

Being clouds, pulling teeth and using their  
breadloaves: A multimodal micro-analysis  
of instantiations of child-to-child  
interaction in classroom contexts.

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## Abstract

This study examines the ways in which children communicate and collaborate with one another whilst working on curriculum tasks in an educational setting. It uses an approach to methodology founded on Linguistic Anthropology and Linguistic Ethnography and informed by a social-semiotic theory of communication, drawing upon field notes and video-recorded data from a class of nine and ten year olds at a Sheffield primary school. A framework informed by sociolinguistic theory and multimodal analyses of communication has been devised to analyse the data in such a way that the many and varied modes of meaning-making employed by the children are considered. The purpose of the study is to gain a deeper understanding of the ways in which children creatively employ semiotic resources in their face-to-face spontaneous interactions. The main findings of the study are that modes of meaning-making are integral to the communicative activity and work in coordination with each other. Features which have been noted in linguistic studies of interaction can be seen in this multimodal study and could be classed as features of multimodal communication rather than linguistic features. In addition, child-to-child classroom meaning-making is intersubjective and collaborative. Knowledge can be presented through any chosen mode and can be developed collaboratively through multiple modes. The study has implications for pedagogy in that educationalists need to be aware of the multimodal nature of children's interactions, recognise the value of the semiotic work of pupils and ensure opportunities for meaning-making using multiple modes are planned for. The implications for future research are that methodological approaches need to take account of the use of all modes in interactions in order to gain a thicker description of what is taking place than could be achieved with a language-dominant approach.

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*This study is dedicated to the memory of Martyn Clapson (1961-2009). A teacher, scholar, friend, artist, musician, fisherman, husband, father and the sharpest wit of anyone I know - he was a very multimodal man.*

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## **Chapter 1 Introduction**

Social research concerns itself with achieving a deeper understanding of the lives lived by humans and the interaction that takes place in the social spheres we inhabit. As language has traditionally been the most dominant mode of communication throughout history, this has provided researchers with a rich vein to mine. Initially this has meant studying language in its written form. For example, for the historical social researcher the Classical heritage of much Western philosophy and literature is available for re-examination over and over through written texts in Latin and Greek preserved through time. Public and private letters and documents have passed down through history in written form for us to peruse and mull over. The immediacy of face-to-face contact has been less easy to examine. Spoken exchanges are fleeting, momentary and vanish into the ether as soon as they are realised. Whilst written documents can tell us of outcomes (such as decisions on law or official policy, knowledge presented in an essay written as part of a public examination, or personal reflection upon a situation) the journey that is taken to achieve those outcomes is often through the medium of spoken language in face-to-face interaction. The learning that takes place in our society is similarly a journey. Spoken interaction plays a significant part of the learning process. As technology has advanced to enable the study of face-to-face interaction, the interest has evolved. Initially the audio-tape recorder facilitated detailed studies of the nature of spoken discourse which has changed perceptions of the nature of spoken language and understandings of how spoken and written language grammatically works. The availability of digital video recording has further advanced study of face-to-face interaction. Theories which enable our understandings of what is around us have similarly evolved (and are still evolving) and alongside linguistic theories which encompassed the importance of context in language have arisen semiotic theories of communication.

The multimodality of our communicative practices is a twenty first century concept although the many and varied ways in which humans interact has been a site of interest for researchers into social life for much longer than that. By 'multimodal' I refer to the many modes of meaning-making available to us including language and non-verbal modes such as gaze and posture. Educational research to date has largely

concerned itself with what examination of children's use of language can tell us about the ways in which they are learning and making meaning. This study aims to examine what multimodal perspectives can add to our knowledge of the ways in which children interact. It acknowledges and builds upon previous research into spoken language and other modes of communication and it embraces new ideas on the multimodality of children's interaction in the post modern world.

The subject of this work is broadly an investigation into children's multimodal communicative practices in educational settings. The purpose of this study is to discover what might be uncovered about the nature of children's meaning-making by conducting a multimodal analysis of classroom conversation and a discussion of how an understanding of this can help teachers' pedagogic practices. The aim of this research is to develop a framework for the analysis of children's communication which includes all modes of meaning-making and thus to achieve a thicker description of what is taking place between children in conversation than a mono-modal or language dominant analysis could offer. The research questions are concerned with gaining a broader insight into children's communicative practices and their links to literacy and language development in school settings but not necessarily constrained within notions of the literacy curriculum. The research questions are also interested in understandings of creativity in children's meaning making and how creativity is manifested through all semiotic resources employed by the children in face-to-face interaction. Understandings of the term 'creativity' and how it is defined and used in literature and in this thesis is discussed in detail in Chapter Two. Broadly, I wish to uncover what multimodal analysis can tell us about children's classroom communication and how an understanding of this can help teachers develop pedagogic practice.

## **1.1 The Research Context**

### **1.1.1: Field**

Educational research into children's classroom communicative practices has largely centred on linguistic modes (Maybin, 1996, Mercer, 1995, Alexander, 2000, Mercer, 1995, 2000). From the beginning of the century, following publication of Kress and

Van Leeuwen's 'Multimodal Discourse' (2001), there have been studies of teacher-pupil classroom communication including other modes of meaning-making such as gaze and posture in addition to language (Jewitt and Kress, 2003, Flewitt 2005, 2006). My study will focus on pupil-to-pupil communication.

Prior to starting this doctoral study I undertook a pilot study as part of a Master's degree in Education Research. I started my Master's dissertation with an interest in children's talk and investigated discourse analysis and multimodal analysis as research tools for examining children's communicative classroom practices. The findings of that initial study were that children's meaning-making is multimodal as evidenced by instances of communication through modes such as posture, gaze, body contact and drawing (Taylor, 2006). This study is intended to develop this work further and in more depth.

### **1.1.2: Location**

This study is located in time and place in an early twenty-first century primary school in the north of England in the city of Sheffield. With that location comes a history of policy and pedagogic practice shared with many primary schools across the England and Wales. The 1988 Education Reform Act introduced a standardised curriculum, the National Curriculum, which could be assessed in a way which facilitated comparison across schools and education authorities. This curriculum was criticised for not taking sufficient account of oracy in its prescription of what was to be included in children's education and, where it was included, of subordinating its role to that of reading and writing (Haworth, 2001). The National Curriculum was superseded by the Primary National Strategy in 2003 whereby oracy became conceptualised as a functional competence by the document 'Speaking, Listening, Learning' (DfES, 2003) so that pupils needed to be equipped with the skills of 'speaking and listening' in order to meet the requirements of society. This competence could be subject to assessment with corresponding high and low levels of competence (Latham, 2006). In addition to the curriculum content, advice has been given through these national strategies regarding the pedagogic practice to be adopted in the classroom with a focus on 'high quality oral work' (DfES, 1998:8) that is oracy in whole class teaching with an emphasis on fast-paced, teacher-led interactions. As Haworth comments, this could be viewed as 'the teacher is the controller of the spoken word: the learners remain in the

shadows' (2001:14). Today the place of child-to-child interaction in the classroom seems a contested area with uncertainty surrounding its place, value or function. There seems to be no clear idea of the place of children's interaction within pedagogic practice. Is it a pre-cursor to writing? Or a dress rehearsal for putting ideas on paper? The 'Talk for Writing' document suggests this is the case (DCFS, 2008). Or is it intrinsically for the development of the skills of face-to-face communication per se as Latham would suggest (Latham, 2006)? Is it to enable or 'enhance thinking and learning' (DES, 2006:21) or is it the underlying key factor in the development of literacy as well as central feature of any successful teaching and learning? (DES 2006:21). The Primary Framework for Literacy (2006) sees speaking and listening as encompassing all four of these issues. Are the skills of communicating something to be taught or are they children's ever-evolving and developing tools for thought and meaning-making? This researcher is concerned that we do not know enough about what is actually taking place in terms of meaning-making in child-to-child interaction to be able to put it in a 'place'. It has been shown so far in research that children use a wide variety of modalities in face-to-face interaction (Flewitt, 2005, 2006; Taylor, 2006) and this research project will contribute additional information to this discussion. When we know more about what is happening in children's interactions this will be able to inform pedagogic practice in our classrooms.

### **1.1.3 Researcher**

I am a 47 year old lecturer and I have been a teacher all my working life. My initial teacher training at the Institute of Education in London saw the seeds of interest in the relationships between thought, talk, and learning germinate. I was fortunate to be taught by Margaret Meek (1988, 1991) on a Literacy course and carried lessons learnt there on the importance of motivation and interest to reading and writing into a first career as teacher of English as a Foreign language in Spain and then English as a Second Language in London. Further training as an EAL teacher as well as formative experiences teaching History and Literacy in London comprehensives saw my career evolve with a dual interest in language as a vital skill for making a way in the world, and in language as the primary mode for thinking and learning in the secondary classroom. With my own children and a role as a school governor came an interest in primary age children and their ways of meaning-making. It seemed a period of turbulence for children, parents and teachers with advice on curriculum matters,

guidance on teaching and a frequently changing National Curriculum to negotiate. My close investigation of children's classroom communication began on a Master's degree course at the University of Sheffield where I undertook a pilot study to consider discourse analysis and multimodal analysis as tools for researching children's face-to-face interactions. This study revealed to me the rich and varied modalities employed by children in their spontaneous conversation and highlighted the importance for me of taking account of all modes when conducting a study of face-to-face interaction such as this.

## **1.2 Research Questions**

This research is concerned with multimodal communication, learning and socialisation. My research interests have developed from my initial study and I have identified a two-fold focus for my research questions, namely children's classroom communication and research methodology. I will discuss these questions further in the methodology section but briefly state them here.

My questions to do with classroom communication are -

- What do modes other than language contribute to the communicative process?
- Is there evidence that children can construct and present knowledge and understanding through multiple modes?
- What kind of additional information can multimodal analysis offer our understanding of creativity in children's communicative practices?

And to do with research methodology are -

- How can multimodal analysis be best used to inform the study of classroom communication?
- To what degree do educational researchers need to take account of extra-linguistic contextual factors?
- How best should researchers decide what modes and aspects of modes to include in multimodal analysis of children's classroom communication?

### **1.3 Theoretical Basis**

I would like to introduce this research by briefly outlining the theoretical basis for this research and the methodological position behind the research design. The theoretical foci for this work can be defined as

- Social semiotic understandings of language
- Multimodality
- Pedagogy
- Creativity

This study is underpinned by a social semiotic understanding of the nature of language and communicative practices (Halliday, 1994). That is to say it regards communication as being realised through the exchange of signs. In some contexts the chief resource available to us is language, in both written and spoken forms, but other modes of meaning-making such as art, architecture, music, and design, as well as bodily forms such as dance, facial expression and gesture, are all powerful ways in which we communicate ideas and emotions. Furthermore these signs do not operate in isolation but are frequently enmeshed, for example, music and lyrics, the design of a shopping mall and the piped music therein, the intonation and gaze of a teacher addressing a class. The study is concerned with the emergent interest in the multimodal nature of communication as described by Kress and Van Leeuwen (2001). The connections between talk and learning (Vygotsky, 1986; Barnes, 1976), the implications of the language-based theory of learning (Halliday, 1987) and the notion of the guided construction of knowledge (Mercer, 1995) form the basis for the consideration of the implications of this research for pedagogic practice. The notion of ‘creativity in common talk’ as outlined by Carter (2004) is also considered from a multimodal perspective as part of the analysis of children’s communicative practices.

### **1.4 Methodological Approach**

The methodology for this research is based on a qualitative approach to social research. As identified by Cresswell, (1998:2) it is an approach grounded in a tradition of inquiry associated with qualitative methodology, ethnographic research. This research is based upon naturally occurring data from an everyday setting, a classroom, which is an example of everyday classroom practices. It is also a qualitative study in

its research design from the conceptualization of the questions, concerning children's communication, to the approach to data gathering, the kind of data, video recorded data, audio recordings and observation notes, and the analytical processes. I have worked as a classroom helper and researcher with the class of year 5 pupils that I first conducted research with in year 2. I worked with the class in a South Yorkshire city primary school over a period of four months filming child-to-child spontaneous interactions wherever and whenever possible. The video data consists of instances of discrete episodes of communication. The multimodal data is very rich and one 20 minute conversation can provide very detailed data for analysis. Extended instances of communication are not workable given the richness of the data. However, field notes are vital in contextualising the specific instances under examination.

I have close connections with the school not just as a researcher but also as a parent of a pupil and former pupils and as a governor and chair of the governing body. My relationship with the school will be discussed in further detail in this thesis. A full discussion of the ethical implications for this method of data gathering is included in this thesis. Broadly the approach will be based on Linguistic Ethnography as proposed by Maybin (2007). The framework for the analysis has been developed from an initial study conducted as part of my MA Education Research and is based on analysis of discourse exemplified by sociolinguists such as Tannen, 1989, Gee (1999) and Cameron (2001) and a multimodal analysis primarily informed by Jewitt (2003) and Norris (2001).

## **1.5 Scope of Research**

The research project included four months observing children's daily interactions in a year five mixed-sex primary school class. The researcher is very familiar with the school with a relationship spanning 12 years as a parent of pupils, school governor, helper and researcher. I conducted an initial study of discourse analysis and multimodal analysis as research tools for investigating classroom communication (Taylor, 2006) with this class 3 years previously when the pupils were in year two and so a particular relationship with this cohort of children has developed.

A broad aim of this research is to uncover *what is there* in children's meaning-



making. My questions are to do with finding an appropriate methodological approach for gaining insight into children's spontaneous interactions and into discovering more about the nature of children's classroom communicative practices. This study does not have an interest in the assessment of either children's communicative competence nor the pedagogic practices of teachers or teaching assistants. Both boys and girls are included in the research project but there are no questions regarding gender differences as this would require another study in its own right. The research project is not about testing-out hypotheses, nor about assessing the school curriculum. It aims to contribute some insights into the ways in which children are making meaning with one another in class.

## **1.6 Overview of Chapters**

This thesis is presented in seven chapters of which this introduction is the first. In this section I have introduced myself and the research project. I have set out the broad aims of this project, outlined the context in terms of educational research and in terms of the actual setting for the study and presented an overview of the main theoretical bases for the study and its design, and terms to be used.

In chapter two I set out the five strands of literature relating to this project and critically review research to date in this area. Some background is given to the theory of social semiotic communication and to the socio-linguistic origins of this perspective. The wide range of literature investigating the relationship between talk and learning and more recent multimodal studies of classroom interaction are reviewed. Conceptualisations of creativity and the notion of creativity in common talk are explored and recent studies of multimodal creativity are considered. The absence of studies of multimodal communicative practices in child-to-child interactions in classroom settings is established.

Chapter three explores the philosophical and methodological bases for the research design. It outlines the choice of an ethnographic approach and explains the location of the methodology of the study as encompassing elements of Linguistic Anthropology, Linguistic Ethnography, Discourse Analysis and Social Semiotics. This chapter discusses the research context in more detail. It includes consideration of researcher positionality, the sampling process and ethical considerations of access and consent

and the management of film data.

The fourth chapter explains the management of data, specifically the approach to the analysis of data and the purpose and method of transcription. The issues of the theoretical perspectives of interpretation and representation located therein are discussed. Finally I set out in this chapter the framework used for analysis and the procedure used in analysing the data.

Chapter five gives an account of the wider data set to contextualise the micro-analysis of specific instantiations of meaning-making. This includes details on the organisation of the school day in the research setting, a table detailing the observations and recordings made during the four month data collection period and highlighting where the episodes used for analysis are placed, a discussion of interactional frames in relation to the data set, an introduction to the episodes and extracts used for analysis, discussion of the Ideational and Interpersonal aspects to the episodes and detailed discussion of the specific contexts and communicative Interpersonal and Ideational features (Halliday, 1994) of each individual episode.

Chapter six presents the interpretation of the micro-analysis of instantiations of children's classroom interaction. Then it presents the key Textual features (Halliday, 1994) of the data in two sections, those to do with cohesion such as repetition, omission and intertextual referencing, and then those to do with coherence such as context of culture, genre and context of situation.

The findings of this project are outlined in chapter seven together with reflection upon the research aims, questions and researcher positionality. The implications of these findings for future educational research as well as for the field of pedagogy are discussed and final thoughts on the project are offered.

# Chapter 2 Literature Review

## 2.1 Introduction

There are five interlinking strands of interest in this research. The first two are concerned with communication. The first is a social semiotic approach to understandings of grammar (Halliday, 1994); the second is the emergent interest in multimodal communication (Norris 2004, Kress and Van Leeuwen 2001), that is the employment of a range of communicative modes including, but not focussing on, language. The third and fourth strands are concerned with the links to pedagogy. The connections between talk and learning have consistently been a site of interest for educational researchers (Cazden, 1972; Barnes 1976; Barnes and Todd, 1995; Heath, 1983; Norman 1992; Mercer, 1995, 2000; Maybin, 2006) and in recent years this has been extended to include multimodal analyses of interaction in educational settings (Franks and Jewitt, 2001; Jewitt and Kress 2003; Bourne and Jewitt, 2003; Flewitt, 2005, 2006). The fifth strand in this research is the theory of creativity in common talk (Carter, 2004) and the development of research questions which ask how that may be realized multimodally. I shall discuss each of these in this order.

The purpose of this literature review is to connect the focus of this research, an examination of what multimodal analysis can reveal of child-to-child interaction, to the theories of communication, creativity and links to pedagogy which underpin this research. This review gives a historical perspective to the theoretical approach with a brief account of the development of sociolinguistics as a field and an outline of those areas of sociolinguistics which have particular relevance for this study. It also gives critical perspectives on the emergence of multimodal approaches to investigation in education settings made possible through technological advances. It presents and critiques some studies of children's classroom interaction to date and locates this research next to both **multimodal** studies of **teacher-to-pupil** interaction and **linguistic** analyses of **child-to-child** interaction in educational settings. By presenting a multimodal perspective on child-to-child interaction, this study aims to offer a thicker description and new evidence in this field.

### **2.1.1 Social Semiotic Theory of Communication and Multimodality**

I begin by giving some historical and theoretical background to a social semiotic perspective on communication for two reasons. Firstly, my interest in children's communication began with my background as a teacher of English as a second language and my understanding of communicative competence and the situated nature of communication as being fundamental to acquisition of language. These key concepts in meaning-making have their roots in sociolinguistic theories on interaction, which is why I include them here. Secondly, social semiotic theory on communication and the emergence of multimodal analysis as a tool for investigating communication evolved from these perspectives and thus I feel they are important to this study.

Jewitt (2010) has identified three approaches within multimodality, namely social semiotic multimodality, drawing on the theoretical perspectives of Kress and Van Leeuwen (2001) and Kress (2010), multimodal discourse analysis (O'Halloran 2004, 2005) founded on the principles of systemic functional analysis (Halliday, 1985) and multimodal interactional analysis which draws upon interactional sociolinguistics (Tannen, 1989) and mediated discourse analysis (Scollon and Scollon, 2005, 2003).

This study draws upon all three perspectives: multimodal interactional analysis informs its interest in spontaneous interaction; the systemic functional perspective of multimodal discourse analysis is incorporated in the design of the framework for analysis which focuses on the Ideational, Interpersonal and Textual aspects to interaction and the social semiotic theory of communication as described by Kress (2010) informs this study with its interest in the motivated sign and social context. Jewitt is clear that the distinctions between these perspectives are not meant to be exclusive but 'provide useful opportunities to cross and transgress, to rethink and to collaborate across' (Jewitt, 2010:29).

### **2.1.2 Sociolinguistic Theories of Communication**

The field of sociolinguistics emerged as a reaction to an applied linguistic focus on grammar based views of language. That is to say that sociolinguistic theory views the meaning of language as 'situated' in the context in which it arises and, rather than a one-to-one relationship between a word and its meaning, the meaning is relayed through the interpersonal relationships of the users. In this section I wish to demonstrate how concerns with context of situation and context of culture, functionality of semiotic resources and pragmatics, appropriacy, genre and diversity

usually associated with sociolinguistic theories of communication have direct relevance to this study of multimodal communication.

Firth (1934, in de Beaugrande, 1991:200) advocated studying language within the ‘processes and patterns of life ....and experience’ in which it occurs, in other words, the **context of situation** (Malinowski: 1923, 1935). This involves studying language in use in the social situations in which it actually takes place rather than hypothesizing from abstract examples which the linguist has supplied, an approach taken by applied linguists such as Chomsky (1965). Furthermore, Firth advised that the **context of culture** should be taken into account when referring to the generic frameworks at play in social situations. So, for example, a personal exchange between a doctor and patient would be framed by the culture in which that exchange takes place. The words and conversational structure through which the exchange is negotiated are partially predetermined by the context of culture. (Is the doctor respected or even revered in that culture? Is medical treatment a right? A commodity? Or a privilege?) These notions of context of situation and context of culture are further expounded by Halliday (1985) in his systemic functional approach to linguistics and Gee’s (1999) approach to discourse analysis, which I shall come to shortly. Firth is concerned with two further aspects of language in use of interest to this study, **functions** of speech acts, that is **what** we do with language, and **collocation**, that is **how** we use words and the prosodic placement of words together in ways that are used by the community of speakers. These are two aspects of spoken language considered multimodally which are included in the framework for micro-analysis of episodes I devised (Appendix 3, Example Commentary) which is discussed in more detail in chapter 4. Here I wish to explore more fully the functional perspectives on language use and how these relate to this study.

Firstly, it needs to be acknowledged that a functional view of language is not an entirely new one: Thomas Reid in 1788 (2000) used the term ‘**social act**’ to describe the way in which humans use language, gesture and actions in ‘dialogue’ with others. He conceived the social act as arising from and embedded in the social context of the instance in which it occurs. This corresponds with Hymes’ (1972) notion of ‘speech situations’ that is the **occasion** for the interaction, and is resonant of Austin’s speech acts (1962) that is what we **do** with language. This area of Pragmatics is of relevance

to this study because of the interest in what children **do** with modes of communication and an acknowledgement that communication is not simply about what you wish to communicate but also about how what you say, or mean, is interpreted or received. That is, Austin's (1962) pragmatic notions of *locution*, what you say, *illocution*, what is intended by what is said and *perlocution*, how that is received (Austin, 1963) can be applied to all modes that the children are employing. An example of this could be the gesture of passing a pencil. This could be a response to a request, a thoughtful anticipation of need, a command to write, or an incitement to poke another child (I have witnessed all of the above). I have found Halliday's (1978) notion of language as one of a number of semiotic resources useful in conceptualizing how what is known, or believed, about the way that language is used to make meaning can be employed to make sense of the deployment of other semiotic resources. It is from this position that I am able to understand, for example, the pragmatic functions of modes other than language.

I wish to examine here Halliday's (1978; 1985) view of communication in more detail and consider how it relates to this study. The approach developed by Halliday (1985) is focused on the contextual and personal needs of the language user and the resource, or grammar, available to them. The language used fulfils functions at macro and micro-levels. It fulfils functions in terms of social context, that is register and genre, for example the discursal structures of the political speech or university lecture. Every utterance we make is fashioned by the location and constraints of its position in terms of genre, that is the dynamic structure of potential elements and constraints in specific communicative contexts. The language of a conversation in the pub is generically different to the language used in a classroom in terms of structure, lexicogrammar and medium. It also fulfils functions in terms of ideational, interpersonal and textual factors (by these terms I refer to how a text realizes what is happening, the relationships between the co-participants and the coherence within that text). These factors form the basis for the framework used for micro-analysis (see Appendix 3). Also the lexical grammatical choice, cohesion and modality are used to realize functions in communication with another person. The focus here is on actual language used in actual situations rather than idealized notions of what a typical utterance in a particular situation may look like.

Halliday's (1985) systemic description of English grammar provides this study with the basis for the framework for analysis. The analysis of textual features of the children's interactions (see Appendix 3) include examination of ways in which cohesion is achieved, through lexis such as collocation, metaphorical devices, repetition, reference, through conjunction, and ellipsis and substitution. The children's words, as with their use of all modes, are carefully, if instantly and instinctively, chosen. It is important to note that they do not simply learn the meanings of words, what each word denotes (Hymes, 1972) or how to apply those words in a grammatically competent way, they also learn what semiotic resources are appropriate to the situation they are in. (Hymes termed this 'communicative competence' as an alternative to the Chomskian notions of 'linguistic competence' and 'linguistic performance'). Their understandings of what is appropriate will be directed by their understandings of the contexts which they inhabit: home, school, sports clubs, friends' houses, digital worlds. Their use of all modes will be both diverse and also coherent. By that I mean that they draw upon resources available to them and make choices according to their enculturation into what Hymes (1972:60) refers to as 'communicative conduct and social life'. Each individual and each community has a 'repertoire' which it may draw upon in any given interaction. Sociolinguists here are talking about language use, but I believe this can be extended to include all semiotic resources and the interplay between them. We may, or may not be encultured into whispering in a library, washing hands before entering a mosque or temple, shaking hands or kissing upon introduction to someone new, or standing when a teacher enters a classroom. Cameron (2001:15) makes the point that 'within any community there is a finite range of things it is conventional or intelligible to say about any given concern'; we could also say, referring to school environments, there are appropriate ways to behave, conventions concerning pictorial representations, ways of setting out maths problems- that is appropriate and cultural conventions also apply to all semiotic resources. We need to pay attention to what is considered appropriate as Cameron warns:

A voice that is wholly individual runs the risk of being incomprehensible.

Cameron, 2001:15

She makes the point that the use of language is *intersubjective*, that is operating *between* people, rather than wholly subjective where I can mean something which only means that thing to me. Hymes similarly hypothesizes that a child may have the ability to ‘produce and understand any and all of the grammatical sentences of a language’ and warns:

Consider now a child with just that ability. A child who might produce any sentence whatever- such a child would be likely to be institutionalized.

Hymes, 1972: 60

He makes the point that it is not always appropriate to speak grammatically perfectly and accurately in every situation. ‘Appropriately’ does not always equate with ‘correctly’, then. Children know this. The differences in language and behaviour used by children when speaking amongst themselves, in say, a playground situation, compared to their choice of language and behaviour with adults such as teachers and classroom assistants exemplifies this. (I discuss register in more detail below). Halliday (1978, 1985) following on from Firth, emphasized the importance of context, both context of situation and context of culture. This was a major contribution to linguistic understanding which further seminal work has developed (Carter, 2004; Gee, 1999; Fairclough, 1996). The ability to know what is appropriate to a given ‘speech situation’ (Hymes, 1972) is also reliant upon an understanding of conventions in that situation or culture, which Bakhtin termed ‘**speech genres**’ (1986 in 1999). He argues that just as written language has generic qualities, so too does spoken interaction. These speech genres are historically located and shaped through time. Language choices are made based on an historical legacy of utterances and the modifications made through time and, in each epoch, the language in social situations develops in a particular way (Bakhtin, 1999:123). I believe the same here could be applied to non verbal communicative acts. (An example of a gesture located in this particular epoch is included in the analysis Chapter 6). Any speaker will select or choose a particular speech genre and that choice is:

determined by the specific nature of the given sphere of speech communication, semantic (thematic) considerations, the concrete situation of the speech communication, the personal composition of its participants, and so on.

Bakhtin, 1999:126



The language behaviour of the children in this study could be said to be determined by the 21<sup>st</sup> century Sheffield Primary School environment, the requirements of the National Curriculum, the specific interpersonal relationships and ideational content. From Bakhtin's perspective children do not learn their native language from dictionaries and grammars but from what they hear and what they reproduce 'in live speech communication with people around us' (1999:127) and it is that *live* experience which shapes their understanding of speech genres. It is the emphasis on the relationships and participation in speech construction which is integral to this study. Children's language use is shaped by their interplay with others around them and the same could be applied to non-verbal modes of communication. We cannot learn to communicate in isolation; it is a community based act.

The forms of language and the typical forms of utterances, that is speech genres, enter our experience and our consciousness together, and in close connection with one another.

Bakhtin, 1999: 127

The importance of social interaction in children's learning is a theme I explore more fully in 2.2. The sociolinguistic perspective on the 'social' nature of language and meaning-making is the important point here. In Hallidayan terms, genre is a representation of the context of culture and the way that language is used to 'achieve culturally recognized goals' (Eggins, 1994: 49).

One final sociolinguistic view that is relevant to this study is that of language variation and language diversity. Following Halliday (1978, 1985) the context of situation is realised through **register**. In its simplest terms register is the variety of language used in any given situation. An example of this might be the different ways one might realise a greeting with an acquaintance, a business associate, a family member, a child or a close friend. Hymes (1972) is adamant that Chomsky's (1965) view of the ideal speaker does not take account of the diversity in language usage; it is seen as a problem:

If one analyses the language of a community as if it should be homogenous, its diversity trips one up around the edges. If one starts with analysis of the diversity, one can isolate the homogeneity that is truly there.

Hymes, 1972:59

This view is concerned with firstly looking specifically with how language is used and then considering what can be said about grammatical systems for analysing and conceptualising semantics. It foregrounds actual language use. Its concern with the diverse nature of language use is what connects this view to this study. It is a question of perspective: whether one starts with the grammar and then considers what can be said about language use, or whether one starts, as Bakhtin advocates, with the infinite ways language is used and from that conceptualises grammar. It is the focus on examining language as it is used that is important here. This study looks at how communication is achieved in specific situations first, rather than setting out with an idealised version of how children interact using the variety of semiotic resources available to them. The focus for this study is the way in which the children interact with one another and this requires an understanding of the differences in register which may be appropriate in their communicative acts. Their use of informal register, together with dialect and accent appropriate to their situation gives the children their individual voice. To what extent their informalities are guarded or modified by the school environment and requirements of the curriculum is not a specific focus for this study but an understanding of this needs to be included.

In summary the impact of sociolinguistic views on language can be presented as three broad areas of relevance to this study of multimodal meaning-making.

Firstly, language derives its meaning from its *situatedness* and its use needs to be appropriate to the context of culture and situation. Secondly, speech has generic qualities which need to be taken into account. Thirdly, meaning is co-constructed, intersubjective and achieved as a social act. All of these broad areas can usefully be applied to all semiotic resources, not just language and it is the social semiotic theory of communication to which I now turn my attention.

### **2.1.3 Social Semiotics**

Halliday's (1978: 192) conceptualisation of language as a *semiotic resource for making meaning* opened the way for a different approach to understanding communicative acts between people. This approach drew upon the Saussurean notion of signs in meaning-making. In De Saussure's (1974 (1916)) understanding of communication the sign represented the amalgamation of the signifier, for example the colour red, and the signified, the meaning 'Stop!' By being born into a culture we

learn what each sign means. Our signs are a social construction; that is they are made and used by people within their communities and cultures. We are continually re-defining and re-working our signs, (similar to the view of language proposed by Bakhtin, (2.1.1). As part of that process, it could be argued, Halliday (1978) reworked the concept of grammar from a set of rules or code predetermined historically and culturally, to a resource for making meaning. This changes its status from passive, something imposed on one, to active, something which we can use. The implications of this post-modern emancipatory reclamation of language from the dictates of a grammar text book to within the scope and power of the user is of interest although beyond the scope of this study. The shift from 'sign', which suggests a fixed meaning, to 'resource' is in line with the sociolinguistic views of language and meaning proposed by Bakhtin and discussed in the previous chapter whereby the meaning is not pre-ordained or separate from its context.

From Halliday's initial consideration of language, other theorists (Hodge and Kress, 1988; Kress and Van Leeuwen, 2001) have turned their attention to other resources for meaning-making. Van Leeuwen (2005:3) conceptualises these resources as 'actions and artefacts we use to communicate'. They can be physiological, that is voice, gesture bodily actions or technical, that is materials and tools such as textiles and scissors, computer hardware and software, pen and paper. Each resource has meaning-making potential:

From the moment that a culture has made the decision to draw upon a particular material into its communicative processes, that material has become part of the cultural and semiotic resources of that culture and is available for use in the making of signs.

(Kress and Van Leeuwen, 2001:111)

I am reminded by this quotation of the witty and sharply satirical street art of the graffiti artist Banksy, a high concept art form seen as provocative and challenging to the establishment often without recourse to language.

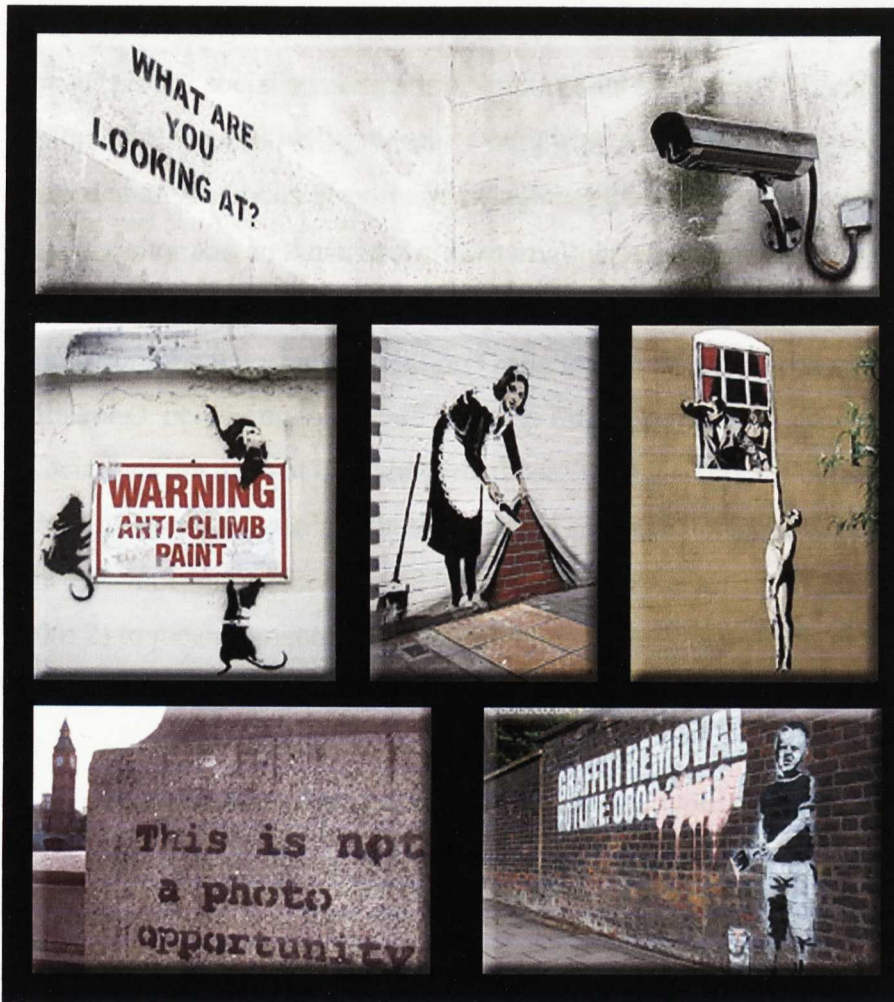


Figure 1: Montage of work of graffiti artist Banksy [www.weburbanist.com](http://www.weburbanist.com)

In this montage of his work (Figure 1) the central image visually depicts a commonly used idiom ‘to sweep something under the carpet,’ often used in a critical or negative way to mean hiding something (bad) from others’ view. It begs the question ‘what are you sweeping under the carpet?’ which could be viewed as a critical, political question. The images have an ironic message in common which is typical of the work of this artist. The irony is conveyed through technical, frequently non-verbal resources of image.

In our present day culture the potential for meaning-making encompasses resources such as digital computer software. My own son has created an interactive internet based computer game which has players around the globe. This particular semiotic resource is one of which he is a competent user and I understand little of it. I do not belong to this society or community.

