensenville, Il, Scholastic Testing Service, Inc.

Torrance, E. P. (1998) *Torrance Tests of Creative Thinking - Norms-Technical Manual Figural (Streamlined) Forms A and B*. Bensenville, Il, Scholastic Testing Service, Inc.

Torrance, E. P., Ball, O. E. & Safter, H. T. (1992) *Torrance Tests of Creative Thinking - Streamlined Scoring Guide Figural A and B*. Bensenville, Illinois, Scholastic Testing Service, Inc.

Trickey, S. & Topping, K. J. (2004) 'Philosophy for Children': a systematic review, *Research Papers in Education*, 19(3).

Vass, E. (2004) Understanding Collaborative Creativity: Young Children's Classroom-Based Shared Creative Wrtitng, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*, 79-95. London, Free Association Books.

Vernon-Feagans, L. (1996) *Children's Talk in Communities and Classrooms*. Oxford, Blackwell Publishers.

Vygotsky, L. S. (1978) *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA, Harvard University Press.

Vygotsky, L. S., Ed ([1934] 1986) *Thought and Language*. London, The MIT Press.

Vygotsky, L. S. ([1967] 2004) Imagination and Creativity in Childhood, *Journal of Russian and East European Psychology tr ME Sharpe, Inc from the Russian text Voobrazhenie i tvorchestvo v detskom vozraste (Moscow: Prosveshchenie, 1967)*, 42(1), 7-97.

Walsh, S. (2006) *Investigating Classroom Discourse*. Oxon, Routledge.

Walsh, S. (2011) *Exploring Classroom Discourse*. Edited by Ronald Carter and Guy Cook. London, Routledge.

Wegerif, R. (2005) Reason and Creativity in Classroom Dialogues, *Language and Education*, 19(3), 223-237.

Wegerif, R. 2006 *Dialogic education: what is it and why do we need it?* Available online at http://www.britannica.com/bps/additionalcontent/18/23074711/Dialogic-education-what-is-it-and-why-do-we-need-it (accessed May 2012).

Wegerif, R. (2010) *Mind Expanding - Teaching for thinking and creativity in primary education*. Maidenhead, Open University Press.

Weisberg, R. W. (1999) Creativity and Knowledge: A Challenge to Theories, in: Robert J. Sternberg (Ed) *Handbook of Creativity*. Cambridge, Cambridge University press.

Wells, G. (1999) *Dialogic Inquiry - Toward a Sociocultural Practice and Theory of Education*. Edited by Brown Pea, Hawkins. Cambridge, Cambridge University Press.

Wells, G. (2002) Inquiry as an Orientation for Learning, Teaching and Teacher Education, in: Gordon Wells and Guy Claxton (Eds) *Learning for Life in the 21st Century*, 197-210. Oxford, Blackwell Publishing.

Wells, G. & Claxton, G. (2002) *Learning for Life in the 21st Century*. Oxford, Blackwell Publishing.

Wertsch, J. V. (1998) *Mind as action*. New York, Oxford University Press.

Whitehead, M. (2010) *Language and Literacy in the Early Years 0-7*. 4th edition. London, SAGE.

Wilson, A., Ed (2009) *Creativity in Primary Education*, second edition. Exeter, Learning Matters Ltd.

Wirtanen, S. & Littleton, K. (2004) Collaboration, conflict and the musical identity work of solo-piano students: the significance of the student-teacher relationship, in: Dorothy Miell and Karen Littleton (Eds) *Collaborative Creativity - Contemporary perspectives*, 26-40. London, Free Association Books.

Wolfe, S. & Alexander, R. 2008 *Argumentation and dialogic teaching: alternative pedagogies for a changing world*. Available online at http://www.beyondcurrenthorizons.org.uk/wp-content/uploads/ch3_final_wolfealexander_argumentationalternativepedagogies_20081218.pdf (accessed May 2011).

Wood, D. (1998) *How children think and learn - The Social Contexts of Cognitive Development*. 2nd edition. Oxford, Blackwell Publishing.

Wooffit, R. (2005) *Conversation Analysis and Discourse Analysis- A Comparative and Critical Introduction*. London, SAGE Publications Ltd.

Yin, R. K. (1993) *Applications of case study research*. 34. London, SAGE.