Both Van Leeuwen (2005:4) and Kress (2004:2) are at pains to emphasize that the 'social' part of social semiotics is as important to the meaning-making as the resources. Kress (2004:2) gives the example of a 'Bar and Grille' red neon sign he noticed at an American airport and recognises the different understandings that a British visitor and an American citizen might bring to that particular resource. The sign (literally here) is culturally located, signifying different meanings to the different people who see that sign. The 'e' on Grille invokes associations of tradition and Britishness, belonging to a genre of 'Olde Englande' notions. The cultural associations are a result of its historical use. The evocation of cultural associations is related to Van Leeuwen's (2005) notion of *semiotic potential* or Gibson's (1979) conception of '*affordances*' used in multimodal approaches to communication (Kress, 2004: 2) to mean semantic potential. Bakhtin is clear that words are not neutral (see 2.1.2) or without connotation:

there are no neutral words and forms...All words have the 'taste' of a profession, a genre, a tendency, a party, a particular work, a particular person, a generation, an age group, the day and the hour.

(Bakhtin, 1988:49)

His own choice of words (albeit in translation) reflect the very point he is making with his inclusion of the word 'party', locating his writing in 1930's Stalinist Soviet Union. In the same way all resources are imbued with qualities of meaning-making potential, for example, the semantic potential of the colour red on a bar sign.

#### **2.1 4 Modes of Meaning-Making**

From the 1980's, Hallidayan discourse analysis began to take account of meaning-making other than language (Iedema 2003:32). Approaches to De Saussure's work had been applied to film, music and photography (Barthes, 1977) but the application of a systemic functional approach from Hallidayan linguistics to semiotics was a new connection (Hodge and Kress, 1988). The term multimodality encompasses all semiotic resources including language and is defined by Kress and Van Leeuwen as:

The use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined

Kress and Van Leeuwen, 2001:20

It is important to define the terms used in this dissertation in order to avoid any interference from other uses of these words. Having spent the previous two sections writing about the intersubjectivity of words and meaning-making, clarification on certain terms and their origins and past uses is pertinent here.

Kress and Van Leeuwen (2001: 21) are clear that ‘modes are semiotic resources which allow the simultaneous realisation of discourses and types of (inter) action’. Whilst van Leeuwen differentiates between physiological and technical modes (2003: 3), Norris (2004) uses the terms *embodied* and *disembodied modes*. Speech would be an embodied mode, whilst a written narrative, or novel, would be a disembodied mode. Modes are realised through *media*: these are the material resources employed to make meaning through a particular mode (Kress and Van Leeuwen 2001: 22). In speech, our vocal apparatus would be considered a medium for the mode of speech: in terms of written language the hardback book might be the medium for a written narrative.

Social semiotics offers a wider definition of the term ‘text’ usually taken to mean a stretch of writing. It is possible to take the meaning of text to be something that can be ‘read’ (Baldwin et al 1999:40) and as having features of register and cohesion (Halliday and Hassan, 1976) and being a cultural form of representation (Barthes, 1977). A text then is a sign, or collection of signs, which make meaning. Iedema (2001:187) further uses ‘text’ to refer to a process rather than a product, or the act of meaning-making, in contrast with the artefact resulting from meaning-making. Embodied modes such as posture can create texts through dance or mime or they can be integral to a ‘conversation’, that is an exchange of meanings, itself a particular kind of text (Eggins and Slade, 1997:7). Bell (2001:15) considers display advertisements or a news item as text, as they have clear frames or boundaries ‘within which the various elements of sound or image cohere, make sense or are cohesive’. This connects with Halliday’s view of text, not as *constituting* a collection of sentences but as *arising from it*: it is a semantic concept not a linguistic one. Whilst texts are framed by boundaries (Lister and Wells 2001:61) and one can talk about features within a text or outside of the text, texts are not static entities but are a socially meaningful processes and can be seen as the ‘semiotic manifestation of material social processes’ (Iedema, 2001: 187). In this view of the notion of texts, then, they can be described as

instantiations of social acts located within social practices. Literacy texts have been conceptualised by Barton and Hamilton (1998) as locally situated social practice involving the everyday activities of local life and entailing talk as well as reading and writing. Brandt and Clinton (2002:3) remind us of the importance of the wider context and the impact of culturally located Discourses: 'the larger enterprises that play out away from the immediate scene'. These ideas from the literacy conception of 'text' can also usefully be applied here to the multimodal conceptualisation of 'text'. In terms of this research I would interpret the local literacy practices of the pupils in a primary school classroom I am observing being subject to the practices demanded from the wider world of the National Primary Strategy, the National Curriculum and impending SATS tests. Texts in this study are seen as multimodal manifestations of situated meaning with frames or boundaries and comprising properties with cohesive elements. This is discussed in more detail in section 2.2.2 and in the analysis in Chapters 5 and 6.

The multimodal nature of the data in this study includes analysis of language used but does not presuppose a dominance of language or foreground the mode of speech. The increasing interest in social semiotics in the 21<sup>st</sup> century world and the re-positioning of language in that world needs to be taken into account. This interest in multimodality is emerging in an era of increasingly digitised interaction and a proliferation of visual images and possibilities in the design and production of meaning-making signs, be that image, music or written texts. The personal computer has given access to methods of text production, unheard of 10 years ago, to swathes of the British population. The dominance of language in our communicative acts is being challenged in many spheres for example social networking sites such as MSN, Facebook, Twitter and Twit-Pic, or You Tube. Central to this multi-sensory notion of multimodal communication is the theory that 'discourses appear in the mode of language among many others' (Kress and Van Leeuwen, 2001:24) and that this notion does not 'privilege speech' over any other mode (Jewitt and Kress: 2003:280). Iedema (2003:33) writes of 'de-centring of language as favoured meaning-making' and 'the re-visiting and blurring of boundaries between and roles allocated to language, image, page layout, document design'. Norris (2004: 2) takes the view that whilst language does not always play a central role in communication, it cannot be denied that it often does, and that whilst there are occasions when gesture and gaze, for example, may be

subordinated, there are other occasions when they may also take a superior position in an interaction and yet others where language may be absent altogether. Multimodal analysis of communication endeavours to take account of the linguistic, visual, aural and spatial. The focus on multimodal meaning-making in educational research has come about partly through a need to engage with increasingly sophisticated means of meaning-making in the 21st century but also through embracing what is possible. Including the multimodal in analyses of interactions has come about because it is possible to look more closely at what is happening in the interactions between 21st century adults and children due to advances in digital technology and cameras in particular.

In this study, the transcription of interactions takes account of the embodied modes of speech / vocalisations, actions, gaze, gesture and facial expression, posture, proxemics and body haptics. Disembodied modes of space and environment, design and written and digital texts are included in the analyses and addressed in further detail in Chapter 7. In this section I explore the relevant literature on studies of interaction which take account of the embodied modes of gesture, gaze, posture and bodily action, proxemics and haptics. Graddol et al (1987:134) are clear that the literature on non-verbal behaviour is 'surprisingly vast, but rather fragmented'. It is my aim to give an overview of literature most closely connected to this study of multimodality in children's communication.

### **Gesture**

In his introduction to 'Language and Gesture', (2000) McNeill describes gesture as 'a phenomenon that often passes without notice, although it is omnipresent' (2000:1) and he goes on to explain that it is a cross-linguistic, cross-cultural phenomenon. McNeill (2000:8) acknowledges that the study of gesture is not new, giving the example of the Roman writer Quintillian who wrote an essay on gesture in oratory for prospective orators. In recent times the study of gesture has evolved from being studied 'in life, as they occur spontaneously during conversation and other discursive modes' (2000:8) to an interest in gesture 'as part of language itself- not as embellishments or elaborations, but as an integral part of the process of language and its use' (2000:9). It is this second shift which complements the social semiotic view of communication (rather than 'language') where all modes work together in any given



communicative act. This perspective includes gesture as part of the cognitive processing involved in communication rather than an added extra.

The relationship between speech and gesture dominates much discussion of the latter. A continuum of gestures in relation to speech was first described by Kendon (1982) moving from *gesticulation*, an articulation of a specific meaning accompanying speech, through *pantomime*, a representation without speech and *emblems* (such as the circle of forefinger and thumb for OK) with or without accompanying speech to the *sign* in place of speech, such as in sign language. O'Neil (2000:6) points out that in addition to the position of gestures in relation to speech, there are aspects of gesture such as whether they are conventionalised, such as emblems, and therefore socially standardised and recognisable, or whether, such as gesticulation, they are spontaneous and novel, or creative.

As a general rule, gesture can be described as meaningful hand or arm movements. Kendon (1996) includes adjustments of posture but I have dealt with this separately. Wolf (2001) identifies a gesture as a movement with a starting point, a position of rest, which it moves from and returns to, with the proviso that not all hand movements are gestures. Much of the literature on gesture comes from the field of linguistic anthropology (See Chapter 3) and is frequently concerned with cultural differences (Kendon, 1995; Sidnell, 2006; Havilland, 1993). Wolf (2001) criticises anthropological approaches, as in many cases gesture is subordinated to language. However, features of gesturing identified in these studies are useful to this study. Gestures are not solely to do with face-to-face interaction, as we can all recall instances of actioning or witnessing the actioning of gestures by someone speaking to the unseen participant by telephone. There must therefore be a personal function fulfilled by gestures, as an aide memoire or emphatic action for oneself and it cannot be a phenomenon performed solely for the other speaker to see. Some gestures are serving an internal function and are not necessarily communicative. This study is concerned with interaction and its interest lies with gestures which are performed as part of face-to-face interaction.

The general consensus is that gestures are closely aligned to language. Haviland states that:

The organisation of gesture is inextricably (though problematically) related to linguistic structure as studies of the relative timing of gesture and talk suggest.

Haviland, 2000:15

He cites studies by Birdwhistle (1952, 1963), Kendon (1980, 1988) and Schegloff (1984) to support this position. His use of the word 'problematically' points to the intricacy of role of gesture. The position of anthropologists studying gesture and its relationship with speech occupy a different perspective on communication to the multimodal analysis from a social semiotic perspective of Kress et al (2005). Bezemer (2008:169) attends to the notion of conventionalised gestures by pointing out that 'the social semiotic notion of meaning-making assumes that meaning is always re-made and therefore never fixed in any mode'. He continues by arguing that meanings made in one mode are not necessarily 'more or less specific than meanings made in another mode' (2008:169) although conceding that 'some of these resources have been codified more than others'. The emblematic OK gesture would therefore presumably be an example of a more codified gesture. The multimodal perspective on gestures is therefore that they are one of a number of modes operating simultaneously, with the caveat that:

...often modes do not point in the same direction, they may be used to realize, simultaneously, complementary or even contradictory discourses.

Bezemer, 2008:169

The position from multimodal analysis offers an approach to gesture which does not assume any specific relation to speech and could potentially be pointing in a different direction to the spoken word or even contradicting it. Norris posits:

Hand and arm movements are often interdependent and concurrent with spoken language, slightly preceding the spoken discourse- to realise imagery.

Norris, 2004:28

The use of the word 'often', however, does not preclude the use of stand-alone gestures. Gestures can be iconic; that is they 'can provide a visual representation of things that can be observed' (Kendon, 1997:112) but they can also represent abstract ideas (McNeill, 1992): they can be metaphorical, in that they can represent spatial metaphors for time (Kendon, 1993) and they can also differentiate between types of

questions, such as a plea, or a critical question. The density or intensity of discourse can be revealed by gesture (Wolf, 2001) and the introduction of new information as opposed to given information can be indicated through gesture (McNeill, 1992). The cohesive functions acknowledged in language can be realised through gesture (Kendon, 1997). Kendon (1997) has isolated five main functions of gesture in face-to-face interaction as regulating patterns of attention, indicating how another's words are assessed and understood, pointing and referring within the text (deictic), partnering words and indicating turn-taking. Norris (2004: 28) has identified four main features of gesturing; that it is iconic, deictic, metaphoric and indicates beats (likened to beating musical time with short, quick movements).

Of specific interest to the research questions in this study is Goldin Meadows' (2000) research which examined the relationship between gesture and knowledge. Gestures can reveal knowledge not expressed in speech, they can pre-empt speech by expressing implicit or emerging knowledge later expressed in speech; there can be a mismatch between what is revealed through speech and gestures which Meadows argues shows a readiness to learn, and furthermore, changes in gesture-speech relationships can be interpreted as reflecting a path of knowledge change (Goldin Meadows, 2000).

### **Gaze**

Norris (2004:36) defines gaze as 'the organisation, direction and intensity of looking'. Just as hand movement is not necessarily indicative of meaning-making gesture, so too gaze can be more or less meaningful. Conversational Analysis (CA) has had gaze as a site of interest for what it may reveal about turn-taking and participation in interaction. Goodwin's research in this area has revealed much of the impact of gaze on the organisation of what takes place in face-to-face interaction (2001:161). For example a change of gaze from one recipient to another will effect a change in the emergent utterance (Goodwin, 1979, 1981), or the construction of a narrative (Goodwin, 1984) and adjustment to what is being said as a result of a visible response to an utterance (M.H. Goodwin, 1980). Gaze reveals much about levels of interest by participants in a conversation, with hearers generally maintaining a gaze at a speaker for stretches of time (Kendon, 1967). The work of gaze in establishing, maintaining and re-affirming social relationships is a focus for Schieffelin's (1983) study of mother-child interaction. The use of eye contact and its effect in moments of close

interaction such as laughing, teasing and acknowledging pretence (game playing) is noted: 'eye contact co-occurs within these behaviours as a communicative act' (1983:63) by which I understand that the intensity of gaze is meaningful, something I feel as a mother I have experienced with my children.

Norris comments that 'gaze can be ...unsystematic' (2004:37) and gives the example of two or more people shopping together who may 'randomly focus their gaze on shop windows, street signs, other shoppers and also sequentially focus their gaze on each other.' Gaze then can be seemingly arbitrary or focussed and sequential. An example of structure in gaze distribution of direct relevance to this study is from the work of Jack Sidnell, a linguistic anthropologist using a Conversation Analysis (CA) approach. His study (Sidnell, 2006) looks at the co-ordinated functions of talk, gaze and gesture in re-enactments. He notes that speaker gaze often selects a particular person from a group to direct the interaction to. He makes the point that in re-enactments, where narratives are realised in a real-time recreation of events, speakers often direct their gaze away from the co-participants. During re-enactments there can be a shift from the perspective of a *witness* to an event to the perspective of a *participant* in an event and it is at this point that the gaze moves away from the addressee. In re-enacting a moment during a narrative the speaker's gaze moves away from the addressee into the 'open space' in front of the speaker. In this study such a change of gaze during a narrative can signal a child's perceived change of role. Sidnell's position is that rather than viewing modes such as gesture, gaze or speech as aspects to communication operating separately, although sometimes in conjunction or opposition to each other, he conceptualises different modalities as integrated within acts of communication. This means that rather than focussing on the meaning expressed through one mode, say gesture, the analysis is considering the activities that participants are involved in:

To investigate multimodally, one needs to pay serious attention to the level of structured activities: those situated activity systems within which analysts and the co-participants encounter gestures, directed gaze and talk working together in a co-ordinated and differentiated way.

Sidnell, 2006:380

## **Posture, Proxemics, Haptics and Bodily Action**

Norris defines proxemics as ‘the distance that individuals take up with respect to others and relevant objects’ (2004:19). Body contact, or haptics, is defined by Graddol et al (1987:138) as ‘both intentional and unintentional touching of various kinds’. All make the point about haptics and proxemics that what is acceptable in terms of physical closeness in face-to-face interaction is socially and culturally determined. From working with children over a number of years it is clear to me that children do not have the same understandings of what is acceptable in terms of distance to a co-participant in conversation as adults: they frequently stand much closer. Children also touch each other in many more ways than would be permissible in adult society. Every nursery and early years setting I have been involved with has had experience of some individual children hitting each other as a means of communication rather than an act of aggression. In the pilot study I noted ways in which the children pushed each other and pulled at their clothing:

The boys are used to working in confined space; in the Primary classroom there is little unused space between tables and chairs. Nevertheless, there is a school rule about keeping hands and feet to one’s self. ....In the boys’ conversation touch is frequently used to get attention from another person.

*(E) moves forward, takes (O) ’s hand*  
*(E) leans forward to grab (O) ’s back*  
*(E) grabs (O) ’s arm*

Taylor, 2006:75.

As with the consideration of gesture, posture, proxemics and haptics are examined for meaning-making, or semiotic, potential (rather than a psychological study of unintentional revelation of innermost feelings). This study is not concerned with psychological ‘tells’, or ‘glimpses of our hidden unarticulated thoughts’ (Beattie, 2004:1).

Following a similar vein to Sidnell (2006), Goodwin is troubled by views of communication which focus on language and generalise other modes as ‘context’: ‘Lumping everything that isn’t language into the category ‘context’. (Goodwin, 2000:1). He is also interested in modes working together, or the ‘simultaneous deployment of a range of quite different kinds of semiotic resources’. The individual can choose from the different kinds of semiotic phenomena in material and social

environments and then use them in an integrated and symbiotic way. The signs or semiotic resources are 'juxtaposed in a way that enables them to mutually elaborate each other' (Goodwin, 2000:1). Goodwin conceptualises the posture of two participants as they look towards each other and lean towards each other, not as a function or speech act, such as a challenge, but more as a frame within which the discourse can develop. This he terms a participation framework (Goodwin, 2000:8). It is within this framework that further communication takes place. In a multimodal analysis of girls' game disputes one participant, Carla, insists that another, Diana, takes into account what she's saying and doing by walking into her hopscotch grid, positioning her body, her gaze and her gestures where they can be seen, or even not avoided. I include haptics and proxemics together as often the closest of proximity will result in touch. Posture such as leaning towards another person when in close conversation is also hard to separate from proxemics and touch. The meaning of a touch will often depend upon both *the location* of that touch, where it occurred on the body, and the *manner* of that touch, whether a pat, a squeeze, a brush, which could be unintentional or a stroke (Nguyen et al 1975:97 in Graddol et al 1987:140.). The significance of posture as an indication of personal feelings is seemingly understood effortlessly in face-to-face interaction.

The way people hold themselves, how they sit or stand, has long been understood as evidence of their innermost feelings and the state of their relationships with others.

Graddol et al, 1987:141

Like gestures, postures can have significance within a particular community (Schefflen, 1964) and in Foucauldian terms gestures and postures, like discourses could belong to particular epistemes or epochs (Foucault, 1972), and following Bakhtin's speech genres, certain postures or genres could be associated with certain genres of discourse. Forty years before Van Leeuwen and Kress advocated applying Hallidayan grammar to modes other than speech, Schefflen (1964 in Graddol 141)) was examining the possibilities of a 'vocabulary' of postures as in verbal language. Whilst this work was 'inconclusive' (Graddol. et al, 1987: 141) we can see that degrees of tension from relaxed to tense can be observed through posture. Graddol et al (1987) also identify three aspects to posture useful to this study, namely postural orientation, postural congruence and postural shifts. The first of these, postural

orientation, or the degree to which a speaker or co-participant are facing each other, is a signifier of meaning not confined to humans; for example a horse who does not want to be caught from the field may orientate his body so that his tail end points to the gate. In the classroom the orthodox design of the placement of desks and chairs in rows facing the 'front' demands a postural orientation towards the teacher. The group format used in the primary classroom in this study orients the pupils towards each other and a horseshoe shape might offer another possibility oriented to both students and teacher. Graddol et al (1987:142) observe

People working co-operatively....will often be found side by side. An angle of 90 degrees is found by most people to be the most comfortable for casual but friendly interaction.

Graddol et al, 1987: 142

'Postural congruence' (Schefflen, 1964) describes the way in which people orient themselves according to their co-participants adopted posture. It is the embodied equivalent of the act of repeating another's words, or mirroring, as a cohesive act in conversation. It agrees, affirms, shows allegiance and friendship, even respect. Further research on postural congruence in adult behaviour on a beach in the south of France by Beattie and Beattie (1981:51 in Graddol et al, 1987:142) found that 'postural congruence in a naturalistic setting is a very real, common phenomenon'. My own research to date has commented upon the way a group of boys leaned in towards each other during their heated conversation:

The agreement noted in the discourse is supported by the observation of the way in which the boys often lean in towards each other as they interact

Taylor, 2006:73

The third aspect is postural shifts. Schefflen commented on the number of postural adjustments, or head movements that are made in face-to-face interaction in 1964. In psychological studies of human behaviour and emotion, the number and degree of head movements are counted and measured in quantitative studies in contrast to multimodal analysis which uses qualitative approaches to examine meanings of interaction in face-to-face interaction (Norris 2004:33). Norris differentiates between two types of head movement: the conventional yes-no movements and the novel movement which can indicate reference (deictic, such as the tilt of a head to indicate

'over there') or head beats, which perform a similar function to gestural beats, giving emphasis to certain parts of an interaction.

### **Facial expression**

It would be a serious omission not to include facial expression in this overview of communicative modes, given the strength of emotion and conviction which can be conveyed by means of this mode. It stands to reason that just as we learn our spoken language we also learn the communicative functions of facial expression, almost from birth. It is not for this review to enter the nature /nurture debate about whether we are pre-programmed with facial expressions (Darwinian Innatist view) or whether it is learnt behaviour ( Behaviourist view) or some combination of both. What is important here is that facial expression can convey meaning and need necessarily be taken account of in a multimodal analysis.

### **Voice**

Kress and Van Leeuwen are clear that whilst voice is not a mode, it is a semiotic resource (2001:81) realised through the medium of the body. Gesture, gaze, facial expression and, to an extent, proxemics convey meaning through visible materiality (Norris, 2004:9) whilst voice conveys meaning, for example through the mode of speech, through an audible materiality. By voice, I mean the quality of a sound uttered and include aspects such as intonation, pitch, loudness and musical qualities. We can make meaning through the volume (loudness) of the sounds we make; a whisper or a shout can signify uncertainty, conspiracy, anxiety, fear or urgency.

Aspects to voice quality which can convey meaning are identified by Kress and Van Leeuwen (2001:81) as tension, roughness, breathiness, loudness, pitch range and vibrato. They describe the effect of tensing the muscles of throat and the resulting 'higher, sharper and brighter' (2001:82) sound. Van Leeuwen extends this to encompass the notion of 'sound acts' corresponding with speech acts, image acts and acts of non-verbal communication (2005:122). He gives the example of the way some radio presenters can 'not only speak in low relaxed voices but allow their voice to go down a lot, so as to soothe and relax the listener' whilst the disc jockeys presenting top 40 chart shows 'speak out at a pitch well above their normal register and make much use of rising pitch in order to energise the listener' (2005:122).



Kress also demonstrates the real-time aspect to voice in face-to-face communication where:

...sound happens in time and allows the voice to 'sustain' a sound, to 'stretch' it as a resource for meaning- as in the lengthening of vowels and the re-duplication of certain consonants: 'Aalbert, come here', 'yummmmy', 'pssst'.

Kress, 2010:80.

These aspects of voice can be used to different effect such as when reproducing others' speech where a different tone or pitch to the voice can be employed to differentiate between the speakers' own voice and that of another. Maybin's research into children's talk demonstrates that in addition to the re-wording and re-framing of another's utterance (Maybin, 2006:55) there is also a re-accenting (2006:76).

Additionally, in expressing an evaluative stance, aspects to voice convey meaning:

In oral language, speakers use prosodic cues such as variations in pitch, volume, pace and rhythm, together with non-verbal cues like laughter, to convey a particular kind of voice and its evaluation.

Maybin, 2006:78

Maybin goes on to argue that, in the mode of speech, these prosodic cues are 'as important as grammar' in the communication of an evaluative stance (2006:78).

Whilst this literature raises some important material aspects to the semiotic resource of 'voice' which need to taken account of in the analysis of data, there are further aspects to vocalisation which need to be considered. In his study of interaction in an urban school (2006) Rampton examines instances of popular media culture featuring in classroom communication and as a manifestation of that, the interactional potential of humming and singing in class. Rampton observed that soft solo humming and singing were complimentary to schoolwork and 'served as an accompaniment to writing or reading' (Rampton, 2006:105). In addition to being a solo activity, the singing of tunes can be a sociable activity comparable with some aspects of talk. He notes that whilst solo singing and humming do not demand a reply, {In Kress's terms they are not necessarily a 'prompt' which requires a response (Kress, 2010:33)} they can be considered as interactional and communicative. Rampton explains,

.....that does not mean that they cannot be noticed by those nearby, and instead, in company, solo humming and singing contribute to the 'hummer's' demeanour, their self projection as someone who is or isn't reliable as an

interactant, who is or isn't poised for communication, who is or isn't likely to endanger...

Rampton, 2006:107

Rampton's (2006) study, with respect to humming and singing in class, was concerned with whether this manifestation of popular culture was in conflict with schooling. This study is not concerned with evaluation or assessment of pedagogic practice or student behaviour, but is concerned with building a picture of the nature of child-to-child interaction in classrooms. Rampton's study is of interest here because of the points he raises regarding the communicative potential of humming and singing, the enlisting of others to join in the singing or the solo nature of the act. In addition, through their singing or humming the pupils in Rampton's study were signalling aspects to their identity, their taste in music, associated status and building relationships with those who shared their musical preferences (2006:121). In addition, singing offers opportunity for creative expression with the re-working of voices, words, tunes and rhythm and 'it allows the listener a lot of interpretive freedom' (2006:120). Above all, of particular relevance to my study, is Rampton's observation that:

...peer interaction, not curriculum tasks, provided the main arena for joint singing.

Rampton, 2006:127

and further observation that individuals used song for different purposes: one participant to consolidate intimate relationships, the other to acquire social influence. The use to which song is put by individuals in communicating ideas is of interest to this study. Overall, voice is, therefore, a semiotic resource which can be employed through aspects to the mode of speech or though an embodied form of music (Norris, 2004:41) and is a site of interest for the analysis of child-to-child interaction.

### **Summary**

In summary, we can say that all modes work together. Each mode has affordances or semantic potential. Understandings of those affordances come from a range of literature, particularly linguistic anthropology, with its interest in language and what can be thought of as context, and psychology, which sets out to understand cognitive aspects of meaning-making and what is revealed of inner thought processes and

individual action. This study takes its lead from social semiotics and does not privilege language but realises the impact of the literature on communication which has previously primarily focussed on speech. In terms of inner thought, this study is interested primarily in how children interact, but that does also involve inner thought when we understand that meaning does not reside with the individual, but is inter-subjectively achieved.

## **2.2 Meaning-Making and Pedagogy**

This section is divided into two parts in order to differentiate between the literature to date which has focussed on the relationship between **talk** and learning, and that which in recent years has taken a **multimodal** view of interaction in educational settings. Both of these areas of study have much to inform the research questions. The first part considers the development of understanding of the relationship between talk and thought processes resulting in increased prominence of speaking and listening as a consideration for the National Curriculum and Primary National Strategy (DfES 2002: DfES 2003: DCSF, 2008). The second part examines recent research which has considered communicative practices multimodally both in education settings and in natural settings in a range of other contexts. This study focuses on child-to-child interaction in educational settings but the studies discussed here of teacher-pupil interaction, children in pre-school settings and in home environments have much to contribute to this area.

### **2.2 1 Talk and Learning**

The connections between communication, usually conceptualised as ‘talk’, and learning have been the subject of much research and debate (Barnes 1976, 1988; Britton, 1970; Mercer, 1995, 2000; Wells, 1985, 2000; Norman et al, 1992). Some have focussed on interactions between teacher and pupil, (Sinclair and Coulthard, 1975; Corden, 1992; Mercer, 1995, 2000; Black, 2004) and others on pupil-to-pupil talk (Barnes, 1976, 1996; Maybin, 1994). The work of Sinclair and Coulthard, (1975) from a Conversation Analysis approach and based on close analysis of speech functions and turn-taking proposed the ‘typical’ Initiation, Response, Feedback (IRF) model of teacher – pupil exchanges whereby the teacher asks a question, the pupil

responds and the teacher then gives feedback as to the accuracy or relevance of the pupil's response. Mercer (1995) observes that there are clearly many more forms of classroom exchange, such as the pupil asking questions, but that an understanding of the typical structures and patterns of classroom language use is important to teachers whose role is the guidance of student's use of language 'as a social mode of thinking' (1995:109). This study focuses on pupil to pupil exchanges but the notions of language being a 'social mode of thinking' has direct relevance to the pupils' exchanges in classroom activities. Barnes notes the links between talking and learning and advises:

Not only do we learn by doing but we also learn by talking about our experiences.

Barnes, 1969: 126

Learning, then, is something achieved by talking amongst ourselves as much as by carrying out given tasks. Furthermore, given that the modes of spoken and written language are the foremost ways in which learning is mediated and assessed, and pupils participation in the 'enactment of knowledge' is witnessed and judged through these modes, the relationship between talk and learning is enshrined in our educational discourses.

Not only is talking and writing a major means by which people learn, but what they learn can often hardly be distinguished from the ability to communicate it. Learning to communicate is at the heart of education.

Barnes, 1970:20

Barnes is an advocate for a repositioning of teacher control of classroom talk so that more open discussion can accommodate different viewpoints and enable 'new and complex action knowledge' (Barnes, 1970:126). His suggestion of a group-work approach to be included amongst the teacher's repertoire of teaching strategies, as a means to facilitating the learner participating in the formulation of knowledge (1970:191) has largely been taken up by teachers in the 21<sup>st</sup> century classroom. The conceptualisation of *exploratory talk* is still under debate and I come to this presently. The connections between talk and learning have been established in pedagogic fields. Frequently, the perspectives of Vygotsky (1978) are at the heart of the theoretical basis for studies with a focus on language as the pivotal connector between internal thought processes and the external voicing of ideas, moods, emotions and

relationships. Maybin (2007) identifies (at least) three intertwined processes in the dialectical relationship between thought and the articulation of meaning, namely:

1. the child's acquisition of a language
2. the child's use of that language as a tool to think, to build relationships, to develop their own identity and to fulfil pragmatic functions.
3. the child's socialisation into a particular cultural setting

(adapted from Maybin, 2007)

Following a Vygotskyan (1978) approach, educational research into talk and communication to date has tended to focus on the particular discourses of the classroom which take place between teacher and pupil and are concerned with 'scaffolding' (Bruner, 1975) dialogic pedagogy (Alexander, 2000) and the guided construction of knowledge (Mercer, 1995). Broadly, Vygotsky expounded that the intention of the speaker combining with the use of language leads to the meaning of an utterance. As children acquire language they learn to develop thought. He believed that this process relied on social interaction combined with internal thought processes. In testing Piaget's (1969) theory of egocentric speech, he concluded that children need the feeling of being understood, and the contact and social interaction within a group to voice their egocentric speech (1986: 251). He proposed the notion of the Zone of Proximal Development whereby cognitive development is founded upon dialogue with a teacher or adult which supports the child's learning. The teachers' use of questions and rephrasing can aid this development. This concept was extended by Bruner's (1975) notion of scaffolding where the teacher extends a child's learning by reducing its freedom and focussing on the skill to be acquired. Mercer (1995) further extended this by proposing that teacher-led dialogue and directed group activity between children can fulfil this function through exploratory talk. Alexander (2000:556) writes of a change in focus from the 'act of instruction' to the 'process of learning'. He gives as evidence the psychologist Bruner's move from:

a 'solo intra-psychic' view of knowing and learning to one which engages with the relationship between learning and culture.....

Alexander, 2000: 556.

although with the proviso that Bruner is still concerned with individual cognition to a greater degree than many sociologists and anthropologists. The point of interest to this

study is this positioning of learning within its cultural context, something Alexander explored in detail in 'Culture and Pedagogy' (2000). Alexander draws together Bruner's 'four dominant models of learners' minds that have held sway in our times' (Bruner, 1996, in Alexander, 2000:557), seeing learners as imitative learners, as learning from didactic exposure, as thinkers and as knowledgeable, and locating these children within a cultural context. In its simplest terms the first model relates to an apprenticeship model of learning, the second to a transmission of facts model, the third to a view which holds children as able to work things out for themselves moving to a shared understanding under the guidance of a teacher and the fourth as the child knowing what is within its realms of experience and exploring accepted culturally defined knowledge from that position. In this way, according to Alexander, the dilemma of knowledge being personal, intersubjective or relative is overcome through that knowledge being what is 'given' or understood by that community, presented by teachers and subject to scrutiny by the child as thinker. The importance to this study is where that leaves 'talk' in the classroom: Alexander concludes from his extensive study that whole class direct instruction does not always equate with a transmission, child learning from didactic exposure model, nor does a collective discussion necessarily allow children to be respected as thinkers in their own right (2000:558). He is clear that it is the *nature* of talk which is key to understanding children as learners.

It is the character of the talk, *as talk*, rather than its organisational framing, which determines the kind of learning to which it leads.

Alexander, 2000:558

Mercer (1995, 2000) takes a Vygotskian approach to the dual purpose of language both for internal thought and for collaborative social expression and mutual understanding within our communities. This is conceptualised as 'inter thinking' (2000:15), the creation of knowledge and understanding in communion with others. In terms of pedagogic views of language, he concurs with Alexander on the value of some kinds of talk over others and has investigated the 'quality' of talk in school settings. He identifies three kinds of classroom talk (1995:104), *Disputational*, *Cumulative* and *Exploratory*, although he is clear that these are not intended to be a comprehensive list of *all* kinds of classroom talk, but categories of *some* of the kinds of talk children in the SLANT (Spoken Language and New Technology, 1994) research project engaged in. These are almost self explanatory and certainly familiar

to the teacher or educational researcher. *Disputational* talk is characterised by disagreement, individual decision making, conflict of ideas and possibly motivations. This means frequently the children are not listening to each others' ideas or suggestions or offering their own tentative suggestions or constructive criticism. In *Cumulative* talk the children are listening to each other and building on each others' ideas but not necessarily being critical and accepting ideas without full exploration or discussion. It shows consensus of ideas, but without rigorous discussion of them. In contrast, *Exploratory* talk shows a level of collaborative thinking with evidence of constructive criticism. The children are making suggestions, listening to each others' ideas, countering them with ideas of their own and questioning the justification for suggestions. In this way children are evidencing the reasoning behind their suggestions.

In exploratory talk knowledge is made more publicly accountable and reasoning is more visible in the talk. Progress then emerges from the eventual joint agreement reached.

Mercer, 1995:104

The point is made that a kind of educated discourse, characterised by the use of language to 'critically interrogate the quality of the claims, hypotheses and proposals made by other people, to express clearly their own understandings, to reach consensual agreement and make joint decisions' (1995:106) is required in many settings: indeed this thesis is an example of this. Whilst exploratory talk does not fulfil all of the criteria for entering into an educated discourse, it marks a beginning of an enculturation into this kind of talk for school pupils. Mercer's concern seems to be that the inclusion of talk as an important aspect to the school curriculum, something which has been advocated since the National Oracy Project (1992) and before notably in the work of Barnes (1969; 1976), is not as straightforward as simply allowing 'free expression'.

Research does not support the idea that talk and collaboration are inevitably useful, or that learners left to their own devices necessarily know how to make the best use of their opportunities.

Mercer, 1995: 114

Although Mercer acknowledges research on talk which shows children may demonstrate strategies in explaining and justifying in informal talk, ( Maybin, 1994),

his position is that children 'need guidance on how to use talk' (1995;114) and he warns:

It cannot be assumed that learners already possess a good understanding and awareness of how best to go about 'learning together' in the classroom.  
Mercer, 1995: 114

The view from the educational research of Mercer and Alexander, then, is that the kinds of talk that children engage in in classroom settings can be evaluated as having value, in educational terms. This is a different view of exploratory talk to that initially conceptualised by Barnes (1970). Barnes' notion of *exploratory talk* was contrasted with *final draft speech*, which is more formal, with fewer features of spontaneous speech such as hesitancy, tentativeness, or self correction. Exploratory talk for Barnes required the children to be comfortable with each other and not to be inhibited by concerns over status, loss of 'face', or competing for attention.

Equal status and mutual trust encourages thinking aloud: one can risk inexplicitness, confusion and dead ends because one trusts in the tolerance of others. The others are seen as collaborators in a joint enterprise rather than as competitors for the teacher's approval.

Barnes, 1970:109

The notion of collaboration in interaction is there in Mercer's conceptualisation but the emphasis on the quality of talk marks it out as different. That is not to say that Barnes does not recognize that some classroom discussion is more useful than others, but the emphasis is on a notion of 'sharing' which encompasses 'a willingness to change by entering in to the lives and experiences of others' and 'a willingness to take in the other's point of view' (Barnes,1970:110). The focus of this study is not to determine whether the interaction between the children has some kind of educational 'value' but to consider what naturalistic ethnographic observation and analysis of children communicating with one another can tell us about the ways that children choose to behave communicatively and how they achieve common understanding. The range of recent studies into children's classroom talk is too vast to cover in detail here. Studies include examinations of ways in which children talk in computer or ICT lessons (Mercer, 1994; Wegeriff, 1997; Kelly and Shorger, 2001; Feng and Benson, 2007; Plowman and Stephen, 2005) in Science lessons, (Lemke, 1990; Wells 2000; Jewitt et al, 2001) in Literacy lessons,( Dyson, 2003) in the playground, (Grugeon,



2005) in social areas of school communities (Heath, 1983; Maybin, 1994, 2006) and at home (Pahl, 2007; Heath 1997, Hannon and Bird, 2004). Here I offer some discussion of research which has directly influenced this study.

I firstly consider an investigation into 'meaningful talk' in an English language classroom which takes a similarly Vygotskian (1986) understanding of social interaction and collaboratively achieved knowledge being internalised to Mercer and reflects Barnes concerns with 'equal status and mutual trust' in interaction. Purdy (2008) researched classroom talk following her initial concern at the paucity of contributions to class discussion by the English Language Learners, (ELLs) in her Canadian English classroom. Purdy reflects upon the use of four strategies for encouraging talk, questioning, teaching vocabulary, inviting collaborative talk and adopting a culturally sensitive point of view. She concludes that drawing upon the cultural contexts of her students and allowing time for talk in meaningful ways, in a respectful learning environment, can benefit all learners, but especially English language learners.

That mutual trust and equal status is also present in Dyson's (2003) examination of popular culture and school literacy. The informal, friendly, playful sharing of literacy events, with official and unofficial practices and collaboratively achieved writing is resonant of what Barnes envisaged. Yonge and Stables (1998) examined on-task and off-task talk in literacy lessons. They found that children frequently introduced into conversations closely focussed on a reading of a poem or narrative text their own ideas, 'weaving a multi-textured web of imagery in the process of creating their picture' (1998:67). The children were 'extending their repertoires of communicative skills, and sharing the on-going work of building on their ideas and understandings with others' (1998:68). Here again, the 'sharing' of ideas is identified as being important to the children's learning processes. A concern that the talk may be considered as 'off task' and therefore as of little value is countered and it is proposed that all classroom talk is 'polymorphic', that it is realised in multifarious ways, and that a broader understanding of Vygotsky's (1978) notions of the ways in which understanding is socially and culturally achieved needs to be held. Yonge and Stables (1998:68) make the point that:

what pupils bring to the task setting in terms of experience and character need not present insurmountable problems when given a 'free rein' in collaborative

settings, for with high motivation their concentration can be sustained, focussing talk on the text.

Yonge and Stables, 1998:68

They also recommend that teachers, rather than focussing on accepting predetermined answers to their questions, consider as valuable 'the complex, mitigative interweaving of social and cognitive material suggested'. Encouraging a spectrum of possibilities in a class is difficult to reconcile with assessment procedures which have a rigorous approach in only accepting one 'correct' answer. Nevertheless, the message from this research is clear that informal talk with its hesitancy, and 'undrafted' qualities is important to 'cognitive 'work in progress (1998:69). Again this is resonant of Barnes' (1970) conception of 'exploratory talk'.

In contrast the formative/summative assessment of children's speaking, (Latham:2005:72) proposed as a response to DfES guidance on Speaking Listening Learning ( DfES 2003), with its levelled competences and focus on grammatical structures (such as 'the use of compound sentences', level one, and 'extends the use of connectives to show understanding of cause and effect, level 4, (2003: 72)) is at odds with a social semiotic understanding of children's interactions as texts. The choices that children make regarding modes employed in the work of meaning-making are not taken account of. If we go back to Maybin's (2007) three intertwined processes in the dialectical relationship between thought and the articulation of meaning and re-write *language* so that all communicative modes are included it would look like this:

- 1 the child's acquisition of a semiotic resources
- 2 the child's use of those semiotic resources as tools to think, to build relationships, to develop their own identity and to fulfil pragmatic functions.
- 3 the child's socialisation into a particular cultural setting

Latham justifies the teaching of oral skills because 'oracy is the basis on which literacy is built in both its forms: reading and writing' and 'it facilitates thinking skills and the retention of information' (2005:61). Both of these assertions are potentially contestable. This model supports the dominant discourses of literacy, which Street describes as an 'autonomous model of literacy' (2003:1) whereby introducing literacy skills following a transmission pedagogic approach to 'poor' illiterate people will

advance their well-being and economic status and Western conceptions of literacy can be imposed on to another culture or within a country by one cultural group upon another. An example of this could be in Wales the imposition of the English language and the proscription of the Welsh language until recent years. As an alternative, Street (2003) proposes a model of literacy as social practice. Simply put, what is considered to be literacy and the realisations of literacy are dependent upon the social practices of a particular community. In the western European 21<sup>st</sup> century community given the readily available digital texts, that social practice may prefer to refer to 'multiliteracies' as the skill of reading multimodal texts. As Jones puts it (2007:104) 'broadening the singular concept of literacy to a pluralised set of literacies or 'multiliteracies', encompassing visual, verbal and other literacies'. This is discussed in more detail in the next section in relation to multimodal perspectives on communicating. The point here is that a view of literacy or oracy which does not conceive of it as a technical skill but as social practice embedded within socially constructed notions of knowledge, identity and being (Street 2003: 3) does not leave room for neutrally 'given' notions of literacy or oracy. The assessment of various competences in oracy are therefore not of relevance to this position.

One educational researcher has focussed on and prioritised the examination of social talk in education settings. Maybin (2007) points out that whilst the links between language development, socialisation and culture have been attended to in some research (Ochs,1998; Schieffelin and Ochs,1986), in educational research generally, with its focus on cognitively focussed dialogue, the social and cultural aspects to dialogue deemed necessary by Vygotsky have been sidelined. There is a danger in focussing educational research on teacher – pupil dialogues as pointed out by Daniels:

...a model of pedagogy which reduces analysis to teacher-pupil interaction alone results in a very partial view of processes of social formation in schooling.

Daniels, 2001:175

The focus of my particular study is child-to-child interaction in order to redress this and uncover more of a relatively uncharted territory. Maybin (2007) argues for attention to the social and cultural dimensions to language acquisition as well as the conceptual dimension, otherwise a narrow interpretation of context is being applied to these studies. This is also a concern of this research. There are also arguments against

the restrictive nature of scaffolding which does not allow for the wider experiences of children beyond the school context. Furthermore, there appears to be a need for some discussion of the place of children's communicative practices within the wider concepts of Discourses as situated practices with social, historical, institutional and political contexts. I make the distinction between discourse and Discourse following Gee's distinction that 'Discourse' is 'much more than language' (Gee, 1996: viii) and is part of the way we act in our social worlds, whereas 'discourse' is concerned with stretches of language in specific instances.

Maybin's research to date has focussed on the social aspects of children's language use, questions of performance of identity, positioning within groups, use of genre, and evaluative features of interactions (2006). This is addressing the culturally situated nature of children's expression of knowledge and the implications of the ways in which children interact for a view of pedagogy which draws on Vygotskian principles of collaboratively achieved meaning and the importance of interaction in conceptual development.

This research, therefore, endeavours to take account of the social and cultural contexts of communicative practices observed and to consider the wider implications of Discourses of Education whilst focussing on everyday classroom discourses.

### **2.2.2 Multimodal Analyses of Communication and Learning**

Prior to the late 1990's interest in modes of communication other than language in the education sphere was restricted to psychological studies of non-verbal behaviour in schools (Neil, 1991). At the intersection of the 20<sup>th</sup> and 21<sup>st</sup> centuries seemingly separate areas of education, social and psychological research into children's classroom interaction, behaviour and cognitive development have had the potential to be synthesized by technological advances. The possibilities for examining the potentialities of analysis of multiple modes for informing pedagogic practice and our understanding of classroom behaviours and learning are being realised through the work of a number of researchers from a range of disciplines (psychology and cognitive development, sociolinguistics, literacy, linguistic anthropology). This

present study does not examine multimodal communication from a psychological perspective, looking for what the inner psyche can reveal about itself through instinctive and unwitting postures or gestures (Neil, 1991); although these may play a part in what is discovered, the focus of interest is the meaning that is deliberately made through a multitude of semiotic resources.

In 1994 Halliday observed:

Perhaps the greatest single event in the history of linguistics was the invention of the tape recorder, which for the first time has captured natural conversation and has made it accessible to systematic study.

Halliday, 1994: xxiii

If Halliday felt that the tape recorder had played a pivotal part in the understanding of everyday spontaneous spoken discourses and the re-thinking of grammar as a way of describing what takes place, then the accessibility of video film due to advances in digital video recording equipment has similarly played its part in opening up new possibilities for analysing and understanding communicative practices as a whole (Flewitt, 2006: 26). I am not suggesting that research is driven by technology but that what it is possible to uncover has been expanded and the possibility for exploration in new areas is a challenge to the educational researcher. If we wish to know how children are communicating together in classrooms or how teachers and pupils are communicating it would be problematic to depend upon data based on tape-recorded instances given what we already know about non-verbal modes of communication (Taylor, 2006). In the last 10 years the number of education research projects using digital video filmed data has increased steadily and the interest in multimodal communication has similarly expanded. This is a relatively new area and each study follows a different approach to dealing with multimodal data and the analysis of what takes place in face-to-face communication. In this section I review those groundbreaking studies which have paved the way for this research project and give an overview of the approaches which have influenced this study. In 4.3.1 I critically review current approaches to the transcription of multimodal data and the influences upon my own approach.

Here I examine studies of classroom communication which highlight that attention to what is said, analysis of discourse alone, is missing something of what is taking place, (Wells, 2000), research into multi-literacies and pedagogic implications of multimodal

text creation in the classroom ( Cope and Kalantzis, 2000; Zammit, 2007; Jones, 2007; Pahl, 2007; Lancaster, 2007, James et al, 2004), studies using new ways of conceptualising communication and grammar to investigate analyse and describe what is taking place in our classrooms (Kress, et al 2005; Jewitt, 2006; Bourne and Jewitt, 2003; Van Leeuwen, 2000) and studies using multimodal analysis of children's interaction to reveal more of what is taking place (Flewitt, 2005, 2006; Taylor, 2006).

I begin with the work of Gordon Wells and one study of modes of meaning-making in a science lesson in particular. Wells' research to date has been concerned with language acquisition (1986) and with 'talk' and dialogic construction of knowledge between adults and children (1981) and the focus for analysis has been the mode of language. Revisiting video data from research into interaction in science lessons in 2000, Wells explains how it became apparent that what he had thought was taking place by concentrating on linguistic utterances was in fact not supported by other modes of communication. Attention to modes of gesture, gaze and body language revealed a different picture of what was happening. Comparing the verbally effective communicator Jasmine with the apparently more reticent Alex, Wells surmises:

From the transcript made of the recording, Alex hardly seemed to participate in the discussion at all. However, as became apparent when we paid close attention to the videotape, Alex was just as interested as Jasmine in the phenomena itself.

Wells, 2000:309

Furthermore, Wells arrives at the conclusion that:

I came to see how inadequate the transcript was as a record of what had been going on...a written transcript fails to capture meanings that are conveyed by such non-verbal means as intonation, facial expression, gesture and participants spatial orientation to each other and to the material artefacts involved in their activity.

Wells, 2000: 210

By considering modes other than language in his analysis of the meaning- making taking place Wells is able to recognise the extent to which the less verbal communicator Alex is engaged in the dialogue through his use of gesture, something which would not have been apparent from a language based transcript. Of particular

interest to this educational researcher was his acknowledgement of the way he privileged the verbal contributions made by Jasmine at the expense of his observations of Alex. It was through attending to the ‘fine detail of extra-linguistic behaviour’ that he gained an enhanced understanding of the ‘multidimensional and mutually constructed nature of face-to-face interaction in any situation’ (Wells, 2000: 327). Wells is clear that there is a danger that the educator may not take account of modes of communication other than spoken discourse and may assume a lack of engagement when in fact attention to non-verbal modes may reveal this is not the case. In this instance the contributions of the less verbally and gesturally assertive Alex are largely ignored both by the teacher and his fellow pupil, Jasmine, and by his own admission, in the first instance by the researcher. The concerns raised by this piece of research that pupils’ engagement manifested through modes other than language may be overlooked and that this may lead to marginalising and as a result disengaging pupils, are at the forefront of the agenda for this research and discussed in more detail in section 7.3.2. These concerns have played a significant role in the shaping of the research questions and the design of the framework for analysis of data (see Chapter 4).

I now turn to recent research considering the notion of multiliteracies (Cope and Kalantzis, 2000) in the classroom and the conceptualisation and pedagogic implications of multimodal text creation in the classroom (Pahl, 2007; James et al, 2004). Here the term *multimodal* is used to describe the way diverse texts are created through multiple modes such as film, print, dramatic or digital texts, as well as materials such as in constructing models or artefacts. Zammit (2007) argues for a pedagogic approach that includes a range of text types rather than focussing on dominant canonical print media. She concurs with Marsh (2002) and Dyson (2003) on the potential of popular culture texts in developing literacy skills and argues for regarding all texts as multimodal and critically analysing them accordingly (2007:61). In this particular study Zammit describes how students were encouraged to describe articles in children’s magazines looking at ‘generic organisation, key language and visual features’ (2007:62). From scaffolded exercises in critical multimodal text analysis the students were enabled to create their own multimodal texts. One of the follow-on effects of this research project was the students’ engagement with the layout and presentation of their work in the exercise books. The relevance of this

research here is in the valuing of texts in a variety of modes, not focussing solely on print. This is something which resonates with the valuing of multimodal texts produced by pupils in child-to-child interactions in classroom activities in this study. This model which considers texts produced by children in a range of modes opens the way for the consideration of non-verbal embodied modes used in text production in this study.

Pahl (2007) usefully expands the notions of literacy events and practices (Street, 2003) to refer to *multimodal events and practices*. Literacy practices are a kind of verbal repertoire of literacy acts ‘people carry around in their heads’ (Pahl 2007:86) and literacy events are the realisation of those repertoires as text. Multimodal practices could be conceptualised as our repertoire of use of communicative modes (just as we have idiosyncratic and learnt ‘ways of saying things’, we also have idiosyncratic gestures, postures, ‘ways of being’). Multimodal events are the realisation of those repertoires. Pahl (2007) also draws upon the *sites* where these multimodal events and practices are located (certain postures in certain social situations such as the sitting cross-legged typical of the primary classroom on the carpet) and the *domains*, or the worlds where these practices and events come from (Barton and Hamilton, 1998). The texts produced by children in Pahl’s (2007) study of a partnership between artists and teachers at an infants school in England are considered as multimodal practices and include a child watching her mother draw a plan, the child drawing a plan at school, artists drawing, children playing games in the school yard and drawing representations of those games and the child drawing her own plan of her house at home. Pahl (2007:91) emphasizes the home experiences included within the child’s representative text and the importance of the history and origins as well as futures and possibilities included within children’s texts. This perspective connects with Iedema’s (2001:187) conception of the text as a *process* or more precisely, ‘the semiotic manifestation of material social process.’ Regarding children’s texts, by which I mean representations realised through all modes not only writing (see section 2.1.3) it seems necessary to consider them in terms of processes with histories, futures, experiences from outside the frame and not as finite closed entities: in Hallidayan terms, not as the ‘collection of sentences’ but as the meaning realised through the ‘sentences’ (1978:135).



One study which views the child's text as process is James et al's (2004) study of young children's socio-dramatic play. This used video taped instances of children at play in nursery settings thus facilitating the inclusion of multimodal analysis of interactions. The complex texts described here involve dramatic interpretation of children's life experiences and reworking of texts already familiar to them together with imaginative explorations of roles that might be frightening or dangerous in the real world (2004: 167). Through analysis of the range of modes chosen by the children, James was able to discover the interweaving of reality and imagination in their play, the rules imposed and abided by in the play, the learning from each other and the metaplay that facilitates the action (2004: 177). In all the scenarios examined James et al (2004 177) found that close examination of different forms of communication elucidated the meaning being conveyed and that gestures are especially important in this kind of play.

I now turn to the studies which have used new ways of conceptualising communication and grammar to investigate analyse and describe what is taking place in our classrooms (Kress, et al 2005; Jewitt 2006; Bourne and Jewitt, 2003; Van Leeuwen, 2000). These studies have considered the position of the teacher in the classroom, in the science lesson (Jewitt et al 2001) or in the English classroom (Bourne and Jewitt, 2003; Kress et al 2005). Interactions between teacher and pupil have been analysed with attention paid to the multimodal nature of face-to-face interaction.

In investigating the literacy practices of secondary age pupils for The Production of School English ESRC research project, Bourne and Jewitt (2003) set out to discover how English teachers are creatively constructing their subject on a day to day basis in the classroom. The ethnographic data included videoed instances of lessons and these were analysed multimodally: that is to say attention was paid to all modes of communication which took place including gesture, gaze, image and movement. Whilst the study is interested in the collaborative aspects of the production of school English between pupils and teachers, the main focus in this particular incident analysed is on the teacher and the resources she employs in her 'orchestration' of debate in her classroom. The analysis considers the teacher's bodily position in the classroom, the formality and informality of her changing postures and the way that

she uses her knowledge of the pupil's lives to help them interpret the text they are studying. The use of gesture to orchestrate the classroom discussion, encouraging, holding back, leading in or allowing a contribution is generically resonant of the talk show debate (2003:67) the teacher commenting in interview that the pupils watched these shows and that the influences on their speech style had been noticed in the classroom. The pupils' engagement in this classroom debate and their adoption of the talk show genre (2003:70) is realised through gaze and gesture as well as the register of their speech. In this investigation of how literacy is taught and learnt in a secondary lesson, the inclusion of all modes in the analysis revealed that:

The teacher ...is involved in the choice (of representational and communicational affordances) and designed orchestration of a range of modes to suit her own specific purposes. Even where speech is foregrounded as in this lesson, the teacher also uses image, gesture and body posture ...to construct meaning.

Bourne and Jewitt, 2003: 71

In *English in Urban Classrooms*, based on the same research project, Kress et al (2005:29, 31) give two examples of teachers' use of the modes of gaze, gesture and posture to communicate with pupils. One teacher rarely looks at his pupils, with the exception of direct admonishment, and keeps his gaze above the classroom giving the effect of being engaged on a task on a higher level, 'a task somehow above all of them' (2005:29). In contrast, he uses talk and gesture to closely interact with his pupils, gesture for those aspects of the interaction 'not fully done with talk'. He holds particular gestures for a moment. This suggests that whilst he is not looking at his pupils he is expecting them to look at him and by holding his postures or gestures he is drawing in their gaze or even demanding it. Kress et al comment on this teacher's embodiment of meaning:

.....the meanings made in the mode of gesture are as it were, in the body of the teacher, just as the effects of his positioning, movement and use of gaze have the same force. In this manner, English and its meaning seem to be held in, displayed by, actualized through the body of the teacher:

Kress et al, 2005:30

Each teacher is seen to employ different modes differently. The second example (also in Bourne and Jewitt, 2003) uses gaze where the first used talk, to manage the pupils' contributions and actions. When she is talking to the pupil she is also looking at them and the effect of this is a straightforward, uncomplicated levelling of interest at the pupil. If these teachers are using modes such as gaze and gesture to fulfil functions

such as receiving information or allowing contributions differently then it is possible that the children in my study may choose to use different modes to contribute different meanings within any interaction.

Work in this area does not restrict itself to embodied modes but also includes design as in the layout and organisation of the classroom (Kress et al, 2003: 23,31) and of visual displays within the classroom (Kress et al, 2003: 26, 32) and the design and layout of the printed page, (Kress, 2007: 36), diagrams drawn by the teacher on the board (Bourne and Jewitt, 2003:66) and children's drawing (Van Leeuwen, 2000: 7). In 2001, Jewitt et al analysed pupils producing texts in the science classroom and examined the texts themselves in order to understand the processes of learning enshrined within them (2001:7). The work produced by the children, their making of signs anew, is a manifestation of how they shape meaning using the resources available to them. Examining the way they exercise their choice of mode and materials according to their interests and their wider life experiences can give insight into their thinking and construction of knowledge. Jewitt et al (2001:7) are concerned that despite moves away from transmission models of teaching, or 'autonomous models' (Street, 2003) pupils' texts are still interpreted according to pre-designated standards modelled by the teacher and required by assessment standards. Here they propose an alternative, whereby texts are read as a pupil's construction of meaning using resources in the way they seems most appropriate to them in the making of new signs. The focus of the paper is 'how pupils use the resources made available to them in the classroom, from the teacher and from other sources (e.g. other lessons, from the television, their experiences and interests outside school) to construct meanings' (Jewitt et al, 2001:7). [Pahl (2007) is similarly concerned with the aspects of text construction to do with historical influences from culture and society and from the home environment, in the production of school texts.] In analysing the drawings of onion cells by four pupils for a year 7 science lesson, differences between the pupils' representations were noted. The teacher had primed pupils' expectations of what they might see through the microscope and guided their interpretation of what they can see through the use of the metaphors of 'honeycomb' and 'building blocks'. The children are positioned between the scientific reality, as presented by the teacher, and their own interpretation through personal experience and discovery. Jewitt et al suggest that this 'created a gap between teacher expectation and pupils' experience. It is in these

gaps that variation grows' (2001:10). Whilst one pupil described what she could see as like a brick wall, following the suggested lead from the teachers use of the building blocks analogy, another described and drew 'a wavy weave' (2001:13). She explained this as being 'a cotton weave like a sheet' and 'like skin'. Where one design was sharp-lined, rigid and solid, the second was organic, rounded and fluid. These children have looked through a microscope and represented what they have seen quite differently. The construction of these texts was multimodal, involving speech, actions and images. The choices the pupils made, about whether to include the air bubbles accidentally trapped on the slide for example, could be problematic in that they either had to ignore them as irrelevant or include them because the experiment involved drawing what could be seen under the microscope.

The multimodal analysis of the negotiations that took place in the process of the text production 'emphasize the dynamic nature of the process of learning and the ways in which different pupils' interests influence this process' (Jewitt et al, 2001:13). This is of direct relevance to the questions in this study inquiring into the contribution of modes other than language to the communicative process and the construction and presentation of knowledge through all modes. The attention to all modes and the richness of description which this made possible has paved the way for this study of pupil to pupil interaction. Bourne and Jewitt are clear that 'A multimodal analysis enables us to examine the ways in which 'that which can not easily be spoken' is realised in the English classroom' (2003:71) and this was something which I wanted to test out in children's talk amongst themselves.

Thus far studies reviewed here have examined children's *talk* or have looked multimodally at *teacher-pupil* interaction. To date there are few studies using multimodal analysis of children's interaction amongst themselves to reveal more of what is taking place (Flewitt, 2005, 2006; Leung, 2009; Finch, 2008 unpublished doctoral thesis). Finch's (2008) work examined the ways in which children engage with repeatedly viewed film in domestic settings. He used ethnographically generated data of children watching a film in pairs at home and analysed film data using discourse and multimodal analysis concurring with Taylor (2006) that children's interactions need to be analysed multimodally in order to give as full a picture as possible of what is taking place. I lastly consider Flewitt's work examining the

interactions between pre-school children and return to Leung in the following section on creativity in children's interactions (2.3).

Flewitt's (2005) study investigated pre-school children's meaning-making in home and school environments. The study used multimodal analysis of video taped episodes to uncover the different meaning-making resources being used by the children in different settings. Concerns that the focus on talk in early years institutional settings may be detracting from the rich variety of resources being used by the children were raised by this research. Flewitt (2005:209) sees the current educational climate with its emphasis on assessment as privileging the mode of speech and writing as 'the more easily assessable modes'. As a result

The multimodality of pre-school children's meaning-making remains undervalued and under-researched.

Flewitt, 2005:209

This is a concern of this researcher within Primary and Secondary settings and while the focus for this research is Key Stage 2 children, future study may consider interactions across education settings. Flewitt compared the playgroup teachers' perceptions of the communicative skills of the children with their home practices. Children who were considered 'quiet' as opposed to 'good talkers' by playgroup staff (2005:209) were thought of as 'good talkers' by their mothers (2005:210). By analysing interactions multimodally, Flewitt was able to see that whilst children may not use talk in certain situations that does not preclude meaning-making through other modes. In one particular episode, Tallulah, regarded as communicative at home and quiet at pre-school, worked almost silently with another child for over 20 minutes, exploring colours and 'jointly discovering that white glue mixed with pink and blue paint first made streaks and then the colour purple' (2005:215). Flewitt observes their 'text' is created through 'imitative movements, timely glances and gaze' (2005:216) and that rather than focussing on an absence of talk, the key to this conversation is the children's 'orchestration' of their sign making. This is not to suggest that talk is not valued and Flewitt acknowledges that:

The richest adult child exchanges occurred in dyads, or small groups, when the adult adopted an open questioning style, using words *and/or* body movements to negotiate pace and control of an activity.

Flewitt, 2005: 221

However, the overriding message from this research is that the interactions between children in the pre-school setting were often negotiated through modes other than speech: in fact that entry into games was mostly negotiated through actions as talk had no guarantee of access (2005:221). Flewitt also describes the apprenticeship of younger children into the talk in groups led by an adult whereby the child observed the social practice of that group whilst being a member, albeit on the periphery. This silent interaction however, was not taken account of by staff:

While effective for communicating with peers, the children's silent expressions of meaning carried little currency with staff who prioritised children's talk.

Flewitt, 2005: 221

In summary the literature to date on multimodal analysis of children's interactions is scant, yet what there is points to a need to take account of all meaning-making resources employed by children if we are to fully appreciate the communication taking place between them in educational settings. This research aims to fill a gap in our knowledge of children's meaning-making. The next section addresses a key area for this research, that of the creativity inherent in children's meaning-making processes.

## **2.3 Creativity and Meaning-Making**

### **Introduction**

The third of my research questions concerning children's face-to-face interaction in classroom settings is:

What kind of additional information can multimodal analysis offer our understanding of creativity in children's communicative practices?

In order to situate my research within the literature to date around this topic, I consider a number of competing theoretical views of what creativity comprises. I then focus in the first instance on perspectives on creativity in language, and spoken language in particular given the focus on children's interaction in this research. I then

consider literature to date looking multimodally at creativity in children's communicative practices.

### 2.3.1 Overview of Creativity

I begin with consideration of the term 'creativity' for it is not uncontested. It is not possible to fully debate meanings of 'creativity' here due to time and space constraints but I give a discussion of a selection of perspectives which inform the framing of my question. To garner an overview of current usage of the word *creativity* in the field of education I turn to the Rose report on the review of the primary curriculum (2009). In the press release, creativity, like problem solving, is spoken of by Sir Jim Rose as '*an area of learning*'. In the section entitled 'Mathematical Understanding' it is collocated with 'natural inquisitiveness' suggesting a view of creativity as *an inherent property* of the individual psyche. In 'Understanding English, Communication and Languages' creativity is collocated with 'imagination' and used adverbially *as a manner of expression*, the idea that children 'should express themselves creatively'. In Science and Technology children are asked for 'creative ideas', which suggests a *product* rather than process view of creativity. It is also considered to be a *quality* which can be developed (in Understanding the Arts).

In summary then we have a concept of creativity which encompasses the following

- a natural ability, something we are born with and/ or
- a skill to be acquired
- and/or way of behaving

These first two are resonant of two familiar positions in education theory, innatism and behaviourism, usually regarded as in opposition rather than juxtaposed. In order to deconstruct this further closer inspection is required.

Educational discourses, such as in policy documents, reports, text books, seemingly do not have a single definition of what 'creativity' is. The meaning of word 'creativity' encompasses many attributes in many different situations (Cropley, 2001: 16). There is no consensus on what is creativity and what is not and there are reservations about setting 'creativity' up as something tangible which could then invoke a binary opposite of something which is the other, 'not creativity' (Banaji and

Burn, 2007:68). Instead, creativity can be seen to encompass many qualities and enter many spheres of our social worlds. Perkins (1988:311) defined creative people as producing creative results, and creative results being 'original and appropriate'. This too can be problematical as notions of *what is held to be appropriate* beg the question 'by whom?' Fairclough (2003:98) writes of legitimation through Authorization, or the reference to tradition, culture, law, institutions or custom. If a creative idea needs to be appropriate, it can potentially be constrained by understandings of what that means. Some creative ideas are widely thought of in public arenas as inappropriate. (such as Damien Hirst's horse's head, or the proposed design of the new wing of the Chelsea barracks decried by Prince Charles' followers). At its most basic, creativity is seen to be the creation of something new (Starko, 2004:5) with the proviso that it needs to be somehow related to existing ideas, initially for it to be thought of in the first place and also, like Cameron's position on language (2001: 15) for it to be comprehensible to others (Boden, 1994), for if it were completely new no-one could comprehend it. This is less constrictive a view than the notion of 'appropriacy' described above (Perkins, 1988).

Boden (2004) further distinguishes between H-creativity, where the thing created is historically new for the whole of humanity, and P-creativity which is psychological and new for the individual. The problem with this distinction could arise if a scientist invented something utterly novel and of immense historical significance only to discover that another scientist working on the other side of the world had invented the same contraption two weeks previously. Rather than separate entities, Sternberg (1993) sees H- and P- creativity as being at opposite ends of a continuum with examples all the way along it. I am concerned that this continuum view of creativity would preclude a novel product being a result of both H-creativity and P-creativity. If a creative idea is new to the whole of society, it must necessarily be new to the individual creator.

Without denying that society needs innovative ideas and creative solutions, we can accept that not all creative acts need necessarily feed artistic or historical canons. They may need to feed the mental good feeling of producing good work however. Csikszentmihalyi (1996) describes the concept of Flow where with attention focussed on a specific task, engagement and absorption in that activity and use of a skill, a state



of happiness can be achieved: the reward for endeavour is the feeling of being engrossed or 'in the groove' with a task. Some element of focussed attention or work is required in producing creative results. Some theorists have taken this to an extreme. In denying such a thing as 'the creative leap', Professor Brian Lawson (Lawson, 2009) maintains that innovative thought and scientific discovery are the result of hard work and application of skills learnt through years of study. This is a view of creativity, or rather the non-existence of it, which believes in exceptional results, be they scientific or artistic, arising not from genius but from hard work.

This conception of creativity, or rather the denial of it, is in direct opposition to H-creativity, whereby creativity is possessed by talented or exceptional people whose creative acts have given them eminence or posterity, Einstein, Da Vinci, the Brontes, Darwin for example. It does not account for the everyday commonplace creativity which all humans use to a greater or lesser extent at work and leisure in modern society: the title for a dissertation, the shortcut to avoid a road closed, the meal conjured up in 10 minutes from leftovers, witty e-mails to friends, the home-made Christmas card.

There are therefore many other ways of conceptualising creativity than solely as the exceptional work of a talented or hard-working person. Schools are encouraged to foster creativity, or creative thinking skills, among their pupils. (DfEE 1999, NACCCE; 1999). The word is used with positive connotations embracing a wider meaning throughout school curriculum policy documents from the 1990's on. Craft (2005:7) refers to a universalising of creativity whereby 'everybody is capable of being creative, given the right environment'. On the QCA website creativity is thus defined:

First, they [the characteristics of creativity] always involve thinking or behaving **imaginatively**. Second, overall this imaginative activity is **purposeful**: that is, it is directed to achieving an objective. Third, these processes must generate something **original**. Fourth, the outcome must be of **value** in relation to the objective.

QCA (2009)

It is the notion of *value* which can prove problematic when considering who decides what that 'value' comprises. Thomson et al (2006) investigate an incident arising from

a current common practice in schools, that of inviting artists, poets, dance groups or writers into school as practitioners of the creative arts. The incident examined resulted in the Head teacher preventing the dissemination of the creative work of the pupils, comprising satirical or dark views of a modern school, for fear of causing offence or concern to the school community.

Banaji and Burn (2007:62) distinguish between ten rhetorics of creativity including for example Creative Classroom, Ubiquitous Creativity and Creative Learning as well as the Creative Genius model. The Creative Classroom rhetoric is concerned with pedagogy, the questioning of links between knowledge, learning skills and literacy, and the place for creativity in the monitored, regulated classroom. As its name would suggest, the rhetoric of Ubiquitous Creativity holds that we are all creative in our everyday life in response to daily demands whilst Creative Learning rhetoric is founded upon the ideas of creativity being intrinsic to a social model of learning (Vygotsky, 1998).

When conceptualising creativity in this study, it is important to be aware of positions on whether creativity is something every individual is born with (Maslow, 1968:143) or whether it is developed during our lifetime beginning with children's imaginative play ( Vygotsky, 1998). In this study Carter's (2004) conceptualisation of creativity in everyday spoken discourse (discussed more fully in Section 2.3.2) is paired with Vygotsky's social conception of creativity as most appropriate and most in keeping with the epistemological and ontological position of this research. As with his view of communication, (socially achieved through the use of semiotic tools,) Vygotsky's (1978) view of play is that it requires 'the social use of tools for making meaning: resources endowed with meaning by the imaginative work of the user, such as a broomstick, which in play might become a horse' ( Banaji and Burn, 2007: 64). Play is seen as a developmental step in the direction of creativity which in maturity encompasses rational thought or intellectual work and imaginative work together. From this standpoint play is seen as vital in the development of our ability as adults to think creatively, in problem solving in our everyday life, or in the creative leap of the scientific discovery where the meaning of a problem suddenly becomes clear, or in the creation of a text for ourselves, or for the enjoyment of others. Cropley (2001; 86) acknowledges the differences between acclaimed creativity and everyday creativity. It

is the everyday creativity which is of particular interest to this study in the everyday setting of the classroom. Having given an overview of (at times competing) perspectives on creativity, I now turn to a theory of everyday creativity in language.

### 2.3.2 Creativity and Language Use

Prior to Carter's (2004) work on *The Art of Common Talk*, Tannen explored the imagery and poetry of our conversational discourse with the central idea that those aspects of language which we consider literary, or characteristics of crafted written texts, are in fact properties of our ordinary conversation (1989: 1). Tannen explores resources for showing involvement in conversation such as repetition - of words or sounds, or dialogue –often called reported speech- in discourse and the use of images and details in our everyday conversation. Within the discussion of repetition Tannen (1989) looks at the way we repeat another's words to cohere the conversation, or repeat our own words for emphasis.