Zeichner, K. M. & Tabachnick, B. R. (2002) Reflections on Reflective Teaching, in: Andrew Pollard (Ed) *Readings for Reflective Teaching*. London, Continuum.

List of appendices

Appendix 1. **Overview of enquiries held**

	Stimulus focus	**Enquiry question**	**Month**	**Number of children present**	**Round held?**	**Question chosen by...**	**Analysed using CA methods**
E1	Mog and the Granny	What colour skyscrapers can you get?	September	18	No	Pupils	Extract 1
E2	The True Story of the Three Little Pigs	How did the granny feel without the birthday cake?	October	18	No	Pupils	-
E3	The Wizard of Wallaby Willows	Why did the bottle not make him feel better, but the spell did?	October	18	No	Pupils	Extract 2
E4	What is Naughty?	Why did they drop arrows on the neighbours?	November	17	No	Pupils	-
E6	The old field	Why did children not like the field any more?	November	17	No	Pupils	Extract 3
E8	The Six Suns	How did the boy shoot the reflections?	January	17	No	HJ	Extract 4
E10	Big waters nature reserve	Why do they want to make Big Waters disappear?	February	18	No	Pupils	Extract 5
E11	Jamil and the Clever Cat	Why did the princess love Jamil when he wasn't rich?	February	15	No	Pupils	-
E12	Frog and Toad	How old are Frog	March	19	No	Pupils	-

	Together	and Toad?					
	Stimulus focus	**Enquiry question**	**Month**	**Number of children present**	**Round held?**	**Question chosen by...**	**Analysed using CA methods**
E13	A Necklace of Raindrops	What would the Godfather say if he knew about it?	April	18	Yes	Pupils	-
E14	Catherine and the Lion	Was lion real?	April	18	Yes	Pupils	Extract 6
E15	Willy the Wimp	Why did Willy shrink when he bashed into a lamp post?	May	17	Yes	Pupils	-
E16	Willy and Hugh	Why were the other monkeys not nice to Willy?	May	18	Yes	Pupils	-
E18	Starlight	Why did Starlight change from a hobbyhorse into a real horse?	May	19	Yes	Pupils	-
E19	Danny the Champion of the World	Why did Danny and his dad not live in a house?	June	19	Yes	Pupils	Extract 7
E20	Where the Forest Meets the Sea	Will the jungle still be there?	June	18	Yes	Pupils	-
E21	The Fish Who Could Wish	How could the fish drive without legs?	July	18	Yes	Pupils	Extract 8

Appendix 2. **Categorised responses**

	E1	E2	E3	E4	E6	E8	E10	E11	E12	E13	E14	E15	E16	E18	E19	E20	E21	totals
Total of categorised responses	10	28	21	9	33	24	25	22	20	39	45	65	30	28	47	56	39	**541**
Reproductive responses	4	16	8	5	13	9	12	11	9	11	18	31	14	15	20	25	7	**228**
Tangential	0	0	0	0	5	0	0	0	0	0	0	2	0	1	1	0	0	**9**
Original	6	10	12	4	11	10	11	7	9	22	17	27	12	8	18	18	28	**230**
Reasoning	0	2	1	0	4	5	2	4	2	6	10	5	4	4	8	13	4	**74**
totals or Productive responses	6	12	13	4	20	15	13	11	11	28	27	34	16	13	27	31	32	**313**
responsive Reproductive	1	8	1	2	7	7	8	7	7	3	11	5	4	4	12	8	2	**97**
responsive Tangential responses	0	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	**3**
responsive Orginal responses	0	0	1	0	9	6	5	4	3	11	9	6	1	3	7	10	13	**88**
responsive Reasoning	0	1	0	0	2	4	0	2	1	3	4	2	1	0	5	7	3	**35**
totals of Responsive responses	1	9	2	2	20	17	13	13	11	17	24	14	6	7	24	25	18	**223**
totals of Responsive Productive responses	0	1	1	0	13	10	5	6	4	14	13	9	2	3	12	17	16	**126**
Procedural responses	0	0	0	0	2	0	2	0	0	2	0	2	0	0	0	2	1	**11**
Initiating responses	0	2	0	1	5	4	3	1	3	4	10	4	2	1	5	4	5	**54**
Speculative responses	1	5	4	0	10	8	2	3	4	7	9	2	2	6	12	3	4	**82**
Metacognitive responses	0	4	3	0	2	1	1	3	2	4	3	4	3	6	7	9	3	**55**
Agreements	1	8	0	2	10	5	7	9	6	2	14	4	3	2	7	3	1	**84**
Disagreements	0	0	4	0	10	7	4	1	3	4	7	10	2	1	11	11	6	**81**
Totals of Responsive Productive responses	1	9	2	2	18	17	13	13	11	17	22	13	6	7	24	25	18	**218**
Percentages of responsive responses	10	32	10	22	61	71	52	59	55	44	53	22	20	25	51	45	46	**41**
Percentages of Productive responses	60	43	62	44	61	63	52	50	55	72	60	52	53	46	57	55	82	**58**