Repetition, however, in conversation starts before the utterance has been conceived in our heads, for our whole language is made up of words and phrases used before in accepted orders, collocated with the usual suspects and as comfortable as old slippers (I use the clichés and idioms deliberately). Tannen refers to this as pre-patterning (1989:37) and it is consistent with Bakhtin's conception of speech genres (2.2.1). This position is not uncomplicated and raises the question of the individual voice: How do we account for individuality and creativity in communication if we are operating within the confines of pre-patterns of language or pre-ordained speech genres? Bakhtin is clear that 'a speech genre is not a form of language, but a typical form of utterance' (1999: 129). Typical expressions and typical themes occur in certain situations but are not compulsory language forms and there is always the possibility of re-accentuation. Meanings of words belong to the users – that is the participants in any conversation. Bakhtin (1999:129) proposes that words exist in three aspects: as neutral and belonging to nobody (in a dictionary), as *another's* word, imbued with the resonances of another speaker and as *my* word, with my expression. In the latter two the meaning does not lie with the word itself but with the conditions under which it is used. This is not a negative 'everything that is said has been said before' (Gide, 1891) view but a creative view of language championing possibility and individuality as well as recognising the shaping and influences of Discourses in our society.

The notion of 're-working and re-accentuating' is a theme I return to presently. The main point here is that whilst speakers have an individual voice, they are not the first person to speak on any given topic:

The topic of the speaker's speech...does not become the object of speech for the first time in any given utterance.

Bakhtin, 1999: 131

The utterance is marked out as being unique and original through its addressivity, that is the audience or co-participant in a conversation (1999:132). It is the changes that we make to our speech in style and composition, according to the situation we are in and the people that we are communicating with, that determine the originality in composition.

Tannen (1989:38) explores further the notion of pre-patterned language forms which she has termed **fixity**. Highly fixed forms such as sayings, catchphrases and proverbs are integral to our speech, as are less fixed instances such as collocation, the placement of certain words in certain order ('fish and chips' not 'chips and fish') and prosody. Wennerstrom, in the aptly titled 'Music of Everyday Speech,' defines prosody as 'encompassing intonation, rhythm, loudness and pauses as these interact with syntax, lexical meaning and segmental phonology in spoken texts' (2001:4). Tannen terms the 're-accentuation' or creative play with these fixed forms **novelty** and this is something I return to in the analysis in Chapter 5. In spoken discourse then, creativity can be seen to rest between the elements of fixity and novelty in our spontaneous speech; the way we construct something new which is prosodic and includes those fixed elements which make it intelligible to others. To clarify this position in relation to social semiotic theory of communication, creative communication does not simply involve new use of communicative resources. In social semiotic understandings of communication, 'meaning is always re-made and therefore never fixed in any mode' (Bezemer 2008:169). This may appear to be at odds with the notions of fixity and novelty in language use. In each act of meaning-making all semiotic resources are presented in a new way by each communicator. The meanings are newly made according to the context and by the individuals involved. Those meanings are made using semiotic resources which come with patterns

associated with previous use. The patterns in language or gesture are appropriated and used a-new by each person to signify something which is recognisable to others and therefore not entirely new but connected to what has gone before. Creativity involves an imaginative re-working so that something uttered or presented is new, novel and divergent from what is an expected representation.

Creativity is assumed to involve novel analogies or combinations between conceptual elements which have been previously unassociated.

Carter, 2004:47

Creative use of modes therefore involves a divergence from previous use. In this way, creative meaning-making could be considered as separate from 'routine' exchanges as identified by Hymes (1962). Thus whilst the social semiotic view of meaning-making is that all acts of meaning are newly made, there is an understanding in this thesis that some follow routine patterns, and others are more divergent from what has gone before and are 'novel' and creative.

In 2004, Carter extended Tannen's (1989) work taking a ubiquitous perspective on creativity. Carter has repeatedly insisted that 'creativity' is a property of everyone's speech, arguing that:

Linguistic creativity is not simply a property of exceptional people but an exceptional property of all people.

Carter, 2004: 13

and that it occurs naturally and frequently in everyday interactions. Some reflection and clarification of the meaning of the word 'creativity' as used by Carter is needed here. Carter discusses his use of the word 'creativity' by relating it to its lexical partners of the concepts of individuality, genius and originality and recognises that the use of the word, as with any other, changes over time and according to cultural and social contexts (2004:25). It is difficult to define and not confined to any particular research paradigms or traditions. He acknowledges the assumption that creativity is a spiritual process beyond scientific investigation. He describes the historical development of the understanding of the word from classical and medieval origins as something 'divine' through to 18<sup>th</sup> century sense of human artistic creation. He arrives at the contemporary meaning of creativity as 'an ability to produce work that is novel and appropriate' (2004:29 from Sternberg 1993:3), that is to say 'new' and connected

to a context with outcomes that are specific to and valued within a cultural community. He also acknowledges the positioning of the word within contemporary dominant Western discourses and the contrasting views developed in other cultures.

Carter's (2004) rationale for exploring creativity in common talk is that creativity in language has previously been largely associated with literature, in written texts rather than spoken. He challenges the notion that linguistic creativity is the preserve of considered structured, edited written language and proposes that creativity arises in spontaneous dialogue and can form a valuable role in the construction of interpersonal relationships. Possibly most relevant here to my research with children is the way that Carter reclaims the territory of creativity from the idea that it is concerned with 'the highest levels of human achievement' (2004:49) and argues 'it is a mistake to look ...only towards gifted individuals' and that creativity is not limited to a few but there is a 'continua of creativity'. He posits that 'to focus on common talk is ...to enhance the ordinary, everyday, culture-specific achievements of each of us'. There is a purpose in my proposed research in investigating and celebrating the everyday creative achievements of children in their everyday interactions.

I would now like to turn to some of the ways in which creativity can be expressed in everyday interactions. I consider ways of looking at language as something creative and then examples of creative features of spoken English as identified by Carter. Firstly, Carter explains that common talk can be speech or spoken genres realised through text such as texts, e-mails or internet chat. The choices that we make from underlying semantic systems can be creative: Carter here speaks specifically of language but that could be extended to other modes of communication. From the study of literary language Carter examines the notion of inherency whereby literariness or creativity is a departure from what is expected, giving the example from Dylan Thomas of 'A Grief Ago'. In this example the word 'grief' most commonly used as an uncountable noun to express sadness following the death of a loved one, is used to signify a period of time when paired with 'ago'. Eagleton's point, that 'anything can be literature,' (2004:62), is followed by a comparison of 2 texts, one from a car manual, the other from 'Lucky Jim'. Carter explains how the interactions and associations between the words give the latter its literariness and argues for a cline or continuum of literariness. He then goes on to describe how creativity is a two-

way process with a range of social purposes referring to Bakhtin's view of language as dialogic, each utterance responding to previous and potential utterances and co-constructed by utterer and receiver. His view of this continuum has 'some uses of language being more literary than others in certain domains' (2004: 69).

The features of spoken language being identified as creative by Carter include language play, such as puns, riddles and verbal duelling, figures of speech such as metaphor, simile, metonymy, idioms, hyperbole, and slang expressions, and patterns of talk such as repetition and morphological inventiveness. The pilot study for this research (Taylor, 2006) included some of these features such as the use of repetition and an example of nonsensical rhyming – 'defender' with 'tea-tender' which amused the group and relaxed them. In this way common talk is examined through a two-fold system, considering patterns of talk and figures of speech. From there, Carter considers the contexts of instances of common talk such as transitional, professional, social and intimate, and the functions of interaction such as information provision, collaborative tasks and collaborative ideas (2004:165). Space or opportunity to be creative is a commonly occurring theme in discussions of creativity in the field of education, so it is no surprise that collaborative ideas in intimate settings are shown to be prone to being more creative uses of language than a transactional information giving exchange such as a commentary by a museum guide. An example which Carter gives from the CANCODE corpus is a conversation between two friends about a third person who has borrowed some money. In debating whether the money will be repaid, given the reputation of the third person as a 'bad payer', one says

'Brian, can you see those pigs over my left shoulder moving slowly across the sky?' (Carter, 2004:23). Both the speakers laugh at an instance of creative language use, both recognising the playful re-working of the idiom 'pigs might fly'.

Finally I turn to a term used in linguistics, intertextuality, which can be applied across cultural studies and in multimodal studies (which I explore in more detail in the following section 2.3 3). Julia Kristeva (1986) defined the term 'intertextuality', meaning that every text has meaning in relation to other texts, following on from Bakhtin's proviso that:

...any utterance is a link in a very complexly organised chain of other utterances.

Bakhtin, 1999: 124

This notion has been applied in the fields of Literary Studies, Linguistics, Media and Cultural Studies. Foucault (1974:23) described a text as ‘a node in a network’ which captures the way in which texts are not separate, finite entities but fragments of a whole and each piece is interconnected with other texts. The relationship between the texts forms the ‘intertextuality’ whereby by bringing in an element of another text we bring in meaning to our text. Hyatt (2007:135) usefully refers to this as ‘borrowings from other texts’. This could be quotation, or citation or reference to other texts as in academic writing, or the uses of phrases or contextual references to other genres of speech or writing. I use the term intertextuality here as referred to by Cameron (2001:130) whereby ‘in alluding to other texts an author can transfer something of those texts’ qualities and their cultural significance into his or her own text’.

One example of this transference of qualities could be the re-telling of the fairy story *The Three Little Pigs* by Jon Scieszka (1989) as a children’s humorous picture book. This book uses the written genre of the newspaper column and the cultural genre of gangsters from 1930’s Chicago to enrich the storytelling and the characterisation of *The Big Bad Wolf and the Three Little Pigs*, itself from a genre of traditional tale. In the field of education research Maybin (1994:142) has used the closely related concept from Bakhtin and Voloshinov of the taking on of others’ voices. Bakhtin notes that in everyday conversation much of our talk is taken up by:

...what others talk about- they transmit, recall, weigh and pass judgement on other people’s words, opinions, assertions, information; people are upset by other people’s words or agree with them, contest them, refer to them.

Bakhtin 1981:338

Maybin’s research into children’s undirected informal talk discusses the children’s use of others’ words and this is an aspect of children’s face-to-face interaction in classrooms of interest to this study. Maybin (1994:148) sees the use of others’ words as one of the ways in which children develop their own sense of their identity and the contextual layers in their talk. One of the tasks of this research is to investigate whether this is restricted to language or realised through other modes. Consideration of Intertextual referencing and more closely the use of other peoples words is a key site of interest to this research and in the next section I consider the literature to date on multimodal creativity in children’s’ face-to-face interaction.



### **2.3.3 Multimodality and Creativity**

Thus far I have considered views of creativity in the field of education and highlighted those most appropriate to the questions in this study. I have examined Carter's (2004) view of creativity as 'not simply a property of exceptional people but an exceptional property of all people' (Carter, 2004.13) and the way this has been related to the creative moments in spontaneous everyday speech. This study is not solely concerned with language however, and it is an inquiry into the multimodal communicative behaviours of children in the classroom. I wish to understand how creativity is being expressed by children in all modes. The literature to date considering multimodal creativity has tended to focus on New Literacies and the use of new technology in the classroom (Walsh, 2007; Zammit, 2007; Jewitt, 2002). In this study the interest chiefly lies with embodied modes of meaning-making in spontaneous dialogue.

Studies of interaction have historically included modes other than speech to a certain extent: this has become more prevalent with the ease of access to digital video recording equipment. In a very recent study of children's collaborative co-construction of narratives in informal settings, over lunch in fact, Leung (2009) notes the gesturing and dramatisation was examined as integral to the meaning-making taking place. The transcript includes spoken discourse with actions, postures and gestures as they arise and Leung is clear that non-verbal modes have played an important part in the construction of narratives by these girls:

Their use of language and body movements to express their shared stories and their openness to turn taking by the other girls demonstrate the closeness of their relationship.

Leung, 2009: 1352

Whilst features of gesturing, such as the repetition of gestures during the conversation (2009:1345), was noted, the focus of the analysis was on the spoken narratives. I wish to follow the example of Jewitt and Kress (2003) in not privileging speech over other modes. This is my position having conducted a pilot study as part of my Master's degree in Education Research.

As part of the research for this degree, I conducted a comparative study into the use of discourse analysis and multimodal analysis as research tools for investigating

children's classroom communication (Taylor, 2006). The focus for the study was discourse and multimodal analyses of a fifteen minute conversation between five six-year old boys. One of the conclusions of this study was that the evidence pointed to considering all communicative modes when investigating children's communication. This initial study into children's multimodal meaning-making indicated that children were taking 'signs' from one mode and re-contextualising them through the use of other modes (Taylor, 2006). One example was the humming of the Match of the Day theme tune used to set the scene for the re-enactments of football moments. This was not a straightforward repetition as the programme watched was not this particular programme. Rather the use was an intertextual reference used to contextualise the scene for other members of the group. In a further instance of intertextual reference across modes, the poses adopted by the boys in their re-enactment could be seen not as real action replay but as a reproduction from images captured by photographers and reproduced as still life in magazines such as Match. This '**postural intertextuality**' (Taylor, 2006) is an example of the automatic, unconscious, strategic use of intertextual references which Maybin (2004:102) observed as an intrinsic part of children's talk. In this case the creativity, or the introduction into the conversation of something new yet related to existing ideas, can be said to be realised multimodally. The children were creatively using intertextual references to give meaning and enrich the contextual information as part of their meaning-making (Starko, 2004).

There is also one further aspect to multimodal analysis of communication. There is a growing argument that linear progression in our communicative practices associated with language and linguistic expression are evolving into 'more disparate, non-linear, non-hierarchical, more freely recombinative, circular and serialized kinds of representation' (Iedema, 2003:38 citing Eco, 1990:83). This notion is taken up by Bearne (2003:98) who posits that 'children's familiarity with new forms of representation and communication mean that they are thinking differently from those adults who were brought up in a more print dominated world'. This may have implications for literacy practices in that the linear possibilities of the page are being extended by the new dimensions of the 'televisual multimedia world' (Bearne, 2003:98). Furthermore, investigation into creativity in children's multimodal meaning-making may reveal more of non-linear ways of structuring thought and communication.

## **Concluding Remarks**

This literature review cannot be considered wholly comprehensive, partly because of the limitations of word limits, but also because it has been constructed from my interests in this subject. The methodology chapter following discusses literature relating to the methodological approach and analysis. In this Literature Review, I have stated that my interest lies with the social as opposed to the psychological: I am interested in what is communicated and negotiated between people rather than attempting to discover what is inside the mind of individuals. I have brought together three main foci in this literature review, socio-linguistics, multimodal communication and conceptualisations of creativity and all three are considered from the perspective of education research. This project draws upon previous research in these areas to contribute some new insights into children's multimodal meaning-making. In the following chapter I present the methodologies which underlie the research design and discuss the researcher position which has directed the choices of methodology made.

## Chapter 3 Methodology and Research Design

### 3.1 Introduction

In this chapter I outline the philosophical and methodological bases for this research. I explore the connections between the qualitative nature of the research design and process, the context for the research including the school, the sampling process and researcher position, and the conceptualisation of the research questions. The approach to analysis and interpretation of the data is presented in chapter 4. I also examine here the ethical considerations which have been taken into account and embedded in the research process.

The methodology for this research is based on a qualitative approach to social research. It draws upon not one but several fields of social research; ethnography, anthropology, a social semiotic theory of communication and sociolinguistics. In this chapter I show how the philosophical beliefs underpinning this research flow through the methodology, the research design and the unique method or process I have devised through which this work has been accomplished. I discuss the qualitative nature of the inquiry and the contributions of the aforementioned fields to the design of the study.

Firstly I discuss the qualitative nature of the research as exemplified by the choices of research methodologies. As identified by Cresswell (1998:2) ethnographic research is an approach grounded in traditions of inquiry associated with qualitative methodology. I have collected – (or as I discuss in the following chapter, (4) **generated**) - naturally occurring data comprising examples of everyday classroom practices. This study is also qualitative in its research design from the conceptualization of the questions, concerning children's communication, to the approach to data gathering, the kind of data, (video recorded data, audio recordings and observation notes), evolving analytical processes and emergence of significant features.

In order to discover, or uncover, some answers to my questions I have been required to observe, record and minutely examine spontaneous interactions between pupils in school settings. This study records children's natural communicative practices with as little interference as possible from outside influences. However, given that a researcher video-recording a situation is almost certainly going to have some effect on what takes place, a full exploration of the implications of this and what it may be possible to achieve is included in this chapter (3.3.3).

I explain how my personal motivations and position in the community I am working with shape and drive the research process. It is my connections with this particular school which have enabled me to become close to the daily events and interactions with as little interference as possible. I have deliberately immersed myself within this class of year 5, nine or ten year old pupils as a helper and researcher having first conducted research with them in year 2. I am known to them as a fellow pupil's mother (in a different year 5 class) and as a school governor and currently Chair of governors. In addition to the pre-existing relationships, I have worked with this class over an extended period for several days per week over four months, totalling 27 days. A full exploration of researcher position and the context for the research is included in this chapter (3.3.1). Field notes in this study are vital in contextualising the specific instances under examination.

A combination of these factors positions the research as a study with an ethnographic perspective. Its interest in communication further positions it within a branch of social research termed Linguistic Ethnography. However, it also shares much in common with work in the field of Linguistic Anthropology with its broader concerns with all communicative modes. These are not discrete areas but share much in common and are mutually coherent (3.2.1; 3.3.2.) Its use of multimodal analysis as a 'toolkit' (Baldry and Thibault, 2006) for understanding and explaining the communication taking place between pupils further distinguishes this study from straightforwardly linguistic studies and is at the heart of the philosophical position of this researcher.(3.2.5) These are the aspects I wish to explore in more detail in the next section.

### 3.1.1 Philosophical and Methodological Basis for Research

In order to consider the choices made in the methodological approach to the design of this study, it is necessary to reflect upon the research questions. As Wellington notes (2000: 49) any study starts with the questions which then dictate the approach to inquiry.

My questions concerned with classroom communication are -

- What do modes other than language contribute to the communicative process?
- Is there evidence that children can construct and present knowledge and understanding through multiple modes?
- What kind of additional information can multimodal analysis offer our understanding of creativity in children's communicative practices?

And concerned with research methodology are -

- How can multimodal analysis be best used to inform studies of classroom communication?
- To what degree do educational researchers need to take account of extra-linguistic contextual factors?
- How best should researchers decide what modes and aspects of modes to include in multimodal analysis of children's classroom communication?

These questions are the product of my inquiring mind and have their origins in my ontological views and personal experiences in the field of education.

### 3.1.2 Qualitative Inquiry

These research questions are concerned with the ways in which children communicate with one another in the daily life of the classroom, and in this section I show how they dictate the necessarily qualitative approach to the research design. In terms of the choice between qualitative or quantitative methods, Cresswell differentiates between quantitative and qualitative research questions by looking at what the question is asking for.

In qualitative study the research question often starts with a *how* or a *what* so that initial forays into the topic describes what is going on.

Cresswell, 1998: 17

This is my approach, to observe and describe what is taking place and to achieve a greater understanding of *how* and *what* is taking place through this process. Further

reflection upon *why* particular methodological approaches are useful to the educational researcher is explored in chapter 6.

Whilst I was in the midst of analysing and transcribing and sifting through my data I was aware of Wellington's (2000) comments on the cyclical nature of qualitative data analysis, the way that the researcher has to keep moving away from the data to reconsider research questions or aspects of theory or views on data analysis, each time returning to the data with renewed eyes. With each viewing the characteristics of the data become more refined and the stories that the data has to tell become clearer and as with Glaser and Strauss' (1957) grounded theory approach, the understanding emerges or takes shape.

As part of this process of moving away and returning I reviewed Janesick's (2000) view of qualitative research and it would be valuable to consider this in examining how this research design is necessarily qualitative. Janesick (2000) uses the metaphor of choreography for qualitative research, elaborating with the examples of a minuet and an improvised piece.

The role of the qualitative researcher, like that of the dancer or the choreographer, demands a presence, an attention to detail, and a powerful use of the researcher's own mind and body in analysis and interpretation of the data. No one can dance your dance, so to speak...no one can interpret your data but you.

Janesick, 2000: 389-390

She outlines some of the main characteristics of qualitative research (Janesick, 2000: 387). I believe these are useful to consider here in relation to my own study.

The first characteristic outlined by Janesick is that it is holistic, that is looking at the bigger picture and not setting out 'to prove something or to control people': in this case that means looking at or for ways in which children make meaning and construct knowledge collaboratively. Qualitative research looks at relationships within systems – in my case the relations or the interplay between the pupils in school settings. The third characteristic, that it is concerned with the personal, face-to-face and immediate, is particularly relevant here as these are moments in time, captured through the video recording as well as through observational notes and diagrams. The focus on *understanding* in social settings – rather than *predictions about* those settings certainly applies here with a concern with how multimodal analysis can further understanding of children's meaning-making. Furthermore, the requirement of the

researcher to remain in the research setting for some time is certainly fulfilled – not just by the 4 months spent working with and filming the pupils at work but also this researcher’s detailed insider knowledge of the setting and particular circumstances of this school from a number of perspectives, namely researcher, Chair of Governors, parent, occasional classroom helper, over a period of 12 years. Janesick’s observation that the research demands time for analysis equal to the time spent on fieldwork is becoming apparent to me as I write. She suggests that qualitative design sometimes requires that the researcher develop a *model* of what occurred in the social setting. In my head I have an image of a plasticine model of children in various poses around a desk. I’m sure she means a theoretical model, but as I’m working multi-modally I am interested in the idea of a 3 D format. This may have possibilities for future research projects. There is also the observation that qualitative research requires the researcher to become the research instrument - in this case I am the channel for this research, the gaze of the camera is my own gaze, the transcripts are of what I hear and see and notice, and the analysis is what I think: there is no other way with this approach. That qualitative research involves informed consent and is responsive to ethical concerns is a major consideration here in the research design, the fieldwork and the analysis; it is soaked into every aspect. A major element of qualitative research is the description of the researcher’s role and own biases and that is what this reflective piece is all about and it will form a part of the discussion in this chapter and chapter 4. Following Janesick’s recommendations, it is my aim to construct an authentic and compelling narrative of what has occurred in this study, and as truthfully and as faithfully as possible reflect the communication between the young participants involved. Finally, this researcher recognises that analysis of data is a constant and ongoing process.

Taking this qualitative understanding of the methodology behind the research design, this study requires observation of what is *naturally* occurring in *everyday situations* in school settings. Aware of the many potential meanings and connotations the word ‘naturally’ may have, I need to explain that I use the term ‘naturally’ here to denote ‘uncontrived and spontaneous’. Putting the children into clinical or laboratory-like situations where they are observed talking to one another may be useful to a linguistics researcher interested in children’s use of grammar and syntax but it would not tell the educational researcher anything about how children interact with one another on a daily basis in their classrooms. It could be argued that:



...inquiries are influenced by inquirer values as expressed in the choice of a problem.....and.... by the choice of the paradigm that guides the investigation into the problem.

Punch, 2005: 137

This means that whilst my questions demand a qualitative approach, those questions have been devised by me, the researcher, whose philosophical underpinnings affect my approach to inquiry in the first place. My interest is in communication between children, itself an interpretive, located and evolving domain. As discussed in the previous chapter (Chapter 2) language is not a fixed entity but an ever changing concept, context specific and with multiple perspectives. The same position can be held for other semiotic modes. From this position it would not be possible to conduct this research with a view which requires a positivist approach. Such an approach would demand a fixed, objective view of meaning as wholly transmissible between humans with equal possibilities for understanding, rather than meaning being collaboratively accomplished between individuals with different possibilities for understanding. To clarify this position, I believe words, as an example of one semiotic resource, are one conduit through which meaning can be made between people, but there is not one single relationship between *word* and *meaning*. To support this position, I use the differences between *locution*, *illocution* and *perlocution* as proposed by Speech Act Theory (Austin, 1962). Locution refers to the words uttered, illocution refers to the intention behind those words and perlocution to the way that those words are received. An example of this could be an exclamation

‘It’s hot in here’

Which could be a statement about relative temperature (locution) or a complaint about the stuffiness of a room (illocution), but this could also be perceived by the listener as a request to open a window (perlocution). The understanding depends upon the context and the relationship between the speakers rather than a fixed view of meaning transmitted through words. Such a view of one mode of communication, here, language, would require that a study of multimodal meaning-making is sensitive to the intersubjective nature of dialogue.

In the next section I set out my ontological view, my understanding of reality, underlying this research and then describe the epistemological process behind the design of the project.

### 3.1.3 Ontology

I would like to show how my ontological view has impacted upon my methodological choices and the resulting research design. I originally came to this study partly with an interest in socio-linguistics and the different ways in which children make meaning through language in different contexts. My view of language as a tool for conveying meaning with socially agreed upon values rather than absolute, fixed meaning belongs with a social –constructionist view of the world. This means that the meaning of any given word is not something innately within that word but is the result of shared understanding; that is, it is co-constructed. An example of what I mean is the word ‘news’ which shows that with that word we have associations and collocations which vary and specify different meanings. Comparing the examples

*I have news!*

*This is the BBC news*

*Newspaper*

*Bad news/good news*

*That's not news to me.*

we can see that the meaning of the word depends on the context in which it is uttered (by that I mean social, historical, political, cultural as well as immediate circumstances), along with intonation, expression, intent and the perspective of the listener. (What is ‘good news’ to one may not be to another – it is subjective). ‘Good news’ can convey different meanings from different contexts; think of Biblical references or a character in a Victorian novel or a 21<sup>st</sup> century teenager opening the GCSE results envelope. The word ‘news’ does not define its meaning; the use of the word describes the object and the meaning depends on the context in which it is being used (Wittgenstein, 1953). In every situation where language is used other modes are contributing to the meaning. Language alone does not convey all the meaning in a given situation. Further than that, the meanings that the word can convey are dependent upon a degree of mutual co-operation between the people communicating. We have no way of knowing what is in the ‘head’ of the person we are

communicating with but language is an effective tool for achieving an approximation.

As Vygotsky writes:

Direct communication between minds is impossible, not only physically but psychologically. Communication can be achieved only in a roundabout way. Thought must first pass through meanings and only then through words.

Vygotsky 1986: 252

The role of other modes of communication is discussed in more detail elsewhere in this thesis (Chapters 2, and 5) but the central idea, of the subjective nature of communicative acts, remains the same. The social constructivist view expounded by Vygotsky (1986) focuses on the individual making meaning in collaboration with others using semiotic resources as cultural tools. Some theorists distinguish between a social-constructionist view (Berger and Luckmann, 1966), which sees society as constructing the world we live in and a social constructivist view (Vygotsky, 1986) which sees the individual constructing their own understanding of the world by being encultured into the society in which they live and shown how to use the semiotic (and other) tools of that society through their relationships with others. This study draws on both positions as I believe there is an element of both in the way we understand our world. For example, in the social constructionist view a concept such as *money* is created, understood and believed in by most 21<sup>st</sup> century societies. It is clearly a human construct, made 'real' by the societies we live in. In the social constructivist view a child will come to understand the concept of money through their relationships with others and transactions in society using semiotic resources such as language and artefacts or tools such as cash or credit cards.

This study is concerned with semiotic modes including language, although much theory of communication, meaning-making and understanding considered relevant today (Bakhtin, 1988; Vygotsky, 1986; Wittgenstein, 1953; Berger and Luckmann, 1966; Halliday, 1978) has focussed on language which is why this discussion may seem to have language at the fore. Social semiotic conceptualisation of communication itself stems from Halliday's (1978) use of the key term 'semiotic resource' to refer to the grammar of language (Van Leeuwen, 2005:3). My initial interest in sociolinguistics extended to include all communicative modes from a belief that modes such as gesture or posture were more than simply 'additional contextual

information' but essential semiotic resources. The findings from the pilot study (Taylor, 2006) supported this view. The importance of socio-linguistic and social semiotic theories of communication and the intrinsic role of context to this study is apparent from the questions. An understanding of context is vital to any understandings of communication. So too is the need for an approach which observes these phenomena in *natural* contexts.

I now turn to the impact of my ontological beliefs on my choice of research methodology. As a researcher wishing to observe everyday communicative behaviour in school a number of possible methodological approaches to the inquiry are available to me, namely from interpretive anthropological and ethnographic research traditions. The path that I have chosen does not strictly adhere to one particular orthodoxy over another but is based on a principled eclecticism. There is coherence, I believe, between a constructionist/constructivist ontological view and interpretive methodologies. This study combines aspects of ethnography, linguistic anthropology, linguistic ethnography, socio-linguistics and social semiotic theories of communication. I explain here that these aspects are not in competition but I believe that they are coherent and congruent.

Table 1 Research Approaches as They Relate to this Study

Approach	Purpose
<b>Linguistic Ethnography</b> Heath (1983) Maybin (2006) Rampton (2006)	Interested in contextualised observation of language and communication in natural settings to understand people better.
<b>Linguistic Anthropology</b> Duranti (2001) McNeil (2000) Sidnell (2006)	Interested in the role that language plays in people's lives and how people communicate through language and other modes in certain cultural settings in order to understand culture better.
<b>Sociolinguistics</b> Halliday (1975) Hasan (1996) Tannen (1989)	Interested in the study of language in context and a functional, intersubjective view of the co-construction of meaning through language in order to understand

Gee (1999)	language better
<b>Social Semiotics</b> Kress and Van Leeuwen (2001) Van Leeuwen (2005) Kress (2010)	Interested in the study of communication through the use of semiotic resources by people and the way that modes of communication are defined and refined by contexts and participants in order to understand communication better.

The view of sociolinguistics used here (3:2:3) follows Gee's (1999:7) view that it is 'interested in how language is used 'on site' to enact activities and identities'. It is the 'on site' part which makes the connection with ethnographic methodology, concerned with observation in everyday settings. Duranti makes the point that linguistic anthropologists are concerned that:

Over thirty years of research on conversational exchanges and on the speech patterns that ensue from those exchanges have taught us that speakers are constantly engaged in the business of fashioning their speech for their interlocutors and that stories rarely have only one author in conversation.

Duranti, 2001: 7

This concurs with a functional, intersubjective view of the co-construction of meaning between speaker and listener and, furthermore, through a process of validation, by members of a community (Hasan, 1996:23). Hasan gives the example of a question.

...what passes as a question could not pass as 'question' unless its 'question-ness' has been validated by the characteristic provision of answers.

Hasan, 1996: 23

It resonates with a Hallidayan view of the meaning potential of lexical items which may be realised between speaker and listener (1994) and a Bakhtinian view of Dialogism (1981) whereby nothing is said in a vacuum but is influenced or affected by the context of what has been said before and the possible response (see chapter 2 for a fuller discussion of this). In this way it can be seen that meaning is co-

constructed between participants working within accepted meaning boundaries of the community within which they are situated.

This view from socio-linguistics, then, positions my research within the interpretive, flexible paradigm inhabited by the linguistic anthropologists and ethnographers rather than those sociolinguistic researchers more concerned with the quantifiable elements of our communicative practices. However, that is not to say that the methodology eschews sociolinguistic approaches as, for example, the influence of work such as Tannen's (1989) study of repetition, dialogue and imagery in conversation and Carter's (2004) view of creativity in everyday conversation is significant. Gee's (1999) views of discourse/Discourse (see Chapter 2) make connections with social semiotic theory. He acknowledges that:

...activities and identities are rarely ever enacted through language alone....it is not enough to get the words' right'...It is necessary as well to get one's body, clothes, gestures, actions, interactions, ways with things, symbols, tools, technologies...and values, attitudes, beliefs and emotions 'right' as well.

Gee, 1999:7

And this builds the bridge across to a social semiotic theory of communication (Kress: 2008) and the need to take account of all communicative modes employed by us. Social semiotics is a theory of communication which sees the signs used by us to communicate with one another as socially constructed. An example of this could be the traffic police officer at a crossroads directing traffic. This shows how modes and meaning-making are historically and socially located – think of the uniform, the road markings, the hand signals, the posture, the vehicles and their design and capabilities. Our modes of communication are defined, or refined, by the contexts and by the participants; they are culturally bound and as our social settings evolve and re-invent themselves anew, so does our use of signs (Jewitt, 2009). The focus in social semiotics is on 'resources' rather than signs (Van Leeuwen, 2005: xi) whereby modes of gesture or posture as well as artefacts or events such as the design of a pot or a music concert are seen as resources for meaning-making. The ontological position of this researcher, that worlds and contexts, events and artefacts, are subjective, constructed and

interpreted by us in social contexts as individuals based on our own historical, cultural, social, political situations, is reflected by the Social-Constructionist - Interpretive methodologies underpinning the research process. The view of language as a socially constructed entity is discussed more fully in Chapter 2 together with the view that this can be applied to all communicative modes.

### **3.1.4 Social Constructionist / Constructivist Epistemology**

Having explained the rationale for a qualitative approach based on my ontological position I would now like to show the congruence between this researcher's view of communicative practice and the research method used in investigating communication. Following Denzin and Lincoln (2000: 22) I describe how the research design connects the Constructivist- Interpretive theoretical paradigm to the ethnographic strategies for inquiry. A constructivist approach is based upon the notion that rather than a permanent non-varying standard,

...truth- and any agreement regarding what is valid knowledge- arises from the relationship between members of some stake- holding community.

Lincoln and Guba, 2000: 177 (citing Lincoln 1995)

This emphasis on the provisionality and fluid nature of what we take to be truth is congruent with a view of language, or communication, as being similarly socially constructed between participating members of a community. Bakhtin (1981) holds that meaning is co-constructed by both utterer and receiver rather than being a transferable, incontestable entity encapsulated within 'the word', given from one person to another as one might give a gift. I need to be sensitive to the fact that whilst the children are co-constructing their knowledge of the world and communicating with one another, I am observing and further constructing my own interpretation of what is taking place between them. I bring to my understandings of what they are communicating between themselves my own experiences as a child, a mother, a teacher, a researcher, and, like them, a 21<sup>st</sup> century citizen of Europe.

The table below summarizes the positions of the research and the researcher and shows how the ethnographic method for conducting this study is a

logical extension of the ontological and epistemological beliefs of the researcher.

Table 1: Methodological Position and Research Design

<b>Research Paradigm</b>	Constructivist Interpretive
<b>Ontology</b>	The social construction of reality, truth is ever changing, varying and defined collaboratively by us.
<b>Epistemology</b>	Research questions about creative uses of modes of communication, the co-construction of knowledge by children, fluid understandings of the interrelation of communicative modes
<b>Strategy of Inquiry</b>	Consideration of the position of the researched, the 'other' and the researcher, the 'self'. Situated, naturalistic inquiry.
<b>Method of collecting empirical material</b>	Ethnographic observation through the use of digitally recorded video data of children's communicative practices by the researcher
<b>Interpretation and Evaluation</b>	Construction of researcher's text, the thesis, relation of research findings and discussion of implications, dissemination

Having established the philosophical basis for this study I now turn to approaches to methodology.



## **3.2 Approaches to Methodology**

In this section I examine the methodological approaches I have used and the reasons for their employment. This research is conducted, as I have discussed, from a qualitative perspective, concerned with the construction of a ‘thick description’ (Geertz, 1973) of the ways in which children are making meaning in educational settings. The method for data collection and analysis could be broadly described as ethnographic in that it involves a reflexive approach from an insider researcher, (Cohen et al., 2000) who could be described as a participant–observer (Wellington, 2000). In that the research is concerned with language as well as other modes of communication, the term ‘linguistic ethnography’ (Hymes, 1964) has something to offer a closer definition of this approach to research methodology. However, this is not uncomplicated and I discuss this further in this section as well as consideration of ways of analyzing talk, discourse analysis, and ways of analyzing communication, multimodal analysis and the distinctions between them. In the following sections I discuss my own personal position, the development of the research questions and the political position of the research in section 3.3. The strands of this study concerned with ontology, epistemology, methodology and process and the connectedness between them shows they do not exist in isolation but relate to and rely upon each other.