Appendix 3. **Categorised responses made by individual pupil**

name	m/f	year group	Present	Total of responses	Reproductive responses	Percentage of Reproductive responses from total	Productive responses	Percentages of Productive responses from total	Tangential responses	Percentage of Tangential responses from total	Original responses	Percentage of Original responses from total	Reasoning responses	Percentage of Reasoning responses from total	responsive Reproductive responses	responsive tangential responses	responsive Original responses	responsive Reasoning responses	total of responsive responses	Percentage of Responsive responses from total	total of productive responsive responses	Procedural responses	Initiating responses	Speculative responses	Metacognitive responses	Agreements	Percentage of Agreements from total	Disagreements	Percentage of Disagreeements from total
Amy	f	2	17	48	25	52	23	48	0	0	23	48	0	0	14	0	8	0	22	46	8	4	1	3	6	14	29	6	13
Beth	f	2	17	31	11	35	20	65	0	0	17	55	3	10	7	0	12	2	21	68	14	1	6	6	8	9	29	11	35
Cath	f	1	17	31	9	29	22	71	0	0	18	58	4	13	5	0	3	2	10	32	5	1	4	11	0	5	16	2	6
Dan	m	2	15	37	7	19	30	81	0	0	19	51	11	30	3	0	7	7	17	46	14	3	4	7	2	2	5	8	22
Dean	m	1	16	22	9	41	13	59	4	18	8	36	1	5	3	0	2	0	5	23	2	0	4	3	4	2	9	2	9
Dee	f	2	10	1	1	100	0	0	0	0	0	0	0	0	1	0	0	0	1	100	0	0	0	0	0	0	0	0	0
Eric	m	2	17	33	16	48	17	52	0	0	11	33	6	18	4	0	6	5	15	45	11	1	4	2	5	6	18	4	12
Faye	f	2	16	46	25	54	21	46	0	0	15	33	6	13	11	0	6	3	20	43	9	0	6	10	1	10	22	6	13
Finn	m	2	17	79	25	32	54	68	0	0	38	48	16	20	7	0	15	6	28	35	21	0	8	15	8	4	5	13	16
Gemma	f	1	16	23	9	39	14	61	0	0	8	35	6	26	4	0	4	5	13	57	9	0	1	4	1	3	13	7	30
Karl	m	2	17	27	10	37	17	63	0	0	11	41	6	22	5	0	3	1	9	33	4	0	2	4	6	3	11	2	7
Keith	m	2	12	37	15	41	22	59	0	0	19	51	3	8	6	0	7	1	14	38	8	1	1	2	4	5	14	6	16
Ken	m	1	15	16	12	75	4	25	0	0	4	25	0	0	2	0	1	0	3	19	1	0	1	3	0	2	13	1	6
Liz	f	2	15	28	14	50	14	50	3	11	9	32	2	7	6	3	2	1	12	43	6	0	0	2	1	6	21	6	21
Mark	m	1	14	15	9	60	6	40	1	7	3	20	2	13	9	0	1	1	11	73	2	0	2	5	1	6	40	2	13
Neil	m	2	17	43	20	47	23	53	1	2	17	40	5	12	6	0	9	2	17	40	11	0	6	4	5	3	7	4	9
Sean	m	1	15	8	6	75	2	25	0	0	2	25	0	0	1	0	0	0	1	13	0	0	0	0	2	2	25	0	0
Sue	f	1	13	3	2	67	1	33	0	0	1	33	0	0	2	0	0	0	2	67	0	0	0	0	0	2	67	0	0
Tim	m	1	16	13	3	23	10	77	0	0	7	54	3	23	1	0	1	0	2	15	1	0	4	1	2	0	0	1	8
S **totals**				**541**	**228**	42	**313**	58	**9**	2	**230**	43	**74**	14	**97**	**3**	**87**	**36**	**223**	41	**126**	**11**	**54**	**82**	**56**	**84**	16	**81**	15