### **3.2.1 Ethnography, Anthropology and Linguistic Ethnography**

As I have discussed, the purpose of this research is not to assess and measure the proficiency of children’s communication but rather it is to observe and try to make sense of the ways in which children are engaging with school social practices, their roles in the school community, their sharing and co-construction of knowledge and their creative meaning-making. An understanding of children’s socialisation and learning is achieved through close observation of all communicative modes used by the children. An ethnographic approach enables the educational researcher to be positioned within the community whose perspectives and practices she is trying to capture whilst at the same time using an analytic framework to systematically review in depth the fleeting moments of face-to-face interaction. Just as the social, cultural, historical and political context of language constructs the meaning between the utterer

and the receiver in linguistics (see previous chapter) so the contexts within which the children's social practices are embedded are inextricably connected to the meanings they make and share. A methodological approach to research which includes the social context of the interaction under examination is essential to the coherence of the research design. An approach to analysis such as Conversation Analysis which does not concern itself with the peripheral, extraneous information of context would not fit with the approach to understandings of communicative practices. There is a congruence between my interests and research questions, my position with regards to a social constructionist/ constructivist view of language and communication, my choice of naturalistic enquiry and an ethnographic approach to research, and a natural, uncontrived setting for the research. That congruence extends to the interpretation of data and discussion of the implications of the findings (see Chapter 5 and 6). Here I first discuss the aspects of this approach to research which originate from anthropological and ethnographic theory and then outline the influences of Linguistic Ethnography upon the research design.

Anthropological research, with its practice of observation and fieldwork, sets out to uncover how people live in certain settings. Its concerns have traditionally been the description of 'different' cultures (Mead, 1928/2001, Malinowski, 1926). This has assumed an identity on the part of the researcher as belonging to one culture and the 'researched' as belonging to the 'other'. The researcher is an outsider looking in to a 'strange' culture. It seems logical therefore that modern linguistic anthropology studies are interested in the subjects such as Arizona Tewa Kiva Speech (Kroskrity, 2001). The field also incorporates the 'othering' of cultural groups within which the researcher belongs. It is in this field that studies of race (Hill, 2001), gender (Ochs and Taylor, 2001, Gal 2001), and literacy (Heath, 2001) are situated. Linguistic anthropology is concerned with the role language plays in people's lives and how it helps them to accomplish social goals and cultural activities.

Duranti (2001: 6) is clear about the difference between linguistic anthropology and sociolinguistics (3.2.3) as being the latter's concern with quantifiable aspects to communication. He considers that 'most sociolinguists- especially quantitatively oriented ones – continue to use today the same methodology introduced by Labov in the 1960's, that is they typically rely on statistical analysis of data collected through

interviews.’ (A fuller discussion of **conversational analysis** as a research method and why I decided it was not appropriate for this study is in the next section.) This ‘quantitatively oriented’ approach Duranti refers to is not a sociolinguistic aspect of this work. That is not to say that some quantitative aspects are not included in the data analysis such as noting the frequency of incidence, or absence, of certain linguistic features. Linguistic anthropology studies ‘the meaning of linguistic messages...in the contexts within which they are produced and interpreted’ (Duranti 30) and it is apparent that this frequently involves the inclusion of gesture, gaze, posture and facial expression (Sidnell, 2006; Goodwin and Goodwin, 2001; Haviland, 2004).

Ethnography is a method of conducting anthropological research which has been adopted by qualitative researchers in fields such as sociology, education and psychology. It involves the observation of phenomena in natural settings by a participant-observer over a period of time. Where anthropologists may live within and among the community under observation for extended periods, years in the case of some studies, and observe a culture or practice under as many circumstances as possible, the social ethnographer conducting research in, say, a school setting, may not actually observe the child participants in all their everyday environments, including following them at home and at leisure (Hammersley, 2006:4) although some do (Pahl, 2002). In terms of educational ethnographic studies, Hammersley identifies two key characteristics. Firstly, *first hand* observation involving lengthy contact with people in ‘relevant settings’ (Hammersley 2006:4). Secondly, a ‘tension between...participant and analytic perspectives’ (Hammersley 2006:4). This refers to the tension between trying to see things from the perspective of, in this case, the children, and interpret as accurately as possible their communicative practices, and at the same time step back from the situation and apply a suitable framework for analysis. Both of these key characteristics, of first hand observation and tension, feature in this study: There is an insider-researcher observing in school over a 4 month period and using both insight from a participant position and an analytic framework to interpret the data and uncover a picture of ways in which children are communicating with one another in school settings. It is these aspects of ethnography which I have adopted.

The research design can be further described as including aspects of an emerging approach to data gathering, Linguistic Ethnography, and it is this area I turn to next.

### 3.2.2 Linguistic Ethnography

In considering linguistic ethnography as an emerging approach to data gathering and analysis, Maybin (2007:575) proposes that this may prove a natural home for sociolinguistic based research. The blurring of boundaries between the various approaches to sociolinguistics, traditional variationist, sociological and ethnographic branches of sociolinguistics, and the acknowledgement of the shared questions concerning language and discourse and shared sources of social theory such as Bakhtin (1988) Foucault (1972) and Bourdieu (1991) could lead the researcher to a linguistic ethnographic approach. Maybin argues for an interdisciplinary approach.

Sociolinguistics involves an interdisciplinary impulse, because of a search for social theory to complement the powerful framework of structural linguistics which has provided its theoretical core.

Maybin, 2007:575

Therein however, she acknowledges, may lie a possible tension between the formal, abstract way of analysing language employed by linguistics and the open, reflexive social orientation of ethnographic methods. This echoes Hammersley's (2006) concern with the tension between the participant – observer interpreting social action and the need to employ a framework for analysis. This study embraces that tension with a multimodal framework in the microanalysis and a reflexive interpretation of what the data offers. It is for this reason that I approach all data in an open and reflexive manner, and furthermore feel that it is important to do so in order to accommodate the representative functions of language and other modes and the issue of interpretation by the researcher. A reflexive approach involves looking inward to acknowledge and examine my own knowledge and position, and also looking outward at the social and cultural world this study is located within (D'Cruz et al, 2007). This is no less important when dealing with multimodal data than in dealing with language alone. Indeed the interpretation of modes other than language may prove equally or more contestable than the interpretation of language. An example of this might be the interpretation of gaze, or more precisely the 'looks' that children can give each other, or instances of body contact where it can be difficult to interpret what is in the mind of the 'toucher' or the 'touchee'.

This approach is in tune with a methodology which places the researcher at the heart of the research and requires reflexivity in consideration of all socially gathered data. I feel this is particularly appropriate for research in educational settings which sets out to gather naturally occurring data. There are criticisms of the 'participant as observer' role in ethnographic research, that by entering a situation to observe it necessarily changes the relationships and the very context under observation, thus rendering naturalistic observation invalid (Bourdieu, 1991). Hammersley (2006:4) refers to the danger of reactivity whereby 'our own behaviour affects what we are studying' to the point where 'this will lead us to misunderstand what normally happens in the setting'. He gives as an example educational research where observers are present on the same day every week, say a Monday and Tuesday, and therefore do not give a picture of how activities and projects are set up and developed throughout the school week. It is my contention that in order to conduct research in a classroom it is important to be 'naturalized' into the environment of the classroom by becoming a participant in everyday activities thus minimizing any effects of having a stranger in that environment. In this project I was in school sometimes for 2 days a week and sometimes for whole weeks and in that way got a feeling for the development of activities during the week. The 'accepted, regular visitor' position facilitates observation from an ethnographic position employing reflexivity about the researcher's role and thus enabling validity. Maybin points out that ethnographic work 'normally requires the researcher to be actively involved in the social action under study' (2007:578). However, whilst I am not generally overly involved in the interactions that I record and have attempted to take as far as possible an observer role when filming the pupils, my role as a known classroom helper is pivotal to securing the kind of 'natural, spontaneous' data that I require.

Furthermore, there were occasions when I was required to take a much more actively involved role and direct the children that I was filming, having to supervise and help organise children who had been put in my charge. The balance between trying to guide the pupils in constructing a role play and filming spontaneous 'naturally occurring' interaction concerned me. I worried that I had stepped outside of my observer role and had embodied in fact the 'danger of reactivity' that Hammersley (2006) referred to. In the end, I had to conclude that my input as a participant was

little different to that of a class teacher or classroom assistant and that, as it was as unscripted and spontaneous as that of the children, it should be included because my data needs to be representative of the kinds of interaction that are actually occurring on a daily basis.

In contrast to this participatory approach which I adopted in my observation are the Ofsted observers who silently and unobtrusively enter and sit formally at the back of a class who have been expecting them and preparing for their visit, even when at short notice, and who behave correspondingly and, it could be argued, compromise their data.

### **3.2.3 Analyzing Talk: Discourse Analysis**

In this study, part of the methodology is concerned with how the observation is conducted and the other part is concerned with how the analysis is conceptualised. Language is one of the many modes employed in meaning-making and as analysis of language forms part of the multimodal framework, I have adopted some approaches to discourse analysis as a research method to uncover what is being said by the children. In the following section 3.2.4 I discuss methodological reasons for looking at communication multimodally, but the analysis of linguistic features plays an important part of this research and I discuss the methodology behind this approach first.

Firstly, it is important to differentiate between different ways of looking at language and the reasons behind particular approaches. I then present the rationale behind the approach adopted here. The term 'discourse' is used in this study, with a small 'd' following Gee (1996: viii). He differentiated between 'Discourse' being part of the way we act in our social worlds with different situations forming part of different Discourses and 'discourse' being 'the connected stretches of language which hang together so as to make sense to some community of people.' (Gee 1996: 90). This Foucauldian (1979) view of Discourse is one that is historically constructed, where generations inherit Discourses, or views of society, and one that therefore takes 'control' away from the individual operating within a Discourse and situates that individual within an inherited construct. Discourses then are the subconscious and

assumption-led ways we constitute our knowledge of the world. They are historically, culturally and politically contrived.

My interest is in what study of 'discourse' can offer understandings of the Discourse of Education in 21<sup>st</sup> century Britain. This study is looking at the connected stretches of language - and other modal resources- used by the children, together with the other semiotic resources available to them, but it is also interested in the wider context of the Discourses of education within which they operate. It would not be possible to relate the findings of this study to pedagogy otherwise (See Chapter 6).

The approach to close examination of language in any study will depend upon the purpose. In some studies the focus is upon grammatical structures used and what this can tell the researcher about language and how it varies in different contexts for example, casual conversation (Eggins and Slade, 1997). The story is about linguistic variation. Some social studies are interested in examining language to see what this will reveal about our social worlds and tend not to focus closely on linguistic structures (Fairclough 2003:2). Some approaches, such as that adopted by Fairclough (2003), seek to combine an examination of linguistic features and application of social theory to understand better *what* is being communicated and *how* and *why*. Attention to generic features of language as well as style and register in context are central to this type of analysis. So too, in Critical Discourse Analysis, (CDA) is a concern with political questions about liberation from constrictive Discourses in society and possibilities for social change.

The aim of critical social research is better understanding of how societies work and produce both beneficial and detrimental effects, and how the detrimental effects can be mitigated if not eliminated.

Fairclough, 2003: 203

Cameron (2001:8) also differentiates between those studying spoken discourse from an intrinsic interest in the functions of language and those examining spoken discourse for evidence about the way we live our lives.

As this study has micro-analysis of communicative instances at its heart, its linguistic focus is clearly on 'discourse' and uncovering ways children negotiate meaning between themselves, and yet it also concerns itself with the implications of the findings for Discourses in Education, about freedom of expression, creativity in interaction, aspiration and motivation to achieve (Chapter 6). This is where the study moves from the specific to the general with the findings related to the wider picture.

In general terms, analysis of talk takes account of context to varying degrees. From the 1970's onwards Conversational Analysis has developed as an approach for studying what spoken discourses can offer the social researcher. The work of Sacks, Schegloff and Jefferson (1974) focussed on turn-taking activity, specifically what leads one person to continue on from the previous utterer's contribution and how the role of speaker transfers from one participant in a conversation to another. Sacks et al (1974) identified the points at which the Turn, or grammatically complete section of language, is transferred from one person to the next. This turn-taking feature is unique to each interaction, spontaneous and unscripted. There are generic qualities however, to which conversations ascribe, for example, an interaction which one might call 'passing the time of day' might follow cultural conventions such as in the British Isles a comment about the weather. This is not because British people are genetically hard wired with an interest in climate, but it is a cultural norm for making connections with other people. This is an example of what Malinowski (192/1999: 302) termed 'phatic communion', where language is a tool for establishing and maintaining social relationships. It is the uncovering of such cultural conventions and what close study of talk may reveal of social worlds which the linguistic anthropologist may be interested in. In the field of education research, Sinclair and Coulthard (1975) applied an understanding of turn-taking in classroom interactions to propose their Initiation-Response-Feedback (IRF) model of typical classroom dialogue. This is where a teacher may pose a question, a pupil offer an answer and the teacher then gives feedback depending on the pupils' response. The Conversation Analysis approach starts with the data, the conversation, and uses that data to generate theories about how the language is used in that particular situation. It does not concern itself with prior involvement between participants, their identities or information about the wider context or Discourses within which the conversation is located. The approach requires attention to the detail of what is said and how it is said. Cameron suggests an advantage to this kind of close analysis may be that:

Putting talk under the CA microscope defamiliarises what we normally take for granted, and reveals the unsuspected complexity of our everyday verbal behaviour.

Cameron, 2001: 89



The position of this research, however, locates the researcher as an insider, it is interested in both the immediate and wider contexts of children's interactions and it **does** concern itself with prior conversations and the relationships between the children. Whilst turn-taking is an aspect to be considered in all modes it is not the focus of this study.

Ethnographic approaches necessarily indicate an interest in context which needs to be matched in the approach to micro-analyses. Therefore it is necessary for me to use an approach to the analysis of talk which takes account of settings, participants, the purposes behind the interaction, the sequences of the speech acts, the tone of the interaction, the modes and mediums, the norms in the classroom setting, what is accepted practice in this context, and the generic conventions, those aspects which habitually form part of classroom interaction. This deliberately mirrors Hymes SPEAKING grid (Hymes 1972, see chapter 2) and indicates a socio-linguistic perspective of discourse analysis which takes account of context. This study is not about an examination of children's use of language *per se* but about what this can tell us about aspects of their lives and ways in which they are interacting.

Gee's notion of 'situated meanings' (1999:40) whereby language comes to have meaning in certain situations links with the attention to context. Gee (1999::42) gives the example of the American teenager saying '*I can't play basketball today. I haven't got any shoes*' where co-participants would understand that the person did not have their basketball shoes, not that they did not have any shoes at all. The meaning of the words needs to be taken *in context*. In order for me to gain as much insight as possible into what the children are meaning, then attention to context is a requirement and I consider that Conversational Analysis not an appropriate approach to this inquiry.

In the next section I wish to show how multimodal analysis is conceptualised as more than just additional contextual information for an analyst primarily focussed on language and why it became the primary approach to studying children's interaction

### **3.2.4 Analyzing Communication: Multimodal Analysis**

In chapter 2, I have outlined some studies which have used multimodal analysis as a means to examining interaction in educational and other social settings. In this section

I explain the methodological rationale for the selection of a multimodal approach to data analysis of children's classroom interaction.

Gilroy (1996: 105) puts forward compelling evidence for questioning the mainstream assumptions about the link between language and meaning. It is generally accepted that we verbalise what we intend to mean, we communicate our thoughts through language, it is our primary tool for thinking and meaning-making (Vygotsky, 1986). In discussing early Wittgenstein's (1914-1951:31) ideas about language acquisition, Gilroy argues that first language acquisition may not be based on language, and that children *do* things to make meaning *before* they have language and that as children learn verbal language, words are used at times in place of actions, gestures and facial expressions. This means that the meaning exists before language and modes other than language are used to express that meaning. I take this argument as meaning that language then becomes an additional mode of meaning-making, albeit a sophisticated one, and I am interested in the notion that 'language is no longer the basis of language' (Gilroy, 1996: 105). This means that *non-verbal* meaning-making (to use Gilroy's term) is the basis of language and that it is through the non-verbal that children became encultured into the socially rule-governed mode of language.

The non-verbal base provides experience of participation in rule-governed social activity, and it is this practice which is used as the medium whereby the child begins to take part in the activity of language.

Gilroy, 1996:143

It could similarly be suggested that children also become encultured into meaning-making through the modes of music – playing an instrument or singing, pictorial representation such as drawing, digital computer technology, writing language, proxemics (young children can put their faces *very*, sometimes disconcertingly, close to yours when you are in conversation with them), dance, and continue to use, as adults do, the modes of gesture, posture, gaze and facial expression. The modes we choose to use over our lifetime vary according to the possibilities afforded to us and also the values placed upon modes in our social contexts. Very young children enjoy drawing yet as children grow older they frequently feel they 'cannot' draw and so they stop. I know because that is precisely what happened to me.

Any study wishing to understand how children are making meaning will only uncover a partial picture of what is happening if attention is paid to one mode. The pilot study (Taylor, 2006) argued that a focus on language alone would have missed so much of the ways in which the children were making meaning amongst themselves. Wells' (2000) experience of studying classroom interaction in a science lesson revealed that what he, the researcher, had *thought* was going on by concentrating on linguistic utterances was in fact not supported by other modes of communication, specifically gesture, gaze and body language. Comparing the verbally effective communication of Jasmine with the apparent reticence of Alex, Wells surmises:

From the transcript I made of the recording, Alex seemed hardly to participate in the discussion at all. However, as became apparent when we paid close attention to the videotape, Alex was just as interested as Jasmine in the phenomena itself.

Wells, 2000:309

Furthermore, Wells (2000:310) arrives at the conclusion that the transcript based on linguistic features alone was 'inadequate' as a record of what had been going on as it 'failed to capture meanings that are conveyed by such non-verbal means as intonation, facial expression, gesture and participants spatial orientation to each other and to the material artefacts involved in their activity'. By considering modes other than language in his analysis of the meaning-making taking place, Wells is able to recognise the extent to which the less verbal communicator, Alex, is engaged in the dialogue through his use of gesture, an aspect which would not have been apparent from a language-based transcript.

The analysis of modes other than language also allows for a greater depth of reflexivity on the part of the researcher. Of particular interest here to the educational researcher was Wells' acknowledgement of the way he privileged the contributions made by Jasmine at the expense of Alex and that through 'attending to the fine detail of extra-linguistic behaviour' he gained an enhanced understanding of 'the complex multidimensional and mutually constructed nature of face-to-face interaction in any situation' (Wells, 2000:327). The apparent lack of intellectual engagement in the scientific activity on the part of Alex was mutually constructed by both child and adult participants, researcher included. There is a signal here to the educator for a need to attend to a holistic view of children's modes of communication. There is a

danger that children with a less assertive or verbally articulate manner may be understood to be less engaged with a task when attention to non-verbal modes of communication may reveal this is not the case. This is further debated in relation to the findings of this study regarding implications for inclusion in the concluding chapter (6.3.2). In this section I simply wish to explain that the methodological choice of a multimodal approach to analysis is borne out of a need on the part of the researcher firstly, to include all modes in order to give as full a picture as possible of what is taking place but also secondly, out of a desire to examine the possible disengagement of children from what is being taught as a result of an erroneous assumption on the part of educators that because children are not *verbally* articulating interest, understanding or involvement that they are not necessarily engaged.

A final example of what I mean here comes from a conversation with the head teacher at the school where I am conducting this research. She told me how the year 1 class was being taught by a supply teacher who had asked the children to write about a journey. Some girls were bouncing in their seats and were told to sit still. When the head teacher asked those girls what they were doing they replied they were on their horses riding on a journey through a forest. Their actions were part of their meaning-making, in Vygotskian (1978) terms, their ‘inner speech’ – except this was postural rather than verbal. Further examination is needed to shed light on the question that if meaning-making between children is achieved through the use of multiple modes, does this mean that ‘inner speech’, our private internal conversations, are similarly multimodal and if so what are the implications for the educator? However, that is at present beyond the scope of this study.

### **3.3 Researcher Context and the Development of Research Questions**

#### **3.3.1 Researcher Positionality**

I now turn to my positionality and the political aspect to ethnographic and linguistic research in general and this research in particular. I have already indicated a social constructionist position as complementary to this methodological approach. Believing in a fluid, socially constructed, situated notion of language and indeed all modes of communication is central to this study. The use of modes as cultural tools for collaborative meaning-making belies a social constructivist position. The contestable

and interpretive aspects to communication are to be embraced, whilst at the same time the researcher's experiences and integrity of method need to contribute to the validity of the research findings.

The questions of bias which Widdowson (1995) raised concerning Critical Discourse Analysis, with its overtly political agenda to unmask the self serving, ambiguity of the status quo, would not apply to the concerns of this research as it is with multimodal features of child-to-child interaction; instead, the liberal, humanist perspectives of ethnographic research are to the fore. In order to counter possible criticisms of selectivity or bias, I am open about the fact that this research arises from a concern with current educational policy and practice regarding the restrictive nature of current spoken interaction in class based activities. These are my concerns, and also those of other teachers, head teachers, education academics and parents that I know. They are also raised in educational research projects such as Hardman et al (2003) with concerns that the National Literacy Strategy is 'encouraging teachers to use more directive forms of teaching with little opportunities for pupils to explore and elaborate on ideas'. They have been raised in the past, by Heath (1983). Her ethnographic study of two culturally different communities in a southern state of the USA leads her to comment that:

.....patterns of language use in any community are in accord with and mutually reinforce other cultural patterns....

and

..... the language socialisation process in all its complexity is more powerful than (any) such single- factor explanation in accounting for academic success.

Heath, 1983: 344.

When Heath conducted her research it was into 'language' with a tape recorder and field notes. Today with the video camera we are able to look at 'communication' rather than 'language' and it may be that the use of all communicative modes can be a factor in academic success. Here then lies the political agenda of this research, to enable informed debate about the ways in which children are making meaning and constructing knowledge which will lead to more emancipatory, engaging, inspiring, motivating, listening teaching methods. Furthermore, it sets out to answer the call for

an approach to studying children's meaning-making which will attend to all the modes which children employ and go some way to address the concerns that many children's voices are marginalised or simply not heard in educational settings (Flewitt, 2005).

I now turn to a discussion of my positionality with respect to the development of the research questions.

### **3.3.2 Development of Research Questions**

All qualitative researchers start by considering 'what do I want to know?' Wellington (2000:49) is clear that the choice of questions must come before the methodology.

Janesick concurs (2000:382) 'qualitative research design ... begins with a question, or at least an intellectual curiosity if not a passion for a particular topic'.

I came to this research initially with an interest in talk and learning and the communicative processes which lead a child to the acquisition of knowledge and personal development. This interest arose from a 20 year double- focussed career as a teacher of English as a second language and a secondary school teacher of Humanities subjects. I felt strongly that the student centred approaches with a focus on 'real' communication which I employed in the second language learning environment could usefully be applied in the secondary classroom and the opportunity for pupils to reflect and engage in constructive dialogue with others was central to their making sense of the subject under instruction. In following through this interest, as part of my Masters' degree I examined two different approaches to researching children's classroom discourses, that of Discourse Analysis as informed by Gee (1999), with its focus on the spoken language, and Multimodal Analysis, as informed by Jewitt and Kress (2003), in which I devised a framework for looking at all modes used by children in their meaning-making. The conclusions of this study were that children's communicative processes are multimodal in nature and that by not attending to modes of communication other than language much of the meaning-making taking place would be overlooked (Taylor, 2006). There are implications from this research for education research methodology in that the classroom observer needs to take account of modes other than language when analysing instances of classroom communication. The implications for pedagogy are addressed in chapter 6 but at this point it is important to note that an awareness of the multiple modes of meaning-making employed by children could be valuable to the classroom teacher and that more room

on the curriculum could be made for new literacies and expressive subjects such as dance music and drama as a way of engaging all children in the meaning-making processes. This is discussed further in chapter 7.

It is from the pilot study that my conviction arose that in order to become successful educators we need to be sensitive to all modes of meaning-making employed by children. There are questions being asked throughout the teaching profession about pupils' engagement, aspiration, and achievement. I know about this from personal experience as Chair of Governors at my child's primary school. I attended an event for Chairs and Head teachers addressed by the Director of Education which focussed on these specific issues. The perceived comparative underachievement of boys in national examinations and tests is of great concern. If Wells (2000), is right in his assertion that by privileging the articulate spoken contributions of one pupil he, in effect, marginalised and devalued the contributions of another pupil who under closer inspection (of modes other than language) was shown to demonstrate his engagement and understanding of the scientific activity, then attention to multimodal communication may be key to remedying this situation.

My research questions, then, have evolved from my initial interest and inquiry. I reiterate thus far my questions are concerned with classroom communication -

- What do modes other than language contribute to the communicative process?
- Is there evidence that children can construct and present knowledge and understanding through multiple modes?
- What kind of additional information can multimodal analysis offer our understanding of creativity in children's communicative practices?

And to do with research methodology are -

- How can multimodal analysis be best used to inform study of classroom communication?
- To what degree do educational researchers need to take account of extra-linguistic contextual factors?
- How best should researchers decide what modes and aspects of modes to include in multimodal analysis of children's classroom communication?

### **3.3.3 Research Context: The School and the Children**

The School is a city primary of just over 400 pupils in Sheffield with a Nursery, Infant and Junior section as well as Breakfast club and After School Club. During the course of this research the school was put into a local authority category of Notice to Improve due to a perceived lack of progress by higher attaining pupils.

I sometimes feel as if rather than a researcher selecting a suitable context in which to conduct research, this whole project came about the other way around. In a way the school chose me; it suggested the research and the children offered up the research questions. I should explain that my involvement with the school did not start and end with this study. My eldest child entered the nursery in 1997 and my youngest child is now in year 6 in 2009 so I have a relationship as a parent and helper in this school for 12 years now. In 1999 I became a parent governor and in 2001 the Chair of the governing body. The ethical implications of this are discussed in the following section (3.4). I know many families who send children to the school, grandparents and childminders as well as parents. My first impression of the school was an imposing Victorian building with 'Sheffield School Board' engraved in the granite stonework. The junior building hadn't been decorated for thirty years and it looked plain grim. The yards were tarmac and covered with the grit I remember scraping out of my knees at my own Victorian primary school. The nursery and infant building was more low-rise with a sunnier aspect and welcoming staff. The overwhelming feeling was that this school had been surviving on a tight budget for many years. The school is in a mainly white, mainly working class part of Sheffield in contrast to the multi-ethnic primaries in other parts of the city and in a different contrast to the mainly middle class professional catchment areas of the south west of the city. In terms of attracting extra funding from any other source, parental or governmental, it seemed to slip through the net. Over the last 8 years the school has been brought into the 21<sup>st</sup> century in terms of resources, environment, teaching styles, extra curricular activities and league table results. The one thing that has remained constant is a unique way of being with each other that the children in this community have. Visitors to the school comment on good relationships between children, an inclusive culture and a welcoming atmosphere in the school.

I have discussed my personal motivations for conducting this research and how my research questions became developed in the preceding sections. The choice of school



was based on the idea that whilst the children here are unique in the way that all children are, they are also, at the same time, ordinary, in that they are just like other children in other schools. The kinds of things they talk about, the way they talk with a mixture of dialect words and modern idioms, the friendships and arguments, the cultural and digital points of reference will be comparable with the pupils in many a city primary school. The year 5 children in this study come from the class I observed in year 2 for the initial study (Taylor 2006) and many of the same pupils feature. I decided to look at the same class for a number of reasons. Firstly, they remembered me coming in to their class with a camera before so there was an element of familiarity. I showed them some footage from the earlier study and they loved seeing the film of themselves 3 years younger again. The relationship of researcher and researched was already established. Secondly, as a long term project I would like to observe the same cohort as they make their way through the secondary phase of their education. There may be possibilities for reviewing the ways in which children use modes other than language as they mature. Thirdly the class teacher, Mr D, having studied education research modules at Masters' level himself, was fully supportive and interested in the project. As the class teacher went on paternity leave half way through the observation period, a second teacher Mr J, newly qualified although known to the school where he started his career as a teaching assistant 4 years previously, was more than happy to be involved. It was this teacher's interest in multimodal meaning-making which facilitated the science and geography lessons where the children were re-creating through movement the processes and procedures they had been shown in class.

With the exception of 4 pupils whose parents did not give full consent, all children in the class of 27 were observed and filmed at some point during between April and July. In total I spent 27 days in class with the children including 2 full weeks. However, certain children feature more prominently due to logistical concerns such as being able to get in a good position close to the table where the children were working without infringing the movements of children at neighbouring tables – or picking up too much sound from around the class, or not including those children whose parents had not given full consent. I observed and filmed the children in a wide variety of circumstances, working at tables, in the library, doing a PE based Maths lesson in the yard (looking at averages), in the hall, doing a site visit of the school grounds looking

at water and drainage, in a withdrawal room and on the school field and in the full range of curriculum subjects. In total there is about 9 hours of film data and most of this was roughly transcribed. Some parts such as the PE lesson practising tennis skills on the school field were not transcribed because the sound quality was impaired by the wind.

From this film footage five distinct Episodes emerged as being useable data.

1. X=Stream Life Cycle
2. Theseus and the Minotaur Story
3. The Water Cycle
4. Blood Circulation
5. The Piano.

Further contextual information on these episodes, together with an account of the process of selection, is given in section 4.2.3. From the episodes, extracts roughly 5 minutes long were selected for micro-analysis with the practical consideration of being able to see and hear interaction as it unfolded on camera as the first criterion. The episodes were selected as being typical and representative of the sorts of activities I saw the children involved in as well as being of sufficient quality to transcribe with some accuracy and with significant interesting discursual features. Each of the 5 episodes is between 20 and 40 minutes. The first and fourth episodes are from science lessons on life cycles and blood circulation, the second and fifth from literacy lessons and the third from a geography lesson on the water cycle. The specific clips for micro-analysis were those that were the most easily transcribable and the richest in terms of significant features from across all modes.

### **3.3.4 Researcher Role.**

The positionality of the researcher and the research context are discussed in 3.3.1 and 3.3.3. The process and stages of analysis of data are described in 4.2. Here I wish to give a picture of the role of the researcher in the gathering, or generating of the film data and observation data. I begin with discussion of the emic (insider perspective) or etic (observer perspective) (Pike, 1967: Franklin, 1996) position of the researcher in this study.

In tracing the beginnings of ethnography as a research approach, Vidich and Lyman (2000:41) discuss the tension in researching 'the other' from positions of either 'insider' or 'outsider':

The choices seem to be either the values of the ethnographer or the values of the observed....Herein lies a deeper and more fundamental problem: How is it possible to understand the other when the other's values are not one's own?

Vidich and Lyman, 2000:41

In the case of this research, I am not a child of the twenty-first century attending a Sheffield Primary school and cannot intimately know the unspoken rules, frames and customs of their interactions and the cultural resources upon which they draw.

However, I cannot consider myself working from an etic perspective, that of 'the professional stranger' (Agar, 1996) as I am familiar with the cultural contexts as a parent of similarly aged children, as a former teacher and member of the same community, and moreover, as I am familiar with the setting and contextual aspects to the interaction I am observing and analysing. Following Agar (1996:239/240) and Heath and Street (2008:44), I am blending assumptions I make concerning the nature of meaning-making taking place between the children as they work with my background knowledge of the research setting and my previous research with this class.

I have a relationship with this school which has grown over 10 years and in this school I am a parent helper, I am a school governor and I am a researcher. In this respect, I can be seen to be an 'insider to the setting', as the emic aspects to school culture, daily routines, jargon, language use and accepted behaviours are familiar to me. This study is investigating children's meaning-making in spontaneous classroom interaction and in this respect, however, I am an observer, and I am an 'outsider' to the children's interactions. On occasion they talk to me and we exchange smiles and glances but for most of the time that I was filming the children I was trying to be as unobtrusive as possible using a hand held camera and sitting or standing apart from, although close to, the interaction taking place. My interpretation of the children's meaning-making is therefore from the perspective of 'an informed outsider'.

The role of observer is not an adequate description for my role in the classroom however, as most importantly I am a responsible adult in the room. I have a duty of care towards the children whose classroom interaction I am researching. That this duty of care should include their safety and well-being goes without saying. The

extent to which I am a participant in that I am responsible for their guidance in terms of mis/behaviour is more contestable. For example, I found myself in a difficult position when filming the children doing a 'site inspection' with the school caretaker as part of a geography lesson on 'Water', just after the Water Cycle lesson two days previously. The problem arose as the children were excited and messing about because they had a supply teacher in charge and because they were outside of the 'normal' classroom environment. I felt that the children should listen to what the caretaker was saying and focus on the important information that he was giving them which they would be required to write up in class afterwards. The instructions for the activity were written on the whiteboard at the beginning of the lesson.

18/06/08

*WALT: understand where water enters and leaves the school premises.*

*SUCCESS CRITERIA: I can listen to Mr Exxx as he talks about how we get our water and I can mark a map where water enters and leaves the school.*

The tension that I felt in my insider researcher-observer role is palpable in my journal notes:

Journal 18.06.08

*What a shambles outside! Because they have a supply teacher, the children took full opportunity to muck about. This has put me in the position of class support- watching the lively, naughty boys, keeping them on task, largely by interviewing them on film- and knowing names helps when talking to them. B. thinks it's a free for all- using inappropriate language, pushing the boundaries, throwing pencils, larking about. I end up actively interviewing, ordering the situation...this may change my status in their eyes from benign observer to potentially threatening adult.*

My experience makes me question how it would be possible to go into a school setting as a researcher with a purely observational role. There is an element of inevitability that my presence will impact to some degree upon the data I am generating and the investigation I am conducting through my participation as a responsible adult in the setting. It would be ethically impossible to research with children without taking on that role. This puts me in conflict with a view of ethnographic research which requires that 'every ethnographer must remain silent and communicate only as appropriate by local norms....silence and a non-intrusive stance come with difficulty to ethnographers who choose to study sites similar to those in

which they have previously played a role' (Heath and Street, 2008:57). This study draws upon Linguistic Ethnography and Linguistic Anthropology (Chapter 3) in its' approach to data gathering and as a way of understanding the context in which the instantiations of children's interaction have occurred, but is not an ethnographic study as such. It is in the spirit of Bakhtin's assertion that 'Each word tastes of the context and contexts in which it has lived its socially charged life' (Bakhtin, 1988: 49) that there is a need to understand the contexts in which the instantiations exist. (I include all semiotic modes where Bakhtin writes of 'words'). In order to be able to fully understand the extracts micro-analysed in Chapter 6, an understanding of the 'context of situation' (Gee, 1999) needs to be achieved through reference to the wider data set of journal (observation) notes and the extended film footage. Angrosino and Mays De Perez (2000:676) take a wider position on the participant researcher, acknowledging that:

Ethnographers trained in sociology are now more inclined than were their predecessors to accept participation as a legitimate base from which to conduct observation.

Angrosino and Mays De Perez, 2000:677.

Furthermore, contemporary research 'is often conducted with a greater degree of researcher immersion...in the culture under study than was once considered desirable.' (2000:677). In their approach to observation, they advocate the adoption of a *situational identity*. That is the researcher takes on a role within the research context rather than being assigned a role by others (2000: 678). As such I could loosely define one role that I have taken on in this research setting as *responsible adult in class*. This enables me to fulfil my objective in observing and recording interaction between the children whilst at the same time maintaining a role compatible with the Every Child Matters policy. (Dcsf:2006).