Appendix 4. **Sample transcript: E14: Catherine and the lion**

Parts of this transcript formed the basis for Extract 6 in the Analysis based on CA methods.

My facilitator turns are indicated by my initial H.

Where it was not possible to distinguish between individual pupils' voices, speakers are indicated by 'pupil' or 'pupils'

Inaudible speech is indicated by …

To exemplify how statements are connected, s*ome* of the linked statements, are indicated by: 

Key to colours used for response categories:

Tangential:	n.a.in this transcript
Reproductive:	orange
Original:	yellow
Reasoning:	blue
Responsive:	pink
Initiating:	purple
Procedural:	n.a in this transcript.
Speculative:	green
Metacognitive:	brown
Agree:	A
Disagree:	D

H: let's quickly look. Well I think …. Well most people have chosen this one, Was Lion real? but perhaps we can in our discussion also think about this one because lots of people are interested in that and I personally think that those two questions have quite a lot to do with each other. Is that right? Is that right Eric when you were asking why did he come to her house, is it a little bit to do with is he real or not at all? No, that's fine. OK who would like, I think that maybe it would be best to ask Cath first seeing that her question got most votes. Cath why do you think, do you think Lion was real?

Was Lion real, but we're going to do it in a round so do you think he was real Cath? You don't think he's real. You had to really think about that didn't you? Why did you have to think like that Cath? What were you thinking?

Cath: I think she may be imagining it or it might be a toy lion.

H: But you had to think for a long time Cath, is there anything that makes you think that perhaps he was a real lion?

Cath: Yes.

H: Yes there is, can you explain a little bit more?

Cath: Well he is talking…

H: OK, good, we've got some good reasons there already. Let's go round and just say whether you think he's real or not. And you might like to get back to Cath or anybody else as you say that. Say I agree with or I disagree with. Sue?

Sue: I agree with Cath.

H: So you think he was not real? Right. OK do you want to say why Sue? Mark?

Mark: I agree with Cath.

H: Why?

Mark: I just don't know

H: OK, Neil?

Pupil: Aw.

H: We'll come round.

Neil: I agree with Cath because I didn't really think he was real either. I think she was just dreaming him.

A

H: She was just dreaming.

Amy: Aw.

H: That's, if you thought so too isn't that nice that somebody agrees with you? We're not having a race Amy we're trying to find out what we all think aren't we? Right you think she might

have been dreaming it Neil we'll have to remember that because that would be an interesting thing to talk about. Dan?

Dan: I disagree with Cath because Lion might have been real because Lions are actually real… you hear of people at the zoo..

D

Neil: But Dan …

H: Dan's got the turn Neil.

H: Neil … can we all hear what Dan has to say? Do you think, do you think (Sean…) that,

Dan: The Lions at the zoo making friends with them

H: Finn? Beth we don't laugh at people.

Finn: I have got a few reasons why the lion isn't real.

H: Can we hear them all?

Finn: You can't find lions in this country.

Beth: You can.

D

H: Beth let Finn speak, Beth, when it's your turn you can say I disagree with Finn, just now it's Finn's turn.

Finn: You can't get…

H: We can't get them in this country.

Finn: and in the zoos it's impossible to escape.

Dan: she might have gone to a different country…

H: Dan, Dan if you want to say something like that can you put up your hand otherwise let Finn speak.

Finn A Lion would be killed and really just wouldn't go 'oh hello' and make friends with a little girl and stuff like that

H: You've got lots of reasons why he's not real. Dan?

Dan: I disagree with Finn because she might have moved to a different country where there ar lions. **D**

Finn: It didn't look like a different country **D**

H: Right Finn shall we finish our round because you've had your say, Dee do you agree? Dan, Dan, we'll have the discussion in a minute, you can say a bit more about that just now we want to hear what everybody thinks, Dee?

Dee: I agree with Neil.

H: Why?

Dee: Don't know.

H: You don't know, Beth?

Beth: I disagree with Neil because why would the, why would she be, **D**

H: Can you remind her what you said Neil.

Neil: I said she might have been dreaming.

H: Yes, and you disagree with that Beth, can you tell us why? What makes you think she's not dreaming?

Beth: Because how could she have been, erm…

H: Would anybody like to, Cath?

Cath I've forgotten

H you've forgotten what you wanted to say. If you remember it just put up your hand again. Liz?

Liz: I agree with Beth, because she said she remembered her lunchbox. **A**

H: But does that make you think she's not dreaming Liz?

Liz: Yes.

H: Right.

Beth: That's what I couldn't think to say. **A**

H: OK, right, Faye?

Faye: I disagree with Cath, the lion might have been real because you hear stories of lions and tigers that can talk **D**

H: That's interesting, so you say Faye because it's a story,

Pupils: ...

H: Karl, shush, remember we talk one at a time,

Pupils: ...

H: They can't come into our classroom. Faye said something really interesting there can we all think about what she said.

Pupils: ...

H: I'm waiting, this is holding us up Finn. A lot of people haven't had their say yet and I don't think that's fair. Now Faye said something very interesting she said it's a story and in stories anything can happen. Gemma?

Gemma: I agree with Neil because she might have been dreaming. **A**

H: What makes you think that Gemma?

Gemma: Because,

H: Is there anything that makes you think that you think she's dreaming?

Gemma: No.

H: You just think she may have been. Is it just because you think there's nothing that says she wasn't dreaming perhaps. Yes, it may be a possibility. Sean? Do you think the lion was real?

Sean: Yes.

H: You think it was real. We've heard lots of people say reasons why it wasn't real, what makes you think it's real?

Pupil: ….

H: No it's Sean's turn. You can keep hand down the round will come to you. Just now we want to go round. Sean?

Sean: Don't know.

H: You don't know. Tim was Lion real?

Tim: No, because it was a story and lions don't speak they just roar.

H: OK, good reason. Ken?

Ken: I don't agree with Neil.

D

H: What did Neil say again?

Ken: I agree with Cath.

A

H: But Neil said she may have been dreaming and Cath said that, Dean you're being silly, Cath,

Ken: He might not be real.

H: He might not be real. Do you think he wasn't real?

Ken: Yes.

H: What makes you think he wasn't real?

Ken: It's only in the story.

H: OK, Amy?

Amy: I agree with Finn because the lion couldn't have been her friend, he would have eaten her up!

A

H: So what bit, because Finn gave us I think three different reasons, what was the bit that you liked most about what he said?

Amy: Well if the lion went to the school he would eat all the children up and even the teachers

H: Finn used the word fierce didn't he I think. Right is that all you wanted to say for now Amy?

Amy: I want to say a bit more about the

H: About the,

Amy: Fierce bit.

H: The fierce bit, OK.

Amy: Finn was right about that lions are really fierce.

A

H: OK, Dean what do you think? Was Lion real? No, you're shaking your head. You don't think so. Can you tell us why?

Dean: Because lions couldn't escape from the zoo.

H: Because lions couldn't escape from a zoo.

Dean: or anywhere.

H: Right, or anywhere. No, Dan we'll come to that in a minute. We're nearly finished our round. Karl? Oh sorry Dean, Dean still would like to,

Dean: He couldn't really jump over the wall because it was high.

H: Right so he really couldn't escape from a zoo. Right, OK, Karl?

Karl: I agree with Faye. What did Faye say again?

H: Faye said,

Faye: I said he could have been real because it's a story and in stories anything can happen.

Karl: I agree with Faye because they could have been real because it was in a story. **A**

H: Right, OK.

Karl: because lions couldn't be friendly with – they are .fierce and they just eat people up

H: Right, so you're saying, is that the reason you think it was just real in the story Karl? Right, OK, Eric, last one and thank you for waiting.

Eric: I agree with Neil because the lion wouldn't have spoken in real **A**

H: Right, OK, well I've heard some really good ideas. I want you to think now about something that somebody else said that you would very much like to say something about. All right then, Finn? Neil this is the discussion listen carefully.