The teachers know I am a qualified and experienced classroom teacher and put me in situations where they clearly expected me to lead the children to some extent in the set task, the Water Cycle and Blood Circulation episodes being two cases in point. In the former episode I tried to interact minimally with the children as they worked. In the Blood Circulation episode I was initially more instrumental in directing the children, suggesting to them that the carpet could represent the body, in order to give them a frame within which to work. I had been sent to an empty classroom with nine children and I knew that the children in the other group, who had remained in the classroom,

would have had more direction from their teacher. With the questions from behind the camera, such as 4.2.3 R: 'What about the valves in the heart?', and instructions to one child to move away from a computer, I was not a silent participant. The research objective of understanding how children are making meaning together is not compromised because the children feel relaxed with me and interact with each other in ways which I have observed over the preceding and following weeks, whether or not I have a camera covering part of my face. The other three episodes used for close analysis did not require me to interact with the pupils as they were clear about what the tasks involved and were sitting at desks working in groups, rather than being in an environment other than their daily classroom.

In addition to a role as responsible adult in the room, I was determined that I should address, as Pink describes 'the exploitative nature of research' (Pink, 2007:57), by ensuring that my research would be of active benefit to the children rather than simply not harming them. It is for this reason the children were shown clips of the film footage as the project unfolded and were taught how to use the computer programme Windows Movie Maker, to enable them to edit their own documentary style films of everyday life in Mr DXXX's class.(3.4.2). This was not without difficulty and came with the underlying problems of tensions between being an insider-researcher and yet trying to objectively and as unobtrusively as possible record the interaction taking place in the classroom on a daily basis. I am not a documentary film maker and did not set out to make a film of everyday interaction following the model of, for example, *Etre et Avoir*. (2003) . The film is my way of recording as many of the children's semiotic resources that are being employed in any one episode of interaction as possible. The camera cannot achieve a 360 degree perspective and in some cases, where I was positioned too close to the children, I was unable to get all of the group within a frame at any one time, with the result that the camera followed the interaction much as an interested observer, adjusting the angle from time to time in order to focus the gaze on the floor-holder. This had an impact on the process of transcription, (4.3.3) where for example it was not possible to see the direction of gaze of a child or movements out of the frame shot.

In summary, the 'researcher role' could more aptly be described as the 'researcher roles' as any researcher working in education settings may find themselves required to participate to some extent in the setting, particularly with regards to child welfare. My

role in this research could be loosely described overall as a participant-observer who is an insider to the setting whilst being mostly an outsider to the specific instantiations of spontaneous interaction. Furthermore, for schools to give permission for researchers to work in their classrooms some actual direct benefit to the participants involved is not required but is looked upon favourably.

### **3.4 Ethical Considerations**

In this section I discuss the term 'ethics' in relation to educational research in general and then outline the part that ethical considerations play in this research, some problematical areas, and how I have ensured that my methods of data gathering and analysis are carried out according to university guidelines and in an ethical way.

#### **3.4.1 Ethics in Educational Research**

Firstly, I would like to state that I do not consider the adherence to ethical guidelines as simply part of the protocol for data gathering and something to be included as a matter of procedure, for I believe it is more than this. It is part of the moral and honest quest for knowledge which could be neither valid nor valued if acquired in an unethical manner.

Before looking in detail at my own research procedures, I would like to discuss the term 'ethics' and how it has become defined and what it has come to mean today. Simply put, ethics are a codification of moral behaviour. The term is widely used in scientific, journalistic and medical fields to denote the written system of guidelines which professionals are expected to adhere to in their field of work. In academic research, particularly social sciences, the concept of what is ethical is evolving and past research practices may not be acceptable today (Woodhead and Faulkner, 2000). A specific example of what I mean here would be the present requirement for consent from children participating in research, something not necessarily considered important in past research, which is an aspect I shall discuss in more detail later. For the purposes of this study guidelines in the BERA code of conduct (2004:7) have been followed and university regulations adhered to. The letters requesting consent are included in the appendices (Appendix 4 and Appendix 5). I would now like to show

how this has been achieved and demonstrate that ethics has been a consideration from the outset and formed part of each stage of the research process from the design and methodology choices made to the conduct of fieldwork, the management, interpretation and analysis of data, and the dissemination of findings.

The main aspects of this research which could be ethically problematical are the fact that it is an investigation centred on children and that one of the main methods of data gathering is video film. This immediately raises two important areas for consideration. Firstly the ethical requirements for consent from children and confidentiality and secondly the ethical questions concerning the film footage, specifically access to and storage of data. These are the two areas I will consider in the next 2 sections. Interpretation of data and dissemination of findings are other areas I would like to discuss here.

Before going into detail on the method of ethically designing and carrying out the research process, I would like to briefly revisit the aims of this study and the means of data gathering. This research involves ethnographically gathered data in the form of classroom observation and video and audio recorded instances of naturally occurring classroom interaction. The purpose is to include multimodal aspects of interaction in analysis of communicative practices in order to achieve a deeper understanding of the ways in which children interact and construct meaning in classroom activities. The data gathering took place over a period of 4 months in a year 5 Primary classroom in a Sheffield school.

### **3.4.2 Access and Consent**

I now outline how I have followed ethical guidelines in gaining access and consent from participants. Following the 10 issues for consideration recommended for educational researchers by Alderson (1995) amongst others, I first asked permission of the Head teacher and Board of Governors at the school for access to the school to conduct this research. I then wrote to the parents of children in the class outlining the aims and purposes of the project and asking if they would like their children to be filmed as they do classroom activities. (Appendix 1) The aim of this was to ask parents to actively agree to their child being involved rather than an opt-out format. In



addition, I also offered to meet with parents to discuss what is involved in more detail and met with one parent who wished to know more.

The most important aspect in some respects was the consent and co-operation of the children. It was important to me that they understood what I was doing but also that there was some return for them. I approached the children in the class and discussed in terms they could understand what I intended to do in their class with a video camera and tape recorder and I explained that I am interested in the ways in which they talk to each other as they are working in class. In approaching consent in this way I followed Maybin's example.

I tried to answer children's questions about what I was doing as honestly and clearly as possible, telling them that I was interested in their talk because of what it showed about how they were thinking about things.

Maybin, 2004:98

Implicit here is the understanding that this is a process not a single action. This means for me that the children involved in my study needed to feel comfortable with and actively enjoy participation in the research process as it took place. In addition to the universally held view that research should 'do no harm', I intended that the children should actively benefit from taking part. It was important to me that the children should feel some ownership of the film data. They wanted to watch themselves at work and I felt this was an utterly natural and expected reaction.

In order to make some of the film available to them and to make their viewing purposeful, I devised an ICT activity with the class teacher whereby we jointly showed the children how to plan, storyboard and edit a short film using Windows Movie Maker and put titles, credits, and music into their films. First of all, I made a short film for them which I called 'Water, Arteries, Library, Tennis' which may look obscure but referred to the content and the capitals spelt 'WALT' which is written on the board everyday (WALT = We Are Learning Today). My field notes record

*Watched video I'd made for them 'Water, Arteries, Library, Tennis'.  
LXXe picked up on WALT! They really loved it! So did Mr JXXXs!  
3/07/08*

I was clearly delighted that one of the pupils 'got' my joke. I supplied the children with 20 minutes of footage of them engaged in a variety of lessons and activities ranging from PE on the school field, library visits, school grounds surveys with the caretaker, maths problems, and close reading tasks. The children worked in groups of three or four to produce a 5 minute film showing 'Life in Mr DXXXX's Class'. The resulting films were shown in class and a selection shown in school assembly. This was a popular activity with sound educational aims and objectives. There were moments when I worried that my valuable research time as an observer was being overtaken by my role as a class helper in ICT lessons helping the children learn to use new software to edit their films. There were the inevitable difficulties with technical aspects which were ultimately overcome but seemed frustrating at the time. A typical entry in my journal at this time states baldly - and embarrassingly self-pityingly-

*Impossible to load Y5 film project DVD onto computers in ICT suite for them to use. This complicates things enormously in making their documentaries. I feel torn in two. I need to gather my data. I also need to fulfil my part of the bargain in getting them to use Windows Movie Maker to make their own films. It's actually a nightmare and I'll probably have to work all weekend.*  
27/06/08

However, I feel that my instinct that the children should benefit from the filming was right and proper. I would not have felt comfortable doing this research in any other way. The reward for all came when the pupils finished their films.

My field notes commented

*You can hear a pin drop – they're so focussed. They really want to do this film*  
27/06/08

And

*We had an excellent session in the ICT suite, the children working in their groups to construct their documentaries using Windows Movie Maker. The group that surprised me most were O, D, L M and B. They worked so well together, identified what needed to be done and worked together to solve problems, generate titles and transitions. They achieved the most in the time allocated, mostly due to excellent teamwork.*  
01/07/08

Only children whose parents gave written consent and who gave written consent themselves could be included in the data collection process. As logistically it was

easier to work with smaller groups in order to get film footage with good enough sound quality I do not feel the data could be compromised in any way by this process. In total of the 27 pupils in the class, one parent asked for a child not to be included, one gave restricted consent after discussing the filming with me and 2 parents simply did not respond. Twenty three parents gave full consent. I ensured that only those children whose parents who gave full consent were included in the film data. I was surprised, and felt honoured and trusted, that so many parents were happy to give me full permission. I am sure that being a known and trusted member of the community gave me access which a stranger may not have been given and this has made me feel a strong sense of loyalty and indebtedness to my school community. My investment in the ethical procedures for this research is personally driven and not only a response to external formal procedures.

There is the question of self-selection where the giving of consent is a requirement of participation in research and this could be considered problematical in a school environment with an ethos of inclusion. Those children not included in the study were still included in the film making activity. As an ‘additional helpful adult’ my presence and support in classroom activities was not be restricted only to the children who had given consent to filming thus minimising an obvious selection of, and implicit exclusion of, children from the process. All children were involved in all activities as usual – some children were, as unobtrusively as possible, filmed. I should state at this point that no child was excluded from the research by me on any grounds; any selection was by the parents.

### **3.4.3 Management of Film Data**

The second aspect to this research, then, which could be viewed as ethically problematical is the filming of children and what subsequently happens to that data. The first issue is the question of trust, in that I am expecting parents to trust me to behave in an ethical way and according to university regulations. In order to further this I have had a CRB check to support my work as a classroom helper whilst conducting this research. I am known to many parents in this school as a parent governor for 9 years and in my position as Chair of the governing body of the school. I have a clear responsibility not to abuse the trust placed in me by the school community on many levels. My connections with this school do not start and end with this research; I am a member of the school community.

As a parent myself, I could foresee that parents of participating children would have questions regarding the film data, specifically, who would be able to view the footage and who would have access to the footage. On the first question I assured them that during the research process only I, my supervisor and examiners are able to view the film. On the second, no-one other than myself has access to the film. At this point I would like to refer to Alderson's (1995) third issue for consideration, that of privacy and confidentiality. All participants' names have been anonymised and the school is not identified.

However, the fact that further dissemination of this work at conferences or in publications may require images to be used needs to be addressed and this formed part of the consent letter and my discussions with the children. As this research is enquiring into modes of communication in addition to language, the inclusion of images of gesture, posture, gaze and facial expression may prove essential to dissemination of findings. For example in considering proxemics it may be necessary to include a still to illustrate a point. It is my experience that the quality of the film once a single image is selected is so poor as to often render a child unidentifiable. This is why the consent letter included the use of images in the final report, in future publications and at conferences as separate items which could be ticked or not according to the wishes of the parents. The twenty three parents who gave consent agreed to all of these. As this can be a controversial area in relation to digital data, the point needs to be made that at no time would the images be on the internet except as part of an academic journal published electronically.

#### **3.4.4 Dissemination of Findings**

I would now like to turn to other broader ethical issues for a brief discussion, beginning with the dissemination of findings to participants and the impact on the children and the question of possible harm. Firstly, as I have previously stated I made some of the video footage of the children working in class available to the children of that class to edit a short film to be shown in assembly. In this way the children themselves will be able to look more closely at the ways in which they are working together and reflect on the kinds of ways they communicate with each other. This

enabled the children to input into the research and foster a sense of some ownership of the research. When the analysis and findings of the research have been completed, I will invite the class teacher, classroom assistants and parents of the participants to a short video presentation and discussion. This I feel would be of more value than producing a short report as it would be more engaging for both parents and children. On the second issue here, I have not observed any detrimental impact on the classroom activities or personal wellbeing of participants. I would hope that this research has positive outcomes, both for the teachers and any implications the findings may have for pedagogy, and for the children in their active engagement with the project.

The children know me as a regular visitor to their classroom and it is my experience that children being filmed very quickly lose any self-consciousness and interest in the fact that they are being filmed, especially when this takes place over a number of visits. There are moments in the film footage where children have waved to the camera or grinned or gesticulated but in the vast majority of the footage the children are oblivious or at least completely comfortable with the filming. Nearly a year after the filming the children greet me in the playground and we smile and talk when we meet.

### **3.5 Concluding Remarks**

It is part of the researcher's work to select methods and settings for the research project appropriate to the research questions. It is also part of that endeavour to

...be able to justify and argue a methodological case for their reasons for choosing a particular approach and specific procedures.  
Sikes, 2004: 17

In this chapter I have shown the philosophical basis for my choice of methodologies and the resultant design of this research project. When I started this study 3 years ago I had not yet fully formed my ontological or epistemological views. This study has been a journey of self-discovery as well as 'uncovery' of the stories behind the data. Along the way there have been specific instances which have helped me to crystallize my views and my understanding of why I have, I thought instinctively, but in fact

rationally, chosen to do things in a certain way. One particular instance stands out as memorable and the moment I unburdened a problem which had been mulling over for some time. One evening during a visit to Crete to give a paper on my research at a conference, I burst out to my travelling (non academic) companions ‘I hate positivists!’ much to their amusement – and my relief. This was an emotional - and untrue - outburst as I hold nothing against them personally, but it was a turning point for me in recognizing my own motivations and philosophical position. I had mistakenly thought that at a conference on ‘Multimodality, Metaphor and the Lived Experience’ I would be surrounded by similarly humanist, interpretive qualitative researchers. I felt ambushed over lunch one day when questioned deeply over the hypothesis for my research and the coding systems I intended to use and my fellow researcher felt utterly bewildered by my organic approach to the unfolding and emerging nature of significant features from my data. I explained I did not have a hypothesis as such and felt my codes would make themselves known to me as I viewed and reviewed my film footage and read and re-read my notes (which they did). The idea that a researcher could go into the field armed with questions rather than a priori determined hypotheses seemed bizarre to some of my fellow conference presenters. The opposing views of ‘how can you look for something if you don’t know exactly what you are looking for?’ and ‘how can you go on a journey to uncover something which has already been uncovered?’ and resulting, good natured argument was a formative experience for me. Having to examine what I was proposing to do with my analysis and justify a ‘soft’ approach to my research process and a design that looked as uncertain and wobbly as jelly on a plate ultimately helped me to see that – the jelly may be wobbly but it has set, it is formed and has a perfect shape and consistency for what it is. Without challenge to beliefs it is hard to determine what beliefs are or, to continue with the metaphor, to ‘set’ otherwise formless shapes. Dialogue and construction of knowledge are not the sole preserve of children, but an important part of meaning-making in our social worlds for all of us. Furthermore, it is not a finite process but an evolving and changing one. I fully expect to revise and develop my ideas as I grow as a researcher.

## **Chapter 4: Data Management**

### **4.1 Introduction**

The aim of my analysis is to focus on ‘the minute moment to moment negotiations of meaning in children’s dialogues’ (Maybin, 2006: 184) examining all modes, not just language, in order to answer my questions about children’s communicative practices below:

- What do modes other than language contribute to the communicative process?
- What evidence is there that children can construct and present knowledge and understanding through multiple modes?
- What kind of additional information can multimodal analysis offer our understanding of creativity in children’s communicative practices?

In order to help answer my research questions looking at children’s classroom communication I have conducted detailed multimodal and discourse analyses of 5 instances of pupil to pupil interaction in school settings. In this section I outline the data, the process through which the data has been organised and analysed, and the interpretation of that data. The findings and implications are addressed in the following chapter.

#### **4.1.1 Approach to Analysis**

This analysis is grounded in a view of interaction as multimodal communicative practice. The process of analysis and interpretation combines approaches to the linguistic analysis of discourse with a social semiotic view of communication (Kress 2008). Following Norris (2004: 11) I have considered embodied modes such as proxemics, posture, bodily actions, gesture, gaze, spoken language and disembodied modes such as layout, print, music and any other semiotic resources used by the children as they work. I work with these modes of communication aware that these are not bounded or static modes but heuristic – aware of ‘the constant tension and contradiction between the system of representation and the real-time interaction among social actions.’(Norris: 2004: 12). This means that the modes are not semiotic entities on their own but work simultaneously and in co-operation with one another.

Interaction takes place in ‘real time, with minimal planning’ (Cameron: 2001:34): these modes of communication work together in a spontaneous, unscripted and on some levels, chaotic manner. I use the notions of ‘embodied modes’ and ‘disembodied modes’ and their subdivisions as aids to help me analyse rather than fixed and separate ‘items’ to be dissected.

I have also taken into consideration the ‘weight’ of meaning conveyed through various modes and the levels of attention and awareness of participants. Norris (2004:97) attends to the levels of attention and awareness in interactions by subdividing activity into fore-ground, mid-ground and background activity. She gives the example of the school crossing patrol who is directing and instructing drivers whilst simultaneously interacting with children as she helps them cross the road. The focus of attention may switch between the drivers and the children and at various points during the interaction one group will be the focus of attention, in the fore-ground, whilst the other will be attended to but not the main focus, in the mid-ground. Goffman (1959) similarly differentiated between 4 types of *involvement* – Dominant, Subordinate, Main and Side. He gives the example of waiting on a train platform for a train being the Dominant involvement, whilst reading a magazine would be Subordinate although ‘reading’ might be the Main involvement of this activity. A Side involvement might be glancing at other passengers or humming a tune. I feel that these ideas can be extended in the children’s interaction to include the number of simultaneous foci in any one instance of interaction between 2 or more children. It is frequently the case that many ‘conversations’ are being played out through many modes at any one time and that different levels of involvement are present. This analysis is concerned with moments in interaction where one mode may be dominant and fore-grounded and carry the weight of the main interest in the conversation and other modes may be simultaneously in full flow but backgrounded. I examine this more fully in section 5.5.

Furthermore there is also the question of modal density. There are places in the interactions between the children where a high number of modes of communication are being employed at one time and others where the texture of the interaction is less dense. Norris (2004:106) hierarchizes the importance of higher level actions; that is those carrying meaning through the use of modes in any instance of interaction. That



means attending to the many instances of meaning-making occurring during an interaction, some of which are modally dense, others less so, and some of which carry the focus or foci of the interaction and some of which are back-grounded. Norris is careful to point out that ‘the number of modes utilized does not give insight into the level of attention/awareness that an individual in interaction employs to construct a specific higher level action’ (Norris: 2004:109). This means that there is not a correlation between the modal density of the interaction and the levels of awareness or attention and the information or knowledge conveyed. A simple ‘look’ or finger indication alone can convey much.

It is a central idea to my research that all modes work together. This means that rather than viewing each mode as a separate entity within interaction, modes are conceptualised as integrated and operating in conjunction with one another in meaning-making. This means in practice focussing on the meaning that is communicated and how that is achieved through different modes rather than looking at the modes separately to see what each one offers independently. As Sidnell puts it

To investigate multimodally, one needs to pay serious attention to the level of structured activities; those situated activity systems within which analysts and the co-participants encounter gestures, directed gaze and talk working together in a co-ordinated and differentiated way.

Sidnell, 2006: 380

In order to structure my analysis I have used two main theoretical approaches. The first is based upon a functional view of communication advised by Halliday (1994). It is from this view of language that the framework for analysis of all modes, which I shall explain in further detail in a following section, was devised. The second main theoretical approach is influenced by ethnographic, sociolinguistic studies in educational settings such as Maybin’s (1994, 2006) approach to analysing what children are *doing* with language and Mercer’s (1995, 2000) approach to analysing children’s *construction of knowledge* and is based upon Vygotskian (1986) and Bakhtinian (1981) approaches to dialogue. This has been detailed in the literature review.

#### 4.1.2 Introduction to Data

The data for this study consists of field notes and digital film footage of 9 to 10 year old children interacting at a primary school gathered between April and July 2008. The main focus of the micro-analysis is the minutiae of spontaneous interaction between children. Field notes are used to contextualise the data so that the classroom atmosphere, immediate environment, occurrences not witnessed by the camera and other supplementary detail as witnessed by the researcher may be included. This is an essential part of the data as the philosophical stance of the researcher requires attention to the **context** of interaction to be central to the analysis.

I am aware of my own hand in the *construction* of this data. The conversation between 4 children about the names of their characters in a re-worked *Theseus and the Minotaur* story is one text. My field notes on that conversation are another separate text, and the film of the conversation is yet another text. Following my analysis, I create another text which is the chapter in my PhD thesis. This conceptualisation of the origin of my data puts my position as being a researcher who *generates* rather than *collects* data (Guba and Lincoln, 1989). Furthermore, following Sarah Pink (2008) film data are a representation of what has occurred *as captured by the digital camera* – operated by the researcher in this instance. It does not set out to be an accurate account of what has happened, as it is a gaze directed by the researcher. It was a deliberate choice to hand-hold the camera so that I could be responsive to what is happening in front of me. Therefore, it is only possible to capture one view of what has taken place. It is a visual, medium and not multisensory. The ethnographic notes from my journal are vital in gaining another perspective and capture other aspects not possible with the camera, sensory aspects such as moods and smells and moments from without the camera's frame. However, all methods of data generation are subjective. We have to work with the available resources and technology. Halliday's comment that the invention of the tape recorder was 'perhaps the greatest single event in the history of linguistics' (1994: xxiii), whilst being valid in the 1980's, now seems inadequate. The video camera in years to come may seem similarly outmoded and unable to capture a full picture. However, it is the resource we have available to us. I therefore aim to analyse and interpret the data which are available to me acknowledging its limitations.

## **4.2 Strategies and Stages**

In this section I outline my approach to organising and making sense of the data. I explain the analysis strategies first and then the stages I went through in dealing with the data.

### **4.2.1 Analysis Strategies**

The film data consist of 9 hours of film footage of children interacting whilst working on tasks set by the teacher in classroom settings. The field notes take the form of a journal of classroom activities and interactions as perceived by the researcher and are not limited to the video recorded instances but chart a view of the children's experiences in class throughout the school day. Some of the film footage is more useable than other parts. By this I mean that the sound or picture quality in some instances made the film difficult to use. Having gathered the data the task of reviewing, sorting, categorising, 'looking', and 'seeing' seemed immense. In this section I explain how I have found my way with my data, for whilst I knew 'what had to be done' I did not set out with a fixed plan for how I would achieve that.

### **4.2.2 Stages in Analysis**

Whilst this research has not followed a pre-ordained set of stages in its analysis of data, it has followed a pattern recognisable to the qualitative researcher. Cresswell (1998: 140) makes the point that whilst 'no consensus exists for the analysis of the forms of qualitative data' there are common features to approaches to data employed by qualitative researchers. This research shares features with other studies in the approach to analysing the data and is also innovative in its approach to multimodal analysis.

The first feature in common with other studies must be the overwhelming senses of firstly, responsibility and secondly, awe at the enormity of the task ahead of me. Having set out on this study with a clear sense of what I was aiming to do, a confidence in my research questions and a calm and measured demeanour in the data gathering process, I now felt unable to begin to sift through and organise the quantity

of data I had gathered. There is no manual on how to do this; it is 'custom built' (Cresswell, 1998: 142). If qualitative researchers 'learn by doing' (Dey 1993, 78 in Creswell 1998:142), then I knew I had to start by slowly reviewing the film. It is only by reflecting upon the process I have been engaged in throughout the analysis period that I am able to now identify the stages in that process.

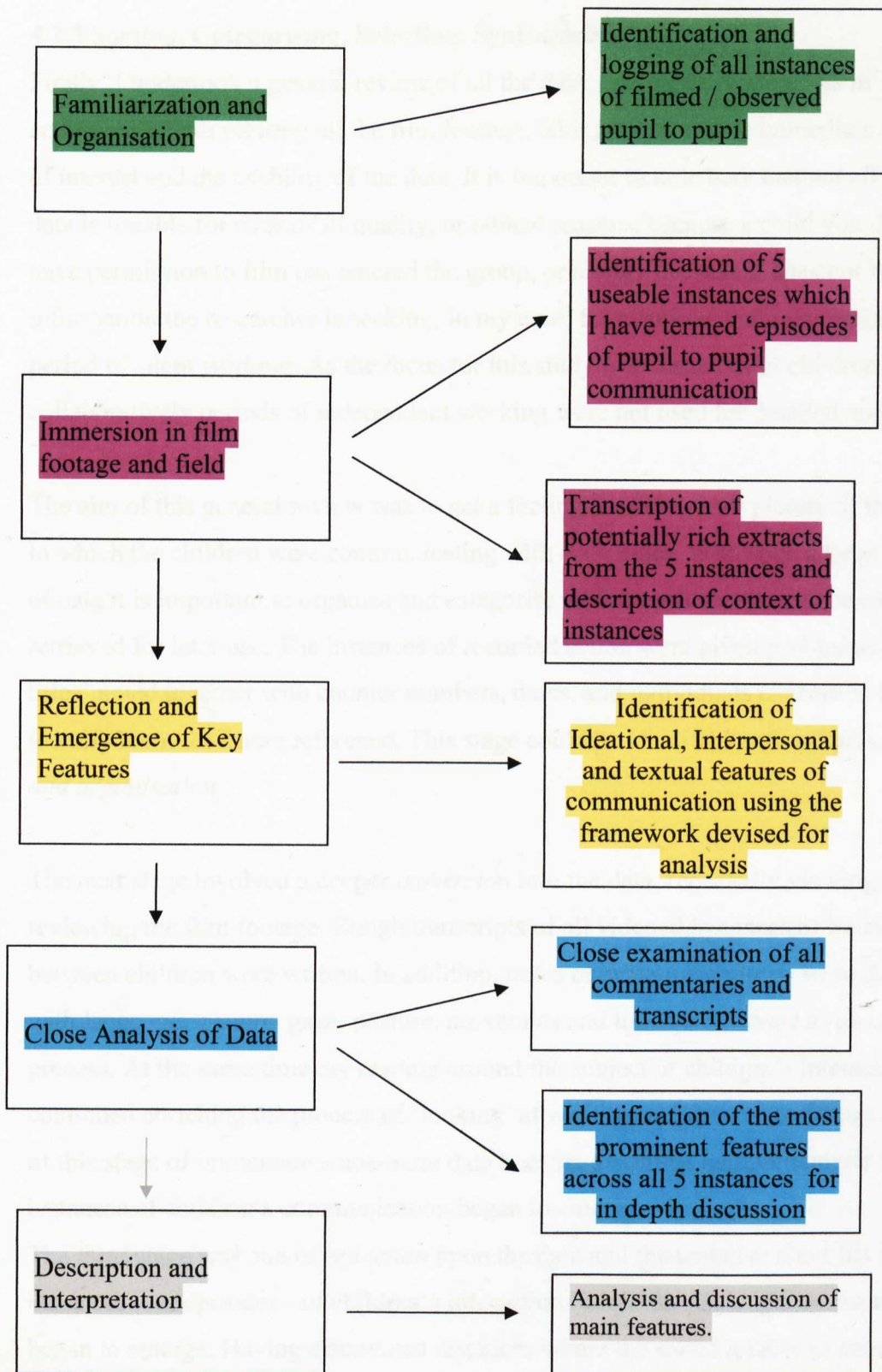
Further reading of the subject of qualitative data enables me to acknowledge that the process I have been through shares much in common with the experiences of other researchers looking at interaction. Swann (1994:45) straightforwardly recounts that 'Close scrutiny of class or group talk is time consuming and may be extremely frustrating'. I found myself moving between two spaces, the data, and the literature - my collection of books and articles that I was constantly re-visiting and reviewing. On this cyclical working, Wellington (2000: 134) is clear that 'Data analysis is part of the research cycle, not a discrete phase near the end of a research plan'. As I worked through the immersion in the data and began the sifting and organising of my material I was constantly revising and improving upon my strategies for dealing with the data. It was not until I completed the draft of fifth and final transcript and commentary that I felt I had a system in place that would work for me.

This process leading to analysis can now be outlined in 6 main stages.

- *Familiarisation and organisation*
- *Immersion*
- *Reflection and emergence of instances of communication to focus upon*
- *Close analysis of those instances using an analytical framework*
- *Description through the use of written commentaries and comparison across the 5 instances of emerging features*
- *Interpretation and location of findings*

<sup>1</sup>STAGE

PROCESS



<sup>1</sup> Figure 2: Stages in the Analysis of Data

### 4.2.3 Sorting, Categorising, Selecting, Synthesizing

Firstly, I undertook a general review of all the data, reading the field notes in conjunction with viewing all the film footage, taking notes on any immediate points of interest and the usability of the data. It is important to note here that not all film data is useable for reasons of quality, or ethical reasons, because a child you do not have permission to film has entered the group, or simply because it does not have the information the researcher is seeking; in my case, for example, that may mean a long period of silent working. As the focus for this study was instances of children working collaboratively periods of independent working were not used for detailed analysis.

The aim of this general review was to get a feeling for the overall picture of the ways in which the children were communicating with each other. With such a large quantity of data it is important to organise and categorise so that each section can be easily retrieved for later use. The instances of recorded action were given preliminary 'film titles' noted together with counter numbers, dates, and individuals concerned to identify them for future reference. This stage could be identified as *familiarisation and organisation*.

The next stage involved a deeper *immersion* into the data, repeatedly viewing and reviewing the film footage. Rough transcripts of all videoed instances of interaction between children were written. In addition, notes on what the children were *doing* with language, gesture, gaze, posture, proxemics and touch were made as an ongoing process. At the same time my reading around the subject of children's interaction continued enriching the process of 'looking' at what the children were doing. As part of this stage of immersion some more data became discarded and particularly rich instances of children's communication began to emerge.

The third stage was one of *reflection* upon the data and the tentative short list of 5 instances – or episodes - of children's interaction rich in the use of particular modes began to emerge. Having discounted instances where the sound quality or camera work was too poor for transcription I selected from my data discrete episodes which included a group of three or more children working together on a teacher directed task

using a variety of semiotic modes. I discuss in more detail the criteria for selection following Table 2. Specifically these were identified and named as

1. X-stream Life Cycle
2. Theseus and The Minotaur Story
3. The Water Cycle
4. Blood Circulation
5. The Piano

Detailed contextual information on each of these episodes is given in Chapter 5. .

**Table 3: Criteria for Selection of Episodes**

<u>Video Quality</u>	Camera angle gives sufficient view of gesture, posture, gaze, facial expression of the participants taking part
<u>Audio Quality</u>	The sound quality is sufficient to be able to transcribe what is said
<u>Participants</u>	Consent given by all participants in view; no focus on gender in this study so a mix of boys and girls across the episodes: no focus on ability range of children
<u>Space and Place</u>	The variety of school places used during lesson times in the research setting is represented in the range of selected episodes (classroom/ withdrawal room/ hall/ empty classroom)
<u>Curriculum Area</u>	No focus in this study on curriculum area so a range represented by the selected episodes
<u>Framed Instances</u>	Episodes mark a distinct lesson or part of a lesson and extracts from episodes sufficiently long to give a picture of the flow of conversation.

My primary concern in selecting the five main Episodes for analysis was that they entailed child-to-child interaction as this was the focus of my enquiry. As part of the sorting process further criteria for selection regarding the useability of the film data were employed. I needed to be able to see as much as possible of what is taking place between the children in each of the episodes in terms of gaze, gesture, facial expression and posture. Due to the positioning of the camera it was not always possible to see all of the facial expressions of each of the children at all times and I had to accept the limitations of my film data in this respect whilst at the same time

choosing the best possible extracts for close textual analysis. The audio quality was also a concern as the classroom is a very noisy place and individual voices can become lost amid the background noise. In terms of participants neither gender nor notions of ability were a concern of this study which meant I was not restricted in terms of the interactants involved, although I needed to ensure that those few children for whom I did not have consent did not walk across the background or come into the camera's view. The class teachers made use of a number of school 'places' and I wished this to be represented in the film data that was selected and two episodes were in a withdrawal room, one in the hall, one in an empty classroom and one in the year five classroom.

The main criteria for selection of the extracts from the episodes are:

1. That the tape involved 2 or more children talking together on a task set by the teacher.
2. That the tape had sufficiently good enough audio quality to be transcribed. In many cases the background noise of the classroom or the positioning of the camera's microphone meant that I was unable to hear clearly enough of what was being said between the children.
3. That a variety of different activities were chosen, in a variety of locations and with children from both genders where possible. It was not my intention to focus on one curriculum area or one gender and therefore I wanted the selection of extracts to reflect the variety of classroom experiences that I had witnessed during the research period.
4. That children for whom **full** consent had not been received were not visible or audible at any time on the recordings used. ( Whilst I was careful not to knowingly include any of those four children I wanted to ensure that they did not walk past in the background of a selected episode, or that they could not be heard talking in the background.)
5. That where immediately apparent, specific instances of modes other than language being used in interaction were examined in detail.

The five episodes of interaction listed above were the only ones to fully meet these criteria and became the focus for analysis.

A tentative list of categories of features for further investigation was developed in the first instance (and later re-defined) as



*Expression of knowledge*

*Creative use of modes*

*Recounts or narratives*

*Relationship building*

Each of these episodes lasted between 25 and 45 minutes and in order to examine the interactions in greater depth 2 or 3 shorter extracts of 2 or 3 minutes each were focussed upon for detailed multimodal transcription and micro-analysis.

I attend to the next stages of

*Close micro- analysis of those instances using an analytical framework*

and

*Description through the use of written commentaries and comparison across the 5 instances of emerging features*

in the next sections on transcription and analysis.

## **4.3 Transcription**

In this section I address the purpose of transcription, the issue of interpretation and presentation, the difficulties associated with monomodal representation of multimodal communication and present an outline of the frameworks and conventions used in building the transcripts.

### **4.3.1 Approaches to Transcription**

In this section I review some approaches to multimodal transcription of data from studies of interaction. This section is concerned with the practical and technical problems associated with transcription of interaction and, in particular, video-recorded interaction. It draws upon literature concerned with transcribing spoken interaction in social settings and upon transcription of video recorded data. The theoretical concerns of the purpose of transcription and the approach to transcription used in this study are further elaborated on in the following section 4.3.2. This study is not using a coding system in conjunction with computer assisted transcription (Bloom, 1993:156), nor a computer program to assist with analysis. Therefore the approaches to transcription

used in qualitative research are discussed here, specifically time-organised transcripts, turn-based transcripts, photographic still-based transcripts and descriptive transcripts.

Data in this study of child-to-child spontaneous interaction requiring transcription is in the form of video-recorded instances of interaction for the micro-analysis. This thesis is presented in written form with an accompanying DVD of the film extracts used for micro-analysis. There is a requirement to produce a written transcription of the interaction between children as evidence to support this thesis. In addition, the process of creating a transcription is part of the close scrutiny and analysis of the film data.

The question of how to present a graphic version of the video data requires investigation of the approaches used by other researchers working in fields which are examining spontaneous interaction in social situations. Approaches used for transcription are aligned to the requirements of the researcher of the transcript and the specific research questions. That is, studies with a focus on spoken language will be predominantly concerned with language (Eggins and Slade, 1997); those concerned with gaze and language will include both these modes (Sidnell, 2006) and with embodied meaning-making, actions and posture will be noted (Leung, 2009). The degree to which discourse analysts include modes of meaning-making other than language varies. Flewitt et al (2009) make the point that:

Whilst discourse analysis has extended the boundaries of research into human communication, it tends to describe other modalities in terms of their relation to language rather than as distinct communicative modes in their own right. Intonation, facial expression, gestures and vocalisations are often described as ‘para’ or ‘extra’-linguistic features.

Flewitt et al 2009:41

For example, in their study of casual conversation, Eggins and Slade include ‘paralinguistic and non-verbal information (1997:2) in their transcription within square brackets with the proviso that ‘such information is only included where it is judged important in making sense of the interaction’ (Eggins and Slade, 1997:2). The conventions developed through linguistic studies of interaction using Conversation Analysis or discourse analysis have had an impact on the way in which researchers concerned with multimodal interaction transcribe their data using a language-based

transcript organised in turns accompanied by sketches, diagrams or photographs (Goodwin, 2001:172). Other approaches not foregrounding language have also been employed in multimodal analysis of interaction (Norris, 2004; Baldry and Thibault, 2006). Not all multimodal transcription conventions are entirely relevant here, as the focus for this analysis is spontaneous interaction rather than the multimodal meaning-making of say an institution or a website, although some have interesting features to be taken into consideration. For example Pang's (2004:35) Systemic functional framework for a museum exhibition where Ideational, Interpersonal and Textual features of an exhibition are transcribed in a move from systemic-functional linguistics to systemic functional semiotics. Rather than a *transcription* in the conventional sense, this is a *description* built upon a framework. It is an example of the alternative ways of noting multimodal communication in a research context where:

With the use of new technologies changing apace.....the potential for new forms of data and for new transcription and dissemination formats is assured.  
Flewitt et al. 2009: 53

Whether a study of interaction has a linguistic focus or whether it is concerned with a multimodal view of communication, one of the primary practical issues for transcription may be how to represent the turn taking and 'flow' of the interactions. Flewitt et al (2009:45) make the point that, in language-focussed transcripts, turns of speech shape the form of the transcript but:

As soon as multiple modes are included, the notion of speech turns becomes problematic as other modes contribute meanings to exchanges during the silence between spoken turns

Flewitt et al. 2009:45

Following Norris' (2004) conception of foreground, mid-ground and background meaning making within interaction, it could be argued that within any interaction there are contemporaneous meanings being made not just in the 'silences between spoken turns', but also alongside speech turns and intertwined in the ensemble of multiple modes.

Egins and Slade (1997:1) are discourse analysts but their method of transcription of conversation is influential here as they investigate the interpersonal function in casual conversation. They refer to an approach to transcription which is 'faithful to the spontaneity and informality of the talk but is also easily accessible to readers'.

This is a primarily linguistic focussed approach to transcribing moment-to-moment interaction and as such uses full stops to indicate termination of a turn rather than a grammatically complete sentence, commas to indicate ‘parcellings of non-final talk’, breaks or pauses indicated by ....., question marks to indicate rising intonation, exclamation marks to signify expression of counter-expectation such as shock or surprise, words in capitals to show emphasis and quotation marks to show quotation or repetition of another’s words. In addition, moments of interaction which are non-transcribable or uncertain are shown by parentheses, non-verbal information is given in square brackets false starts are shown by a hyphen, and fillers are represented orthographically such as ‘ah’ as a staller or ‘mmm’ showing agreement, overlapping is indicated with the use of == at the beginning of the simultaneous turns.

The use of a linguistic turn-based transcript annotated with sketches to indicate embodied modes is one approach used by Goodwin to the problem of representing modes other than language in multimodal transcription (Goodwin, 2007). However, as multimodal analysts are wont to point out (Flewitt et al, 2009:41) there is no single way to do this. Goodwin (2001:161) makes the point that ‘no method is entirely successful’ and explains that:

To try to make the phenomena I’m analysing independently accessible to the reader so that she or he can evaluate my analysis, I’ve experimented with using transcription symbols, frame grabs, diagrams and movies embedded in electronic versions of papers.

Goodwin, 2001:161

He surmises that the researcher needs to attend to the two-fold problem of representing through systematic notation the events being analysed whilst at the same time presenting a version which is accessible to the reader.

One approach, then, may be where the transcript is organised in temporal form such as the unit of one second of film (Baldry and Thibault, 2006) which can incorporate as much of what is taking place at any moment, in this case any second, as is deemed necessary. This approach dissects the interaction into extremely small units. My study is interested in looking at a micro-level at what is taking place between the children as they interact. It is important to determine what is meant by micro-level. This involves sorting the interplay between the children into ‘turns’ realised through any mode or modes as employed at the time. In order to examine in detail the textual features of the modes employed by the children, the sense of coherence in the interplay must not be lost in the transcript. There is a danger in ending up with de-contextualised meanings

if the micro-analysis is too micro: that is, if the transcript breaks the interaction into segments which are so small that they have become separated from the context. Each act of meaning-making depends upon what has gone before and a sense of what will follow: the importance of context to meaning and the relevance of this position to this study is discussed elsewhere ( 2.1.2, and 6.5.1) . If the interaction is broken down into such small pieces that the sense of context and of coherence between the multimodal turns is lost, then it will not be possible to analyse the flow of ideas in the children's meaning making. In determining the degree to which the transcript in this study needs to breakdown the interaction into 'bits', the need to maintain the coherence of the multimodal turn taking and the flow of the conversation, attending to what goes before and comes after, is a major concern in the transcription of this data. It is for this reason that such an approach to transcription was not considered appropriate for this particular study. Baldry (2004 in O'Halloran, 2004) further reviews what he terms a 'classic' multimodal transcription of film footage which incorporates a series of stills in the first column on the left (visual frame) followed by 4 further columns for notation of Visual Image, Kinesic Action, Soundtrack and Phases and Metafunctions (2004:85). The transcriptions presented in Baldry's work are a complex series of visual images and annotations and abbreviations whose meaning are not easily accessible to the reader in the way that Goodwin (2001:261) describes. Baldry is, however, aware of the issue of dividing a text into separate semiotic 'channels' or 'codes' when:

...the meaning of a multimodal text is instead the composite product/process of the ways in which different resources are co-deployed...

Baldry 2004:87

It is certainly a challenge to all transcribers to find a way to recognise the different modes at work and present them as a coherent, integrated and co-ordinated combination of modes and in an accessible manner.

An alternative approach has been used by Norris, which is to use visual reference through the use of photographic stills with head movements and gesture and gaze notated through symbols in conjunction with transcribed speech (Norris, 2004) approach. Norris uses images in her transcripts as images are able to 'communicate modes not easily translated into language' (2004:65) giving the example of colour or posture as difficult to describe. She believes that images are able 'to describe the dynamic, unfolding of specific moments in time, in which layout and modes like posture, gesture and gaze play as much a part as the verbal' (2004:65). I am not

convinced however, that a still from a video is necessarily able to include all modes being employed within that image, as it may not reveal the gaze direction if, for example, the camera angle is not conducive; nor can a movement be represented through a still or even series of stills as an accurate representation of what has taken place in real time. The framing necessarily encapsulated within a photographic still edits what is taking place in that environment. This can be overcome with observation notes and the researcher's understanding of how the communication has unfolded during the filming process.

Norris makes the point that the researcher's chosen method of transcription 'reflects the theory of the researcher' (2004:65) and this is something discussed more fully in the following section, but here I wish to show that Norris's use of photographic stills reflects her position on the way in which language can be presented as the dominant mode in some transcriptions. This is clearly something which Norris wishes to avoid:

I believe that the view which unquestionably positions language at the center limits our understanding of the complexity of interaction

Norris 2004:65

The use of photographic stills can therefore be seen as a manifestation of Norris' position on the multimodal nature of interaction. Norris sets out to de-emphasize spoken language in order to accentuate other essential modes. This is not to detract from the vital part in communication which language plays and Norris accepts that whilst we cannot fully understand the spoken mode without recourse to other modes, we similarly cannot fully understand modes such as posture or gesture without considering the language which operates alongside these modes. The process which Norris follows is to produce a transcript for each communicative mode and then combine them all into one overarching transcript. This final version is centred on visual images, photographic stills from video footage, with speech and notation on other modes overlaid. Norris' transcripts include speech, proxemics, posture, gesture, head movements, gaze, music, print and layout. Intonation is indicated as curving speech rising and falling across the visual image, and overlap of utterances is shown by closeness of the words on the image.

I have chosen not to include visual images in the transcript but to include stills where appropriate in the analysis (Chapters 5 and 6) and to include a DVD of the extracts transcribed with this thesis. My reasons for this are two-fold. Firstly, as a researcher

the act of transcribing, of putting a version of communicative events into words has helped me scrutinize the ways in which modes are working together in the children's meaning-making. Further to this, as a reader, I have found that a series of visual images overlaid with words and notated with symbols can be as impenetrable as a written transcript densely packed with transcription symbols and notation systems not immediately clear. It is an additional concern that the use of a visual image firmly positions the reader of the transcript in the same corner of the room as the camera. For me, the use of the camera as a research tool to capture moments of interaction should not necessarily confine the transcript to one fixed angle of sight on the interaction. A written transcript is a way of conveying to the reader an interpretation of what has taken place in the situation in which the interaction has taken place; it frees the reader to 'be' in the room and liberates the transcript from the fixed position of the camera. (This is further discussed in 4.3.3).

An alternative way to record the multiple modes used in any interaction would be the use of 'thick description' of verbal, embodied and disembodied modes, such as used by Jewitt and Kress (2003: 280). They apply a rhetorical frame to the organisation and classification of video-recorded data which involves attention to the positioning in the room of participants in the interaction (in this case teacher and pupils), modes of communication, such as speech, posture, gaze and movement, employed in the interaction, material objects used, the genre of the interaction and lexis used (2003:279). In some transcripts speech is noted on the left with actions including gestural movements juxtaposed on the right (2003:281) and Bourne and Jewitt have presented a transcript organized horizontally in repeating rows of speech, gaze, gesture and posture (2003). To show where in the speech a corresponding gesture is juxtaposed, the words have been underlined. One possible drawback of this approach for this project examining child-to-child interaction would be where a mode other than speech such as a gesture, facial expression, or touch occurs **not** in combination with spoken language, or, as part of another 'conversation' altogether. With children's' interaction, Graddol et al acknowledge that there are a different set of problems associated with transcribing data, as 'Turns between children may not be exchanged smoothly.....it is not always clear to whom children's speech is directed' (1987:172) and several conversations may be taking place simultaneously. Flewitt (2006:34) writes of the significance of a silence during talk which might 'define the

boundary of an exchange' whilst a multimodal transcript can offer 'exchanges in other modes during spoken silences' (Flewitt, 2006:34). Flewitt describes an approach to transcription which first involves noting in a video log a description of activity alongside the time on the tape together with researcher comments on what has taken place. A second stage of building a linguistic (audio) transcription is followed by a third stage combining audio and visual (video) information at numbered turns. In this way the posture, actions, gaze and speech are all represented in one descriptive transcript. Flewitt explains that:

This multimodal matrix reveals more about the sequencing and simultaneity of speech, gaze and movement. The separate columns display how different modes operate simultaneously as interwoven rather than sequential separate elements in the discursive practices of the setting.

Flewitt 2006:39

The drawbacks of setting out the transcript in this way is that the modes are not separated out in a way that enables the researcher or reader to consider the 'conversations' or meaning that is being made through the use of one particular mode, say posture, which may, or may not, be operating in conjunction with other modes. It would not have been possible for example to examine the series of postures comprising 'The Standoff' (T3:2/20-50: section 4.3.2 for a full description of this) sequence of moves offering background meaning-making simultaneously with an interaction foregrounding the children's re-presentation of the Water Cycle. There is therefore a problem for the researcher in deciding whether to include all modes in one descriptive transcript, or to separate out the modes being employed.

The approach to transcription in this study therefore draws upon elements of the approaches described here, particularly, Norris (2004) Jewitt and Kress (2003, 2005), Flewitt (2006) and Eggins and Slade (1997) and proposes a new frame for transcription. The purpose and format of the transcript is described in more detail in the following sections. In summary, the transcription approach in this study does not use photographic stills but uses a written approach using separate columns for modes or groups of modes of communication with rows representing 'turns' realised through any mode. The interaction is not divided temporally but is divided into chunks of meaning notionalised as 'turns' and tries to capture the flow, spontaneity and responsiveness of the interactants' communication. By separating out these modes and giving each its own column going down the page, it is possible to represent those



moments where a 'turn' is mediated through a mode other than language. It is in this respect that I offer a transcription framework (4.3.3) which does not privilege speech or make a priori assumptions about the semiotic resource employed by a child in taking his or her turn in the discourse.

#### **4.3.2 Purpose of Transcription**

The primary purpose for transcription is to enable analysis. The analysis is taking place alongside the transcription process. 'Transcription is a way of revealing both the co-deployment of semiotic resources and their dynamic unfolding in time along textually constrained and enabled pathways or trajectories' (Baldry and Thibault 2006 xvi). Through building a transcript, the complex interplay between modes of moment to moment interaction can become revealed.

It is acknowledged that it would be impossible to systematically analyse communication without writing a representation of the interaction that has taken place Cameron (2001:31). We process face-to-face interaction in real time and it usually fades the moment it is released in to the atmosphere. In order to scrutinise the momentary we need to commit it to a form that can be revisited over and over in the quest for patterns, links and forms which re-occur. I use the word 'commit' knowingly, as by producing a written transcript a researcher is 'committed' to that version of what has occurred.

For many researchers the representation may include photographic stills, (Norris, 2004), diagrams (Scollon, 2005; Goodwin and Goodwin, 2001) and a combination of these, (Baldry and Thibault, 2006). The transcription also needs to be accessible to a reader and therefore be organised and presented in a recognisable way. To say that 'the process of transcribing multimodal data is extremely complex' (Norris 2004:64) is almost an understatement. There is no single approved, proven method for transcribing multimodal data. For every researcher there is a most suitable way for including all that is needed for analysis. Norris (2004:65) acknowledges that 'multimodal transcripts, like any transcripts, reflect the theory of the researcher'. My approach to transcription therefore reflects my theoretical stance. The transcription is my interpretation of the events which have been recorded from one viewpoint by my camera. It therefore cannot be considered a complete account of what has taken place; it is simply as full a reconstruction as I can possibly achieve.

There are other purposes at work here. I mentioned that the transcript needs to be accessible to a reader. I am aware in producing my transcript that it must necessarily be presented in an accessible way for future audiences for publication or teaching purposes. My own experiences as a researcher of multimodal approaches to analysis will necessarily influence my approach to transcribing. I therefore have chosen to produce a transcript in written format accompanied by photographic stills in the analysis section to elucidate descriptions of posture where necessary. The extracts from the film used for the micro-analysis is submitted with this thesis.

Having piloted my approach to transcription in an earlier study, (Taylor, 2006), I have changed the presentation of the data although not the approach, largely because of the way the research questions and aims of the research have been developed. In the pilot study I compared a discourse analysis of a speech based transcript with an analysis of a transcript of all modes other than speech. In this study I have combined all modes in a single transcript. However, the process of watching the film footage without sound and transcribing the gaze, facial expression, gestures, bodily actions, posture and proxemics from what was seen was still applied and for good reason. What is said does not necessarily conflate with what is taking place. There may be a number of messages being conveyed during any one action or interaction and as we have seen these may be foregrounded or backgrounded. I will come to this in more detail in the analysis section but would like to give one example of what I mean.

The embodiment of meaning is a crucial aspect to our communication with one another. Scollon (2003:2) believes 'we cannot forget that we ourselves are the embodiment of signs in our physical presence, movements, and gestures'. Norris (2004:65) states that 'Embodied and disembodied modes of communication are employed by social actors in order to communicate complete messages, which often integrate several conflicting messages.' In reviewing a section of the Water Cycle film *without sound* it became clear that an antagonistic conversation was being played out posturally that was not fully projected through the mode of speech.(Table 3: The Standoff)

Table 4: (3.2/40-50). Standoff

Number of Turn	Vocalisation, speech	Action	Gaze	Gesture, facial expression	Posture, Proxemics, Haptics
40	L O**** does that ..He goes ooohhh	O walks towards L, stops hands on hips , resting left foot on trainer	O and L lock gaze S looking at chart	O and L smiling at each other  S points at L	L wiggles hips , movement from knees up through body S wiggles head side to side slightly as he watches
41	S he...floats ( <i>Indistinct</i> )		S looks behind at doorway as he speaks, G and O follow gaze	S points at O	
42	O I do not float off		O stares at S	, O lifts chin up	
43	L He goes like that Yeah?  whooh	L Repeats action	G and O looking at L S looking at chart		L arms to sides, wiggles body and raises arms in upward motion O copies wiggle G raises arms
44	S I thought you'd said....After you'd taken off your shoes			S points at chart on floor	O taps trainer with foot
45	O Oh yeah I know		S and O lock gaze		
46	S you said ...with hands  S I've got O*** behind that		L looking at S O and S lock gaze	S points at O  O walks towards S	S makes circular movement with arms L arms in arch above head, G arms raised, makes arch

47	L O*** goes like that		O and S look at L		O taps trainer on floor with right foot
48	S So..... He goes ...	S walks towards O	O and S lock gaze	S points at floor	O jumps clapping hands behind him
49	S So that's what I put but you said 'no'!	O walks towards S  O makes kicking gesture towards S		S points at O  S steps back, O steps forward	L arms out to side  G swings arms by side , clapping in front and behind rhythmically
50	L I could go like that	O does star jump and claps	S, O, and G look at L		L makes arch above head with raised arms leaning to right side

When the embodied modes were focussed upon with the sound off and attention focussed on the posture, the aggressive stances and the tension between S and O became clear. This is not reflected in the spoken language in any depth, although there is O's short sharp 3:2/43 'I do not float off', but the way that S points at O and the aggressive response from O with a kick aimed towards S and the advancing and retreating postures are clearly communicating a much stronger message than the words alone. The extract closes with L's diffusion of the tension by deflecting the two antagonists with his demonstrated move. The change of gaze from focussed on each other to looking at L helps divert their emotions. I choose this example to illustrate Norris's point that 'whilst visual modes of communication are difficult to interpret without interpreting the mode of spoken language, spoken language is also difficult to interpret to its fullest extent without interpreting other accompanying modes.' (2004:65). A full picture of the interplay between these participants could not have been achieved without attention to all modes employed by the children.

### **4.3.3 Interpretation and Representation**

In this section I address the issues of what is involved in the writing of the transcript and the process of interpretation of interaction, and the consideration of how the information is represented for the audience.

First of all, I wish to introduce the grid used for the multimodal transcription (Table 4). The first column is for the counter number on the digital video film and the number of each turn. A turn is a communicative act as part of the series of acts that make up an interaction. It is usually marked by an utterance (Column 2, speech or vocalisation – such as humming) but it may also comprise an action, a gesture, or a pause, whereby all activity pauses, and it may also consist of 2 participants speaking or performing an action or gesture at the same time. In this case, the speech, action or gesture of both participants is in the same box. Gaze is noted in the fourth column, and Gesture and Facial Expression are included together in column 5 as they so often correspond. Posture, Proxemics (how close the participants are to each other) and Haptics (touch) are put together as they so often coincide (for example stretching out a hand to touch someone whilst at the same time leaning towards them would be difficult to separate as it is part of one act of meaning-making, and yet it comprises each of these aspects). Action, column 3, includes actions which are carried out during a conversation but not necessarily overtly part of meaning-making such as walking across a room or opening a door – although these actions may be seen to be significant when considered with the transcript as a whole. Inevitably there is crossover between Actions and Posture / Proxemics / Haptics or even Gesture and I have previously explained the fluidity between these aspects of communication and the way in which modes are conceptualised in this research as integrated and operating in conjunction with one another. I wanted to capture in my transcripts the ‘flow of conversation’ not just in the column with the spoken discourse but also in the ‘flow’ which arises in a series of actions and postures as revealed by the previous example, Table 3: The Stand-off.

Table 5: Multimodal Transcript Grid

Number of Turn	Vocalisation/ speech	Action	Gaze	Gesture, Facial expression	Posture, Proxemics / Haptics
1					
2					

Any act of writing, as with any act of communication, involves the construction of meaning and how that meaning is understood will depend upon the audience’s co-construction of that text. Halliday maintains that in hearing a text we bring our own meanings to it (Halliday, 1994: 42) and by taking the step of writing down what we hear that process is taken a step further. Whilst a researcher will necessarily attempt to be as faithful as possible to the original message (Kress, 2003:102) we must accept that as any recording will come with prominences and biases (Graddol et al, 1987:171), then any transcription will similarly contain prominences and biases. The way that I have chosen to notate the interaction , with attention to speech, bodily action and movement, gaze, facial expression and gesture, and body haptics, proxemics and posture belies my interests and previous experiences in transcribing children’s interactions. In the pilot study (Taylor, 2006) I compiled two separate transcripts, a discourse transcript of speech with accompanying pertinent gestures or actions and a multimodal transcript comprising the modes other than speech. This was part of a methodological study investigating the merits of attending to modes other than speech in analyses of children’s interaction. The findings of that study, that children communicate through the use of many modes and that not to take account of that would mean missing much important information, has contributed to the design of these transcripts. However, my experiences led me to a revised format for the transcription linked to the process I followed which I outline and explain below. My point is that the interpretive process of creating any transcript is a result of any particular researcher’s specific research interests, previous life and research experiences and personal view of the world; in this case I have developed a transcription style to suit my research needs and my approach to ‘reading’ my data.

I have already stated that the primary purpose of the transcript is for analysis. I am aware however that whilst the primary audience for my transcript is myself, the

researcher, I need to consider the readers of my PhD thesis and future readers as the information is disseminated through lectures, conferences and journals. As I convert the instances of interaction into a graphic mode, the information contained within necessarily becomes changed. It is a representation of what has taken place. Whilst I have a systematic approach to organising this representation, I have been careful not to 'tidy up' the inherently messy nature of the data and avoid the temptation of 'imposing on spoken discourse a kind of structure it does not actually have' (Cameron, 2001:34). The false starts, hesitations, overlapping speech, repetitions – of phonemes as well as words, and noises which form part of the children's speech are included as far as possible. Where parts of the discourse are undecipherable or unclear then (*indistinct*) is inserted into the transcript. In places where I believe I may have the words correctly but am unsure, the words are italicised. In this way I hope to provide my audience with a picture of what is taking place in which the provisionality is overt. I have also tried to include the regional variations in lexis and syntax in their speech as I feel strongly that this is part of the contextual information within the text. I would not be faithfully representing the communication taking place if I tidied up the speech in some way.

It is important for purposes of verification that my transcripts are presented in such a way that they can be 'read' and understood by any interested person. Stenhouse (1978) is concerned that the evidence upon which a qualitative interpretation of events is proffered needs to be accessible and open to critical examination. Therefore it is my aim to document the interaction in an accessible and 'readable' manner. It is organised with the speech in the (first) left hand column as the spoken word is the quickest way to gain insight into understanding the interaction *when it is presented in graphic format*. I am wary of foregrounding speech in this way for the audience when I have attempted *not* to fore-ground it in my own approach to the filmed instances, but must accept the limitations imposed by the requirement to produce a verifiable readable transcript.

Decisions about *what* to include shape the transcript as much as *how* features are included. I have already noted the impossibility of including everything. I was anxious not to miss anything yet I knew that I would not attempt to include every nuance, pause, slight movement or pitch change. The research questions should shape

and drive the direction of the transcript. Some researchers using discourse analysis include gestures and facial expressions where they are considered to be important (Kyrtzidis, 2004: 637) or gestures and gaze (Sidnell, 2006). My own theoretical position required that I did not view modes other than speech as simply contextual information but leaned more towards Kress's view of semiotic resources as being equally powerful and our communicative practices as being constituted of multiple modes, whilst acknowledging the dominance and prominence at times of speech and writing. (Kress, 2003: 290, and 2008). As Norris remarks:

By de-emphasizing spoken language, we are not taking away the importance of spoken language, but are rather accentuating the other communicative modes that are as essential in interaction as spoken language.  
Norris, 2004:65

I therefore tried to capture the flow of conversation apparent in a speech transcript in the transcription of other modes, so that mirrored bodily actions, repetitive gestures, exchanges of glances could be read on the transcript. This proved invaluable in the example given (Table 3) above of the 'standoff' between two boys acting in an antagonistic manner whilst having a reasonable spoken exchange.

#### **4.3.4 Transcription Process**

I briefly outline the process of transcribing the film footage.

First of all a rough transcript of the whole episode based on spoken exchanges and prominent actions or gestures was drawn up. From this I identified the specific extract considered to have significant or rich data and be 'transcribable'. I noted as detailed a transcript of the speech as I could manage. I then turned off the sound and noted the direction of the gaze and whether it was interactive or reciprocated or 'one way' action. There is a difference between 'looking at', 'looked at', 'glared', 'glanced at' and 'locked gaze' where the children looked deeply into each others' eyes. Then the gesture and facial expression were noted. This was not as neat and tidy as it sounds. The camera angle did not always reveal the gaze direction of the children. Deciding upon what constitutes a gesture and what is a bodily action was not always easy and in fact it did not seem too important to differentiate, for the children were at times using their whole body to gesticulate something. The proxemics and body haptics – touch, were noted together with posture as this seemed the most coherent way of



viewing these; often the children would lean towards one another until they were touching and this seemed to me to fit into all of these categories. Repeated viewings with the sound off and also with the sound on enabled me to synchronize the actions, gestures and so on with the speech. Viewing with the sound off was essential to 'seeing' what was happening with posture and bodily actions. Without this essential information, K's gesture of pulling out a tooth and the way that it framed and contextualised her subsequent narrative would have been missed. (2:1/9).

Throughout the process I took notes on any important features as they arose for use in my analysis. The transcripts are therefore presented with a column numbering each turn- usually this involves one participant but where children spoke simultaneously that was reflected by putting two speakers in one box. Also there were turns taken through modes other than speech. The next column was the spoken discourse, then bodily actions, then gaze, then facial expression and gesture, then posture, proxemics and body haptics. I was not rigid about these categories as some overlap will necessarily occur when dealing with artificial constructs or labels such as these. For example, there were times when bodily actions were put in the posture column as I considered they were representational or meaning-making. Alternatively, an action such as getting up from the floor to a standing position which could also be interpreted as meaning-making I put in the bodily action column, as it could be considered background rather than foreground information. I would like the categories to be seen as having fluid boundaries and descriptive rather than prescriptive.

## **4.4 Process of Analysis**

In this section I describe and explain the framework for analysing the transcripts and the contextual commentaries that were devised to capture the moments of interaction.

### **4.4.1 Framework for Analysis**

For each transcript I used the same framework to analyse discoursal features in all modes. The reason for using the same framework was to submit each episode to the same depth of scrutiny. In this way I hoped to enshrine a degree of equity within my approach in that as the same aspects in each interaction were being studied, then some

comparisons may be drawn across the range of episodes. I did not set out with *a priori* assumptions at any stage of the data gathering or analysis about significant features; the features were able to emerge from the data through the systematic use of the framework.

The framework was based on Halliday's concept of language as a functional semiotic tool. It included description of the context of culture, genre and the context of situation, register. The main focus of this research is on the social interaction; this thesis is concerned with 'communities of practice' (Wenger, 1998) rather than an examination of individual language use or communicative participation. I am interested in the inter-relations in social groupings rather than society as a whole and in the meaning-making which is going on within those social groupings. In order to capture this I chose Halliday's distinctions between different types of meaning: **Ideational** (the topics or subject matter), **Interpersonal** (that is meanings about roles and relationships) and **Textual** (the meaningful aspects of text and the way it is constructed) were used to structure my analysis (Halliday, 1994; Eggins and Slade, 1997:48). In their analysis of casual conversation Eggins and Slade (1997:49) focussed on the Interpersonal functions of language use. However, my research questions are concerned with the construction and sharing of knowledge between children and I therefore felt it was important to include the Textual and Ideational aspects.

The **Ideational** was divided into two sections, looking at on-task and off task content. This involved noting the ideas that children were exchanging and differentiating between what was on-task- or related to the task designated by the teacher, or off-task, that is ideas to do with other unrelated agendas. (On occasion it was difficult to make that distinction. For example, in discussing the attributes of story characters one child breaks into song, 'I believe I can fly' (2.2/13). It could be argued that singing a pop song is not 'working on task'; It could also be argued that this enriched the meaning-making taking place and led to the development of the idea of a character who could fly, not in a spaceship or other vehicle but actually fly 'like a bird' (2.2/28). This is an aspect to be developed further in the next chapter.) The Interpersonal looked at the functions of the interactions such as *deciding who should take which role* (in 3:1 and 4:1). The Textual looked at the *cohesive* ways in which each interaction made

meaning and considered lexical cohesion such as collocation, metaphorical devices, repetition, reference, and intertextual references, as well as conjunction, ellipsis and substitution, vocalisations or noises, and miming and actions. (It should be noted here that although I included conjunction it became apparent that this was not a significant feature of children's interaction, something I shall discuss in more detail in the analysis section.) The Textual also considered *coherence*, the way that the overall patterns in a text ensure that it hangs together to make meaning and the relationship between the context of culture and the context of situation of that particular text. This involved considering the structural elements associated with particular text types or genres. These could be, broadly speaking, a narrative, recount, report of information, discussion, explanation, exposition or procedure (Butt et al, 1995:17). Texts which share elements of a context of situation can be seen to belong to the same register. In this way, discourses from 21<sup>st</sup> century UK primary school classroom can be seen to include a register of teacher talk, pupil talk or classroom talk with elements in common. I felt it was important to include these elements in my framework for analysis, in keeping with the functional view of communicative practice which informs the approach to analysing the data.

Table 6: Framework for micro-analysis of extracts from episodes.

<i>Ideational</i>
<b><u>ON TASK Content</u></b>
<b><u>OFF TASK content</u></b>
<i>Interpersonal</i>
<b><u>Functions of interaction</u></b>
<i>Textual</i>
<b><u>Textual Features of interaction</u></b>
A) Cohesion
1. Lexical cohesion
<i>Collocation</i>
<i>Metaphor, Idioms, Similes</i>
<i>Repetition</i>
<i>Reference</i>
<i>Intertextual references</i>
2. Conjunction
3. Ellipsis and substitution
4. Vocalisations such as noises, songs and humming
5. Miming and actions
B) Coherence
Context of culture
Context of situation

Equipped with this framework as a useful checklist I began to dissect the transcripts with various coloured highlighter pens. The information was then in-put to the

framework to begin to build a picture. This relates to the stages of ‘dividing up, taking apart’ and ‘synthesizing, recombining’ which Wellington describes (Wellington, 2000:141). It is important to note that whilst this framework was based on similar frameworks for analysing **discourse** (Hyatt, 2006), each aspect was applied to **all modes**. This meant that intertextual references need not be verbal, and in fact frequently were not, cohesion could be realised through proxemics and facial expression, the interpersonal function of directing others actions could be realised through gesture, and repetition was a feature in all modes. (I examine this in more detail in the following section).

#### **4.4.2 Commentaries**

From the analytical framework, commentaries for each episode were written up to include additional information from field notes and film footage regarding contextual information (Appendix 4). The purpose and nature of the tasks set, the participants involved, the environment in which the episode was played out, and general comments on my observations at the time were included.

From the transcripts, codes for each extract were given as follows-

Each episode has a title and each extract from the episode also has a title; the numbers for each turn within that extract follow /. Thus 4.1/7 refers to line 7 of the first extract from episode 4.

#### **4.5 Concluding Remarks**

This chapter has given an account of the nature of the data generated in the study and the approach to dealing with that data. The experience of conducting a pilot study was useful in informing the choices made in the format of the transcription and the framework for multimodal micro-analysis of extracts. The interpretation of that data and the close analysis of the extracts are described in the following chapter.

## **Chapter 5 Framing the Analysis**

### **5.1. Introduction**

The interpretation and analysis of the data is presented in this thesis in two chapters. This first chapter examines in detail the context in which the interactions in five specific episodes of classroom communication have been realised. In order to elucidate the micro-analysis of the textual aspects of cohesion and coherence in moment-by-moment instantiations of meaning-making discussed in Chapter 6, information from the wider data set, the nine hours of film recorded interaction and the observation notes recorded in the research journal, as well as the contextual information for the five episodes analysed are examined here in chapter 5. In keeping with the framework for the analysis of specific instantiations of interaction, this chapter explores some aspects of the ideational and interpersonal metafunctions of the children's employment of semiotic modes while chapter 6 focuses on the textual metafunction. I begin by giving a full account of the observation and recording undertaken. I discuss interactional framing and then give an account of the contextual information for each of the episodes selected for close analysis.

#### **5.1.1. The Wider Data Set**

I have already clarified my position in this research setting as being an 'insider' (3.3.4) to the setting, whilst being an 'outsider' to the children's interactions. The organisation of the school day, the staffing structure and physical environment of the setting are therefore all familiar to me. Over a four month period I spent 26 days in the year five class, all but three of those were spent filming and observing interaction between the children. (The other three days were involved with acting as a classroom helper and helping the children with their documentary films when it was not possible to record and write at the same time as supervising the children.) The research was conducted during the summer term making activities such as PE on the school field and in the yard and the site visit as part of the geography lesson possible. In total fourteen Literacy lessons, fifteen maths, five PE, four Religious Education, three Art, five ICT, three geography, one history, two French, three music and two science

lessons were observed. A journal of observation notes and sketches written contemporaneously as well as immediately following the observed lessons was kept. The comparatively large numbers of Literacy and Numeracy lessons reflects the organisation of the school day in line with the National Curriculum requirements in 2008 whereby the children studied Literacy and Numeracy as discrete subjects five days a week. Two visits to the school library and the election of class representatives to the School Council were also observed.

The class has a weekly timetable displayed on the classroom wall, based on two morning sessions before and after break and two afternoon sessions, which serves as a rough guide to the week's lessons rather than being strictly adhered to.

Table 7 Year Five Weekly Timetable

Monday	Literacy	Maths	Science	Science
Tuesday	ICT	Maths	Literacy	P.E.
Wednesday	Maths	Literacy	Topic	French
Thursday	Gym in Hall	Literature	Maths	RE/PHSE
Friday	Maths	Literacy	D.T.	Music

In the following table I present a record of the full data set including all of the lessons and activities observed over the four month period. I have indicated where recordings were made. Whilst the focus of the recordings was to capture moments of child-to-child interaction, I also recorded moments of teacher directed talk, whole class activity, shots of children's written work, wall displays and daily activity during the school day. These were to act as aide memoires and contextual information to assist with the analysis of specific instances. For this reason some of the recordings are of extended periods of child-to-child interaction where others are shorter instances. I have indicated the starting time of each observed lesson to be read alongside the timetable given above. The location of each observed lesson is indicated showing the range of activities which took place outside of the classroom. Of the five episodes selected for close analysis, two were in a room used to small group work (referred to in school and here as the 'withdrawal room' and one was in the Junior hall, one in an empty classroom and one in the Year five classroom. This is representative of the uses of space in the school made by the teachers working with this class. Children were accustomed to working in groups in spaces other than their classroom.