Finn: I agree with Neil it couldn't have been real because, it said, what was the girl again? **A**

H: Catherine.

Finn: It said Catherine woke up and saw the lion.

H: Right! Who would like to agree or disagree with Finn?

Faye: I agree with Finn because in the story it said Catherine woke up and she saw a lion, actually saw a lion. **A**

H: OK, Beth?

Beth: I agree with Finn it did say in the story that she woke up and she saw the lion. **A**

H: Right, I wonder if you could ever dream that you were waking up?

Pupil: Yes.

Pupil: No.

Pupil: I can.

H: Who would like to say something about that? Cath?

Cath: I once have dreamed that I was waking up because my dreams are always in the day and not in the night.

A

H: Your dreams are always, you mean the things that you dream about are always about things happening in the day. Beth?

Beth: I agree with …. that the little girl could have been sleep walking and

H: Right, what makes you think that Beth?

Beth: When the ….

H: Beth does that mean she was dreaming at all or does it mean that it was really happening if she was sleepwalking?

Beth: It means she was sleeping and she needed the toilet…

H: But if she was sleepwalking with the lion , Beth, did she sleepwalk all the way to school?

Pupil: .. she wouldn't know where she was going.

H: …. it would be hard to get to school. Beth I'm interested in knowing if she sleepwalked all the way to school was Lion walking with her when she was sleepwalking?

Beth: Yes.

H: So if that was true would that make Lion real or not Beth?

Beth: Well she might have been dreaming about the lion and in her sleepwalking.

H: Right, OK, Faye?

Faye: She could have had, she could have just, maybe Lion was real and she was sleepwalking with her eyes open while she was still sleepwalking.

H: Right, I am looking at my watch, and it is getting late. can we have Karl and Mark? Karl can you lock you idea in your head because Mark's had his hand up for a long time. Mark what did you want to say?

Mark: If she was sleepwalking how would she get dressed?

Beth: That's what I was thinking.

A

H: That's what you were thinking. It gets very complicated doesn't it? Can we have Karl' last idea?

Karl: She could have,

H: Shush, shush, listen to Karl.

Karl: She could have been sleepwalking with her eyes, her eyes were just like fainting a little bit and she was dreaming that when she saw Lion.

H: Oh I see and would that make Lion real or not Karl?

Karl: No.

H: Not real.

Karl: Because she thinks that, she's got a picture in her head of a lion.

H: OK we need to stop it there, just put your hands down. I'm sorry I can't hear you all. Listen I would really like to find out about this question. I've heard lots of good ideas about what may have been. Whether he was real, whether he was in the story. Whether she was sleeping or dreaming or imagining, or whether he was a lion and whether he'd escaped from a zoo or not. I want you to think, now have a think and I'm just giving you ten seconds to make your mind up was Lion real or not and I'm going to ask you yes or no. Have a think to yourself. Was he real, yes or no?

Pupil : No he wasn't real.

H: Eric I'm trying to do my thinking…. OK I'm going to ask you to put up your hand if you think Lion was real. Who thinks Lion was real? One, two, three, oh I'll start at Cath again, can you

be a bit quiet. Don't choose just because lots of other people are … choose it because you really think so for a good reason. One, two, three, four, five, six, seven, that's Cath, Sue, Mark's now put up his hand, oh Neil, Dan have you just changed your mind?

Pupil: No.

Pupil: No.

Pupil: I had it up before.

H: Right, Cath, Sue, Mark, Dan, Dee, Beth, Liz and Faye think he's real and Dean, you've changed your mind Dean I see, because you thought he wasn't real.

Finn: I think he's real. I don't think he's real.

H: Who doesn't know? Who doesn't know?

Pupil: I don't think he's real.

H: To be honest I think I don't know either.

Pupils: ...

H: Shush, hands down, shush, shush, we've just got a minute before the plenary. I've heard lots of good thinking, lots of good ideas, lots of good reasons and I've seen lots of people really listen to each other so very well done. Who would like to say anything about good thoughts that you've heard from somebody else? Or yourself? What did you think were really, really interesting thoughts that anybody came up with? We've talked about a lot of different things. Who do you think came up with something really interesting? Dee? Forgotten, you sure? Faye?

Faye: Karl.

H: Karl, what was it that Karl said?

Faye: When he said she might have been sleepwalking and she might have seen the lion in her head….

H: through her eyelashes eyelashes, just imagined it. Is that what you meant Karl? Right, Amy what did you think was really good?

Amy: I think that Karl was .. and I didn't have time to say that….

H: Let's listen to Amy, Beth, Dee.

Amy: After Karl said that … I tried doing that and when I tried it … with my eyelashes I could see a lion in the middle of the circle

H: Was there anybody else who wanted to say something about good thinking in the circle? Beth and Dee. Yes, last one then Karl.

J: I thought some of the …. were really really good

H: Right, well just to finish off let's see if we can close our eyelashes a bit like Karl did and Faye thought it was a good idea, and see if we can imagine a lion?

Pupils: A lion, a lion, .

Appendix 5. **Key to transcript conventions used**

The following glossary of transcript symbols used in these transcripts is based on Ten Have's transcription conventions (2007: 215, 216), which he describes as 'the major conventions for rendering details of the vocal production of utterances in talk-in-interaction as these are used in most current CA publications'.

Sequencing

[indicates the point of overlap onset

= indicates no 'gap' between the two lines

Timed intervals

(0) indicates elapsed time in silence by seconds

(.) indicates a tiny 'gap' within or between utterances

<u>word</u> indicates some form of stress

: indicates prolongation of the immediately prior sound

- indicates a cut-off

.,??, indicate characteristics of speech production, especially intonation.

. indicates a stopping fall in tone

, indicates a continuing intonation, like when reading from a list

? indicates a rising intonation

↑or ↓ indicate marked shift into higher or lower pitch in the utterance part immediately following the arrow

WORD upper case indicates especially loud sounds relative to the surrounding talk

° utterance bracketed by degree signs are relatively quieter than the surrounding talk

< > right/left carets bracketing an utterance indicate speeding up

.hhh a dot-prefixed row of *h*s indicates an inbreath. Without the dot, the *h*s indicate an outbreath

w(h)ord a parenthesised h or a row of hs within a word indicate breathiness as in laugher, crying etc.

Transcriber's doubts and comments

( ) empty parentheses indicate the transcriber's inability to hear what was said.

(word) parenthesised words are especially dubious hearings or speaker identifications

(( )) double parentheses contain transcriber's descriptions rather than, or in addition to, transcriptions.

Appendix 6. **End of Key-Stage 2 SATs results for the Year 2 pupils**

Name	**Reading Test**	**Writing Task**	**Maths Test**
Eric	2C	2C	2A
Beth	2B	2B	2A
Liz	2B	2B	2A
Karl	2A	2B	2B
Dee	2B	2B	2B
Dan	2A	2B	2A
Neil	3	2B	3
Faye	3	2B	2A
Keith	3	2A	3
Amy	3	2A	3
Finn	3[39]	3	3

[39] No Level 4 tests were undertaken, but Teacher Assessment showed that Finn's attainment in reading was approaching Level 4.

Appendix 7. **Results from the Torrance Test of Creative Thinking**

	standard score Figural Form A	standard score Figural Form B	change A-B	average
Tim	78.0	90	12.0	84.0
Dean	57.0	71	14.0	64.0
Sean	90.0	91	1.0	90.5
Ken	74.0		n.a.	74.0
Sue	76.0	78	2.0	77.0
Mark	72.0	90	18.0	81.0
Gemma	125.0	119	-6.0	122.0
Cath	94.0	117	23.0	105.5
Finn	80.0	100	20.0	90.0
Dee		91	n.a.	91.0
Beth	98.0	99	1.0	98.5
Keith	83.0	89	6.0	86.0
Eric	86.0	94	8.0	90.0
Liz	96.0	114	18.0	105.0
Karl	89.0	93	4.0	91.0
Neil	79.0	104	25.0	91.5
Dan	97.0	84	-13.0	90.5
Amy	85.0	106	21.0	95.5
Faye	89.0	95	6.0	92.0
Class Average	86.7	91.1	9.4	91.4[40]
Y1 average	84.6	93.7	9.1	89.1[41]
Y2 average	88.2	97.8	9.6	93[42]

[40] Excluding Ken and Dee

[41] Excluding Ken

[42] Excluding Dee

i