Table 8 Data Catalogue of observed lessons and filmed activity

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Duration of recording</b>	<b>Episodes for Transcription and Analysis</b>
April 2008	The focus for the first 2 weeks in class was familiarity with the organisation of the classroom, the relationship groupings, talking to the children about giving their consent and asking parents and carers for consent.			No recording Research journal notes			
10/04/08	Literacy lesson - dependent clauses and punctuation, PE, Reading maths- angles and degrees in triangles and RE life story of Mohammed		9.00 10.30 1.00 1.30 2.15				
Thurs. 17 / 04/08	PE In hall, gym. Literacy – writing instructions for an internet computer game, quiet reading, maths – working out perimeters, RE -Pillars of Islam		9.00 10.30 1.00 1.30 2.15	No recording Research Journal notes			



<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Duration of recording</b>	<b>Episodes for Transcription and Analysis</b>
Thurs 01/05/08	Spellings during registration, PE- on field practising tennis skills, Literacy- Kensuke's Kingdom- planning a character description. Guided reading group, School council elections, Spellings, maths- 9%, Literacy – using speech to introduce a character, Guided reading, George and the Dragon Tapestries – The Apocalypse		9.00 9.15 10.30 1.30 2.00	No recording Research journal notes	Classroom School field Classroom Classroom		
Friday 2/5/09			9.00 10.45 1.00 1.30		Classroom all day		
Weds. 7/05/08	Literacy – a letter to Mr Morpurgo. Guided reading. French. Maths – Number patterns Whole class activity	1. 1.	9.00 am 11.00 am 1.45pm	Maths: number patterns Squiggles – elaborate the squiggle and follow-up discussion	Classroom Classroom	7 minutes 7 minutes	

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Length of episode</b>	<b>Episodes for Transcription and Analysis</b>
Weds. 7/05/08	History timeline Science – Life cycles	1. 1.	1.45	History- constructing a timeline Science – S,L and G – life cycles- quiz questions	Classroom withdrawal room	7 minutes 13 minutes	1. X-Stream Life Cycle
Monday 12/05	Literacy – genre – sorting and categorising books ; maths – times-tables, Guided reading, Science – Life cycles.	1.	1.40pm	Science - Life Cycles: constructing a board game – S,L and G ( S enters after 12 minutes from a music lesson)	withdrawal room	23 minutes	
23/05- 02/06/09	Half term holiday						
Weds. 4/06/08-	Maths – subtracting – game using dice, Library visit,	1.	9.00 am 1.00-	School Library – choosing books Geography- Water Cycle Teacher explains activity	Library room in school	6 minutes	
Thurs. 05/05/08	Geography – the water cycle.	2.	1.30 – 2.45	Group of 4 boys working on Water Cycle activity Groups display their Water Cycles to class	Classroom Junior Hall (small group) Junior Hall (whole class)	2 minutes 21 minutes 5 minutes	3. The Water Cycle

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Length of episode</b>	<b>Episodes for Transcription and Analysis</b>
Friday 6/06/08	Guided Reading, maths, Phse, R.E. – patience. Maths game around class multiplying. PE – tennis on school field Travel agency maths problems ,		1.00 1.30 2.00			5 minutes 5 minutes	
Tues. 17/06/08	ICT suite lesson Supply teacher – Literacy		9.00am – 10.00		in classroom		
Weds 18/06/08	– Theseus and the Minotaur- a futuristic setting. PE Maths making bar charts. Library visit to school library, Geography –school walk-round with caretaker looking at water in school. Drawing a chart of water in school.		10.55- - 12.00 1.00 1.35- 2.15.	M,S,S, and J doing maths – data charts. Children talking about books and displays in the library Geography Water in School – a walk around the school grounds with the caretaker	withdrawal room Library school playground	15 minutes 5 minutes 5 minutes	

Date	Lessons and activities observed	Tape	Time	Lessons and activities video recorded	Space/ place	Duration of recording	Episode for analysis
19/06/08 –	Spellings, PE, Literacy – creating a story using the characters and settings based on Theseus and The Minotaur. Maths – using PE to collect data RE – film about the Koran, asking questions about a person’s beliefs.	3	10.55	Literacy – Theseus story—J, C, J, L.  Numeracy- sports in the yard measuring distances and times  RE – Koran film, questions about beliefs in groups at tables	withdrawal room  school playground  in classroom	24 minutes  5 minutes  4 minutes	2. Theseus Story
23/06/08	Literacy- improving writing with powerful verbs, adj, advs. metaphors, similes. Maths – battleships, Science – Blood Circulation	4.	1.50 pm	Science – Blood circulation Teacher explains blood circulation with a whiteboard diagram, children write an account on whiteboards Group of nine children role playing the circulation of the blood. Plenary and display	Classroom  In an empty classroom  Classroom	3 minutes  17 minutes 10 minutes	4. Blood Circulation

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Duration of recording</b>	<b>Episodes for Transcription and Analysis</b>
25/06/08	Maths – creating own multiplication problems. Working on films in ICT suite Literacy – add dialogue to a short animation. Talked to class about ICT project using film data. Maths – inventing a dice game PHSE Healthy Eating	5	9.00am 2.00 9.00	Numeracy – Multiplying big numbers generated by dice, Filming introductions to documentary films  Inventing a numbers game in an empty classroom (S and J), presenting to class, laminated.  M presents some research to class	Classroom Headteacher's office S and J in empty classroom	3 minutes 3 minutes 35 minutes 10 minutes	
26/06/08	Literacy – Monet's Bridge and Lillies. Music, - rhythm and metre. ¾ beats per bar, clapping. ICT storyboard documentary film clips	5. 6. 6.	1.30 2.15	Art- children painting and talking about their work Art lesson cont'd Music – whole class clapping beats and rhythms	Classroom Classroom An empty classroom	7 + 6 minutes 7 minutes	
27/06/08							
30/06/08	Literacy – first impressions of the film, , interpretation, Post-its – like/dislike	6		Literacy- The Piano – first impressions of film – small group discussion on tables Whole class activity Plenary – circle on carpet	Classroom	24 minutes 17 minutes 6 minutes	5. The Piano

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Duration of recording</b>	<b>Episodes for Transcription and Analysis</b>
01/07/08	C brings in an ostrich egg, maths – time digital and analogue. ICT making documentaries. Guided reading Literacy – The Piano – Interpretation and empathizing.	6	9.00 9.15 10.30	Maths – Rivelin Water Park session times  Literacy: the Piano - what's the man thinking? feeling? group discussion on tables + plenary with the Zone of Relevance	Classroom  Classroom	6 minutes  8 minutes	
02/07/08	Maths – Time.- game stop the clock. Symmetry- drawing shapes with 2 lines of symmetry. Literacy – storyboard The Piano. Describe scenes using complex sentences.  Guided reading  Geography – climate.  French – counting and numbers	7  7  7  X	9.00  10.30  1.00  1.30  2.45	Literacy - The Piano – Watching film, working on tables in groups, storyboard  Guided Reading – Cider with Rosie extract  Geography – Water deserts and rainforests  French counting game	Classroom  Classroom  Classroom	33 minutes  14 minutes  8 minutes  Tape broke	

<b>Dates</b>	<b>Lessons and Activities observed</b>	<b>Tape</b>	<b>Time</b>	<b>Lessons and Activities Video Recorded</b>	<b>Space /Place</b>	<b>Duration of recording</b>	<b>Episodes for Transcription and Analysis</b>
03/07/08	Guided reading Maths, PHSE, RE- Tolerance	X X X	1.00 1.30 2.15 9.00	Maths – solving problems in pairs Discussion of tolerance in small groups Numeracy- problem solving Prisoners and Cells – JG , BPP, OI and J	Classroom  in withdrawal room	Tape broke  35 minutes	
04/07/08	Maths – logical problems	8	10.30	Literacy – The Piano	Classroom		
	Literacy – a diary entry from The Piano- feelings and emotions. Art- a lesson on figurative drawing –( trainee teacher) . Singing- Struck in the Middle with You – with Mr J on the guitar.	8 9 9	 1.30 2.30	 Art- a lesson on figurative drawing from Mr W. whole class activity – individual work Singing – whole class activity led by teacher.	Classroom  Classroom	25 minutes  10 minutes	
08/07/08 15/07/08	ICT suite – Documentary film editing		Various		ICT suite		

From this table it is possible to see the range of lessons observed and those that were filmed. The selection of episodes for close analysis from the wider data set is explained in 4.2.3. In brief the episodes were selected because they were instantiations of pupil-to-pupil interaction which is the focus for this study. Interactions with the teacher were discounted from the data set because of the pupil-to-pupil focus, although episodes were chosen where pupils were working on a teacher-directed task. Two further concerns in the selection of the episodes were the visual affordances of the video data, particularly whether it was possible to see the facial expression and gaze of the children as they interacted, and the sound quality. Episodes were chosen where the gaze of the camera allowed for consideration of the modes of gaze and facial expression as well as clarity of the sound quality for the mode of speech. Following these selection criteria, five episodes of children's interaction were selected from the film data set. These are X-Stream Life Cycles, Theseus and the Minotaur, The Water Cycle, Blood Circulation and The Piano. These five episodes were the only ones from the data set to fulfil the selection criteria. For the micro-analysis of textual aspects two or three short extracts were taken from these episodes. These extracts included significant moments where foregrounded meaning-making through modes other than speech were observed. This was to allow for close analysis of the cohesive aspects to **all** modes and not focus solely on speech. It has been argued that there has been greater attention paid to the function of individual modes in multimodal research than to the ways in which modes interact and are organised in text and discourse (Stockl, 2009:10) and this research, with analysis focused on the textual metafunction in the children's interaction, goes some way to address this.

The analysis of the five episodes of pupil-to-pupil classroom interaction, then, is examining ways in which children are making meaning with one another multimodally in specific instantiations. The children are encultured into the social practices of the classroom from the moment they start at the Nursery of this school, and, it could be argued, from before that through the playgroup and parental involvement such as reading picture books about school. Their moment-by-moment interactions in the classroom are a composite realisation of the social practices they are familiar with in this educational setting, as well as the extrinsic influences of family, community and the wider world. Whilst this is not a longitudinal study, looking at ways social practices are constructed over time, the context of each



situation under analysis needs to be taken into consideration so that a deeper understanding may be achieved. Situated meanings (Gee and Green, 1998), those meanings ‘assembled ‘on the spot’ as we communicate in a given context, based on our construal of that context and our past experiences’ (1998:122), can be elucidated by the researcher using an ethnographic approach combined with micro-analysis of interaction. Furthermore, ‘situated meanings do not simply reside in individuals minds: very often they are negotiated between people and through social interaction’ (1998:123). As an observer who is an insider to the situation but an outsider to the children’s interaction, I can bring some understanding to the children’s meaning making, but a full picture can only be held by those party to the interaction itself, and furthermore, it could be argued each individual may hold a different interpretation of what is taking place in any one interaction. (see 2.1.2:). One example of this would be ‘The Standoff’ (T3:2/20-50) between O and S in The Water Cycle episode (Table 3) where I can see an ‘argument’ between the boys being communicated through posture and actions, but I do not know the private history of this. This is discussed fully in section 4.3.2.

In addition to situated meanings, the researcher needs to be aware of the cultural models intrinsic to the children’s meaning making. The cultural models are ‘the ‘storylines’, families of connected images....or (informal) theories shared by people belonging to specific social or cultural groups’ (Gee and Green, 1998:123). One example of this is the footballer identity of O (discussed in 6.5.2, example 1) which I recognise as a familiar cultural model. It is from this position then that the multimodal analysis regards first the interpersonal and ideational features in the episodes analysed, before turning to close analysis of the textual features of cohesion and coherence in the extracts from the episodes (Chapter 6). In order to discover what is taking place in the moment-to-moment communication of meaning between the children, close textual analysis is required.

### **5.1.2 Interactional Frames**

Before I started the close examination of the data, I did not have a fixed conception of how the framework for analysis would look, but the observations during the data

collection period in school helped shape the framework I subsequently devised. My observation journal notes remark:

Journal 02/07/08

*What I'm seeing in the multimodal communication is children routinely using posture and gesture along the same lines as they use language – i.e. they repeat, mirror, - they subvert/ convert/ play with the mannerism, it's spontaneous ads subconscious, it is understood by peers.*

*Cohesion achieved through linguistic means is similarly conveyed through non-verbal modes...need to check this out in analysis.*

The decision to base the conceptual framework for analysis on the metafunctions of interaction as identified by Halliday (1994) arose from a need to look closely at the interaction in order to answer the research questions. This addresses the need to look at ways in which children use semiotic resources available to them to communicate experiences of the world (ideational function), how they use semiotic modes to establish relationships and influence others' behaviour and share their own view points (interpersonal function) and thirdly to closely examine through micro-analysis of cohesive devices in all modes the ways in which the children sequence and connect their meaning-making with that of another child (textual metafunction). Stockl advises that:

‘The three Hallidayan metafunctions (Halliday, 1994) would be the first principle that can easily apply to all modes imaginable and to the multimodal text as a whole....In any multimodal text these three functions need to be fulfilled and, more importantly, distributed across the modes present’

Stockl, 2009:25

The focus on the textual metafunction is in order to answer the research questions which are interested in the ways children use all modes to construct and present knowledge to one another and the ways they creatively collaborate in this joint enterprise.

In all of the child-to-child encounters observed during this four month period, in common with the interactional exchanges of adults described elsewhere (Goffman 1974, Kendon, 1992), the children were engaged in focused interaction with one another. The children were all agreed upon the purpose of the action or interaction and were operating within agreed boundaries of what is or is not considered part of the interaction; that is the children were operating within ‘frames’ as conceptualised by Goffman ( 1974). The ‘framing’ of what is considered to be relevant or irrelevant in children’s interaction is not simply a result of agreed boundaries on the part of the children, however. In classrooms there are set boundaries constrained by the purpose

and nature of the activity in common with classrooms elsewhere. The teacher sets the purpose and requirements of any interaction related to school 'work'. The example of the WALT and Success Criteria written on the board prior to the school site walkabout, that is the guidance set by the teacher for the activity, is one example of the ways in which the children's interaction is framed by external influences. The children's understandings of the tasks set together with their own understandings of how to behave with one another which they have learned from wider social contexts informs their understandings of the frames within which they operate.

The episode chosen for close analysis, X-Stream Life Cycles shows how the teacher's suggestion of the game 'How to be a Millionaire' shaped the boys' understanding of how to address the activity with the question cards on Life Cycles, with implications for spatial positioning with one child as the quizmaster facing the two other children across a table who were answering the questions. This did not exclude the quizmaster from extending his role to that of an answerer of questions as well as an asker of questions. This was tacitly understood by the boys as acceptable behaviour within their framed activity. This is an example of what Kendon describes as 'working consensus' (Kendon, 1992:333) whereby the encounter is to be realised through collaboration without discussion of how the interaction should unfold. There is 'tacit understanding' (Kendon, 1992:333) of how this encounter will work.

This framing of the children's interactions shapes the ways in which children express their understanding of experiential meaning (ideational metafunction). That is their choices of subject matter need to cohere with the context of situation. One example of this would be the interaction between the children during a visit to the school library. Initially the children surveyed the books available on the shelves. One boy runs his finger along the spines of the books in a series which he is interested in. A girl picks a book from a shelf and shows the front cover to another girl, asking if she has read this and recommending it. Another boy removes a set of books from the shelf, setting them out in order on the table and discusses with another boy which he has read and what was good about it. The conversations among the group of boys and girls in the room is focussed upon the books and the narratives contained within and their experiences of these books. One boy picks up a sketch book as part of a display on art books and evaluates the sketches therein. Once in the environment of the library, the topics which the children talk about are framed by the social space which is a library, and by the artefacts which are presented in that environment. In considering the

interpersonal metafunction of these encounters it is possible to see the children are sharing their evaluations of texts, trying to impress their peers with their knowledge of certain subject matters, and suggesting and censoring each others' behaviour through their recommendations or otherwise of different books. The children jostle each other to get closer to desirable texts, they stand side by side to review the books offered by their peers, they mirror their postures by leaning over the table side by side or squatting side by side to look at the books on the bottom shelf. The intimacy of their interaction is revealed through their sharing of body space as much as their sharing of ideas.

As a researcher investigating child-to-child meaning making I need to analyse specific instantiations of framed communication using the video-recorded data and applying a systematic method to uncover what the children are including in their meaning-making, how they are relating to one another and how each interactive 'turn' relates to the previous 'turns' and to the encounter as a whole. The framework for analysis presented in 4.4.1 enables this approach to analysis.

## 5.2 Introducing the Episodes for Micro-Analysis

In this section I outline my approach to the interpretation of the transcripts and film data and the episodes of classroom interaction focused upon in the analysis. Five episodes of classroom interaction were used in this study. From each episode two or three short extracts were used for multimodal micro-analysis of what was taking place in pupil-to-pupil interaction. The accompanying DVD contains the extracts which can be watched at this point to give an audio-visual picture of the data used for analysis. The episodes and extracts are discussed in turn, considering the ideational and interpersonal features as well as additional contextual information.

Table 9: Episodes and extracts used for analysis

<p><b>Episode 1: X-stream Lifecycle</b></p> <p>1.1 Chucking Hay bales</p> <p>1.2 The Fema</p>	<p>Three boys working in a withdrawal room practising quiz questions on lifecycles.</p>
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<p><b>Episode 2: Theseus and The Minotaur Story</b></p> <p>2.1 Pulling Teeth</p> <p>2.2 I Believe I Can Fly</p>	<p>Three girls and a boy working on a literacy task to plan the characters and setting for a re-working of the Greek myth, Theseus and the Minotaur as a science fiction story.</p>
<p><b>Episode 3: The Water Cycle</b></p> <p>3.1 Use Yer Breadloaf!</p> <p>3.2 Practising Actions</p>	<p>Three boys are in the hall working on a role play to represent the Water Cycle as a series of dramatic movements.</p>
<p><b>Episode 4: Blood Circulation</b></p> <p>4.1 Tissue</p> <p>4.2 Heart Valves</p> <p>4.3 Lungs</p>	<p>A group of four boys and five girls are working as a group to enact the circulation of the blood around the body.</p>
<p><b>Episode 5: The Piano</b></p> <p>5.1 Piano Fingers</p> <p>5.2 Scary Smile</p>	<p>A table of four boys are discussing the aspects they found most effective and questions they would like to ask about the animated film, The Piano.</p>

A commentary was written for each of the episodes. A sample commentary is included as Appendix 3.

The extracts were examined using the framework for micro-analysis. I created a table for comparing the key ideational, interpersonal and textual features from the commentaries and multimodal analyses. This involved noting recurring or interesting examples which emerged from the framework. It became apparent from this table that across all of the episodes certain textual features were more prominent than others, namely **repetition** in various forms and modes, **intertextual references** in various

modes, the **use of the modes of gesture, gaze and posture/actions in communicating ideas** and the work of background features of communication in representing identities and shaping genres. These are discussed in detail in Chapter 6.

Certain textual aspects of the framework yielded very little data - specifically, conjunction. The children did not appear to rely upon conjunctive lexical ties to cohere their discourse. There were a few examples of 'cos' /'because' and 'and' but the space on the framework frequently remained empty. Given the range of the types of interaction I could not find a reason why across the data this was not a significant feature and yet it is a feature worthy of note in adult conversation (Egins and Slade, 1997:84). The linking of clauses achieved through the use of conjunctions such as *like, and, so, then* or interpersonal adjuncts such as *probably, maybe, perhaps* or *always* in adult conversation is either being realised through other aspects of speech or through other modes: Tannen (1989: 50) describes repetition as having a *connecting* function. As repetition is certainly a prominent feature of the children's discourse this may explain the lack of conjunctive ties. This is not something I have looked at yet as I feel it may be taking me away from my research questions. However it may be something to pursue in future research. In the following sections I present discussion of the ideational and interpersonal aspects to interaction and then the context, ideational and interpersonal features of each of the episodes (1-5) in turn. The textual analysis is in Chapter 6.

### **5.2.1. Identification of Key Interpersonal and Ideational Features**

In some senses, the separation of the interpersonal and ideational functions from the textual is a problematic construct because it is **through** the text that the ideational and interpersonal meanings are realised and the full meaning-making potential of these functions will be fully explored through close textual analysis. However, in looking at the contextual information for the full understanding of the **extracts** closely analysed in Chapter 6, it is useful to consider these functions operating in the **episodes** as a whole.

The ideational aspects to the children's interactions, the main themes of their meaning-making are presented in the descriptive accounts of the episodes that follow. These are realised through postural re-enactments such as G poking a bee in T1.2/82, and facial expression, noise and gesture such as J suggesting the vampire in T2.1 as well as in language through lexical choices. In the framework used for analysis, a

distinction is made between on-task and off-task interaction although in some cases this is problematical as ideas and knowledge can be generated through what is considered 'off-task' interaction (Yonge and Stables, 1998). (This is discussed in the Literature Review 2.2.1 in more detail)

Table 10 Ideational aspects in each episode

Episode	Ideational aspects
X-Stream Life Cycle	<p><b><u>ON TASK Content</u></b> There are 2 on-task discourses here, the questions on the cue cards which are in a formal, written register and the answers and questions which the children discuss from the supplied material in their own words and register. The themes are life cycles of plants and animals with associated lexis.</p> <p><b><u>OFF TASK content</u></b> Much of the off-task interaction is broadly connected to the subject matter of life cycles of plants and animals and includes recounts of related personal experiences and discussion of personal tastes and those of family members.</p>
Theseus Story	<p><b><i>ON TASK Content</i></b> The ideational aspects to this interaction include the temporal setting of their stories, the geographical location of their story, the form of transport, the spelling of certain words, the changing of the sails and the names and attributes of their characters.</p> <p><b><i>OFF TASK content</i></b> In addition the interaction includes recollections about friends and family, working out concepts (such as eternity), ways of extracting teeth, songs, vampires, and clothes and nakedness</p>
The Water cycle	<p><b><i>ON TASK Content</i></b> This includes the aspects of the water cycle that they are working on with associated lexis provided by the teacher and the digital animated diagram with the task of completing a chart with one child writing and others helping verbally and through actions.</p> <p><b><i>OFF TASK content</i></b> There is a reaction of disgust mixed with excitement at the intrusion of a woodlouse. There is also discussion of prowess and congratulation for achievement at earning house points and previous success, playing football and throwing objects, hypothesizing about fire, You-tube and sickness and going to hospital</p>
Blood Circulation	<p><b><u>ON TASK Content</u></b> The children talk about who will 'be' each part of the process. They repeat a narrative telling what happens at each stage of the circulatory process 'in character' explaining who they are and what they're doing. They act out each stage of the blood circulation with</p>

	<p>appropriate actions They judge their own performance They check information with R (researcher). <b><u>OFF TASK content</u></b> There is a running gag with lots of word play around ‘tissue’ Some peripheral messing about – such as L ‘the blood cells are fighting – lets join in’, L looking at the computer in the corner of the room There is brief mention of the television programme, The Bill.</p>
The Piano	<p><b><u>ON TASK Content</u></b> In the main, the discussion revolves around the task set. The children are focussed and appear motivated. They talk about the characters in the film, features of the film that they like and dislike and aspects which puzzle them.</p> <p><b><u>OFF TASK content</u></b> They briefly mention their musical preferences in talking about the music in the film. They spend some time organising the post –its and who will write upon them and they compare how many ideas they have with those of other groups. These are more peripheral activities than off-task content.</p>

From this table it can be seen that children’s preferences, likes and dislikes, family and personal relationships, immediate and social environment, and past experiences form part of the subject matter of their interactions. The full extent of the ways in which these themes are realised multimodally can be seen from the close textual analysis presented in Chapter 6.

The interpersonal functions are similarly realised through all modes. When looking at children’s language development, Halliday (1975) categorises interpersonal functions in children’s interactions into 7 main areas- Instrumental, Regulatory, Interactional, Personal, Heuristic, Imaginative and Representational. He further discriminates between utterances where someone wants something to happen (Pragmatic) and more general description or announcements or pronouncements (Mathetic). I have found these to be useful distinctions in examining the interpersonal features of these children’s communication. The Mathetic features giving personal, heuristic or imaginative information can be seen to correspond with ideational exchanges of meaning which is why I deal with these notions together. The table outlines examples for each function and the meaning behind the utterance.



Table 11: Interpersonal Features of Children's Communication. (Adapted from Halliday (1975))

7 basic functions	Example	Meaning
Instrumental	I want	A demand for goods or services
Regulatory	Do as I tell you	To control the behaviour of others
Interactional	Me and you	To embody the child's need for human contact
Personal	Here I come	A child's expression of identity and uniqueness
Heuristic	Tell me why	An exploration of the environment defined as the non-self
Imaginative	Let's Pretend	The creation of an imaginary environment.
Representational	It's a train	Used to convey facts and information

However, as the extracts are short they cannot be taken as wholly representative of the episodes as a whole nor of children's communication in general. What they do offer is an understanding of what is taking place moment-by-moment. When looking at the episodes as a whole, the personal function, that is the child's expression of identity and uniqueness, for example, can be seen to be more prominent than at first appears from the extracts. Furthermore, these are categories specifically designed to examine spoken discourse. Whilst there are clear examples of these functions being fulfilled through **all** modes (for example 3.2/69 L manipulating G physically could be viewed as Regulatory), **it was not until the extracts were examined at a textual level that the full implications of multimodal analysis could be seen.**

### 5.2.2 Episode 1: X-Stream Life Cycle

This lesson took place in the afternoon after a guided reading session after lunch. It is a Science lesson at the end of a six week period spent learning about the life cycles of plants and animals and is one of two lessons re-capping and consolidating what has been learnt. The second, follow-up lesson involved designing a board game using the

cue cards along the lines of Trivial Pursuits and it was from the children's suggestion of a title for that game, X-Stream Life Cycle, that the title was given to this episode.

The class has been divided into teams of three to practise asking and answering questions provided on cue cards. The idea is that they sort the cards into piles of those they know the answer to and those they do not know the answer to. The teacher tells them that they are going to play 'Who Wants to be a Millionaire' with the question cards later in the afternoon. I was asked if I would like to take 3 children out of the classroom to the withdrawal room upstairs so that I could film them doing this task and I asked 3 boys, G L and S sitting at my table as I knew they had all brought back their consent forms signed by parents. Thirteen minutes of interaction was recorded and roughly transcribed, and in total seven and a half minutes, in two extracts of three and a half and four minutes, were transcribed using the framework for multimodal transcription and then analysed multimodally. .

My journal notes:

Journal 12.05.08

*The boys are very keen to know all the answers- really worked together to get answers- prompting, correcting, supporting. Also I saw examples of using noises and actions to make meaning – G couldn't stop himself jumping up to act out jumping/ climbing up hay bales on S's neighbour's farm.*

The interpersonal functions in the contemporaneous notes are borne out by the analysis of the transcript where five interpersonal features were identified.

Table 12 (a) Interpersonal Features

Episode 1.

Asking and answering questions – including questions written on cards for them to read aloud and their own spontaneous questions both about the subject matter of the lesson and their own ideas and experiences.

Giving and checking information with varying degrees of certainty.

Recounts and personal narratives.

Amusing each other with stories and play on words.

Censuring each other's behaviour  
(e.g. line 23. L ).

Drawing conclusions (L line 71)

Explaining what a 'stigma' is through the use of drawing (S 1:2/68-71)

These were firstly, Heuristic features such as

- asking and answering questions

- giving and checking information
- drawing conclusions

These are closely connected to the ideational metafunction of this episode of exchanging information on the life cycles of plants and animals. In addition there are examples of interpersonal features of Regulation where the children are censuring each other's behaviour, such as T1:1/23 L says 'sshhh' and puts his hand on G's arm to stop him from getting out of his seat whilst pointing at me with the camera to remind him that there is an adult in the room who may disapprove. G looks at me and stops for a moment but then continues with his re-enactment whereupon L says T1/26 'You're on camera!'. The Interactional function is realised through the way they amuse each other with stories such as T1:2/ 82 G recounts a story beginning with 'I got stung by a bee once' and G's postural re-enactment of climbing the hay bales. The Representational function used to convey facts and information is realised through the drawing of what it understood to be the 'stigma' by S. (T1:2/ 68-71) and the Personal function where children express their identity and uniqueness is fulfilled through the re-counts and personal narratives, all of which are presented through modes of gaze, posture, facial expression, drawing, actions, gestures and speech. Whilst the ideational metafunction of this episode is largely focused on the exchange of information about life cycles, it can be seen that the related recounts of personal incidents and experiences as well as discussion about personal tastes and those of family members are thematically connected. All are realised multimodally as is examined in depth through the textual analysis (chapter 6).

### **5.2.3 Episode 2: Theseus and The Minotaur Story**

This episode forms part of the second of two observed lessons in a series of five during which the children developed a piece of writing based on the Greek myth of Theseus and the Minotaur. Having looked in broad terms at the notion of genre in literature the previous week the children were introduced to the story and asked to create a futuristic setting in keeping with a science fiction genre. The group of four children, three girls and a boy who generally share the same table in the classroom were working on developing characters and settings for their re-worked story in the withdrawal room which gave me the opportunity to record their interaction. Twenty four minutes of interaction were recorded and roughly transcribed of which two extracts of three and two minutes were transcribed and analysed multimodally. Prior

to working in groups the children were advised by the teacher to pick out the key elements of the story and introduced to the notions of a story hook with the examples of the sails on Theseus's ship and the string. The students were given a blank template of the story to aid them in their planning.

My journal notes written immediately after the episode note that

Journal 19/06/08

*The group seemed off task much of the time, talking about all sorts of things but overwhelmingly the talk involved word-play – playing around with the names of their characters and settings....Full of intertextual reference, not just as a result of the task, in itself an intertextual re-workin,g but also generally. ....much use of gesture to support the verbal*

It was not until the close micro-analysis of the textual function (in Chapter 6) that the full use of modes other than speech became apparent. It also became apparent from the textual analysis how the children's ideas are developed collaboratively, building upon each others suggestions, and multimodally, using all available semiotic resources.

The ideational aspects to this episode of the main themes of the story and the transposed setting as well as the development of the gothic genre within their interaction and personal narratives such as pulling teeth are realised through the interpersonal and textual functions. Within this episode the children use the Interactional function in their teasing, insulting, applauding and amusing behaviours. There is evidence of the Regulatory function in that they criticise and correct each other and censure each others' behaviour, the girls particularly censure J's behaviour. They are using the Instrumental function when they ask each other for help and Imaginative function as they assume others' identities. Their knowledge of the world is realised through the Heuristic function as they interact and where they explain Ariadne's position in the story and the transposed setting of the Labyrinth they are realising the Representational function.

Table 12 (b) Interpersonal Features

Episode 2

criticise and correct each other,  
make suggestions,  
ask each other for help,  
insult each other,  
tease each other,

applaud each other,  
amuse each other  
display their world knowledge,  
assuming other identities (role-play)  
censure each other –the girls particularly J  
Making suggestions.  
Asking for and checking information with each other.  
Mocking others suggestions.  
Explaining Ariadne's position in story through speech and gesture 2:1/3  
Explaining the setting of the labyrinth 2.2/55

#### 5.2.4 Episode 3: The Water Cycle

This lesson took place in the afternoon following a guided reading session during which some children went to the library to exchange books. The lesson began with a teacher-led discussion in answer to the question 'what would the world be like without water?'. Suggestions ranged from 'trees died' to 'everything died' and 'we can't survive- we need water to grow' and 'there would be no fruit or veg'. J suggests 'there would be no life on earth because water is vital for life'. On the board is written **WALT: understand the water cycle** and **Success criteria: I can work as a team to show the water cycle through movement**. The teacher introduces an animated diagram

([http://www.bbc.co.uk/schools/riversandcoasts/water\\_cycle/rivers/pg\\_02\\_flash.shtml](http://www.bbc.co.uk/schools/riversandcoasts/water_cycle/rivers/pg_02_flash.shtml))

to be shown on the interactive whiteboard saying it will 'tell us about the water cycle'. Following explanation and discussion of the diagram and the words condensation, precipitation, run off and evaporation, the teacher informs the class 'you're going to act that out in human version' and the children are given one minute to get into groups.

Twenty one minutes of interaction between the group of 4 boys working in the junior hall were recorded and roughly transcribed of which two extracts of one and a half minutes and two minutes were transcribed and analysed using the multimodal framework. In addition to the extracts selected for close textual analysis, my journal notes document the contributions of other groups during the demonstration of the practised enactments during which I noted additional examples of the ways in which the children presented the water cycle key concepts. For example,

Journal 4/06/2008

*'A blew J and SP as the wind blowing the clouds.*

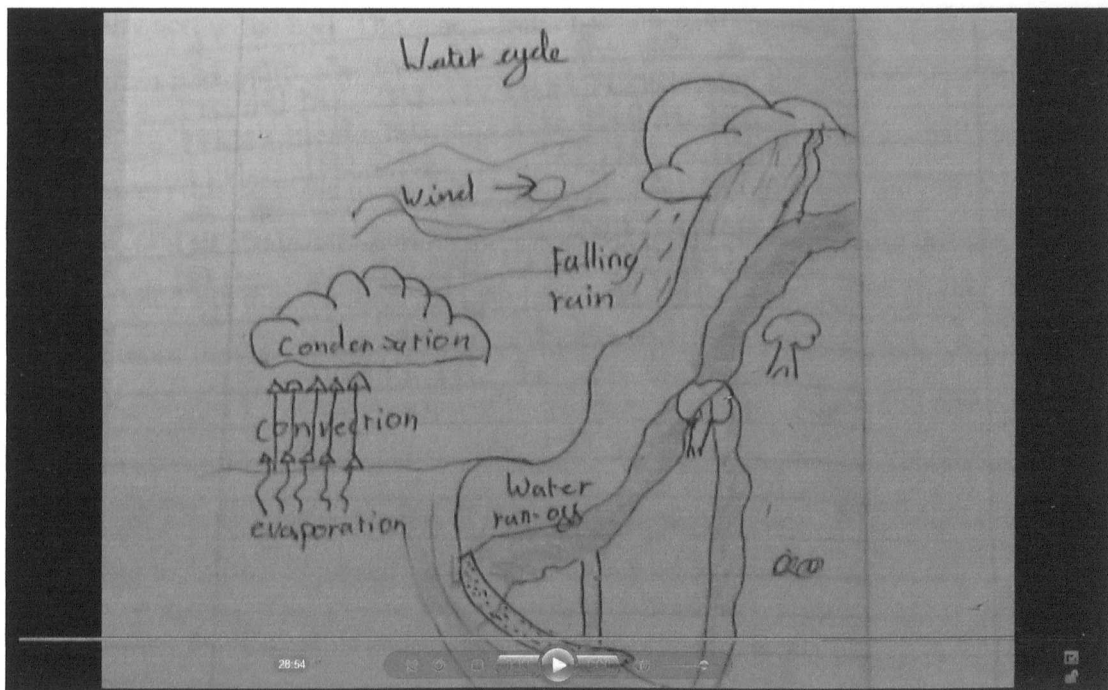
*'L climbs onto the gym horse in the hall to be clouds climbing mountains'.*

*C, M, C and L lean together as clouds*'.

The textual analysis of the two extracts allowed for close examination of the ways in which these postural modes were integrated within the communication taking place and examples from this are detailed in Chapter 6.

The children were praised by the teacher for their interpretations in the water cycle and one group was invited to perform their 'water cycle' for the Friday assembly, a time the whole school celebrated the diverse activities children have been engaged in during the week. As a follow up activity the children then drew and labelled diagrams of the water cycle in their Topic books. I took the opportunity to film them drawing their diagrams and ask some of the children about them.

Figure 3 M's diagram of the Water cycle in her Topic book



The ideational aspects of the episodes chosen for close analysis showed the children exploring the new concepts and key vocabulary which had been presented at the start of the lesson through all embodied modes as well as graphic modes. I was concerned during the twenty minutes of filming about the amount of 'off task' aspects to their communication; they discussed the intrusion of a woodlouse, prowess at sports activities and congratulation for achievement at earning house points and previous success, playing football and throwing objects, hypothesizing about fire, You Tube

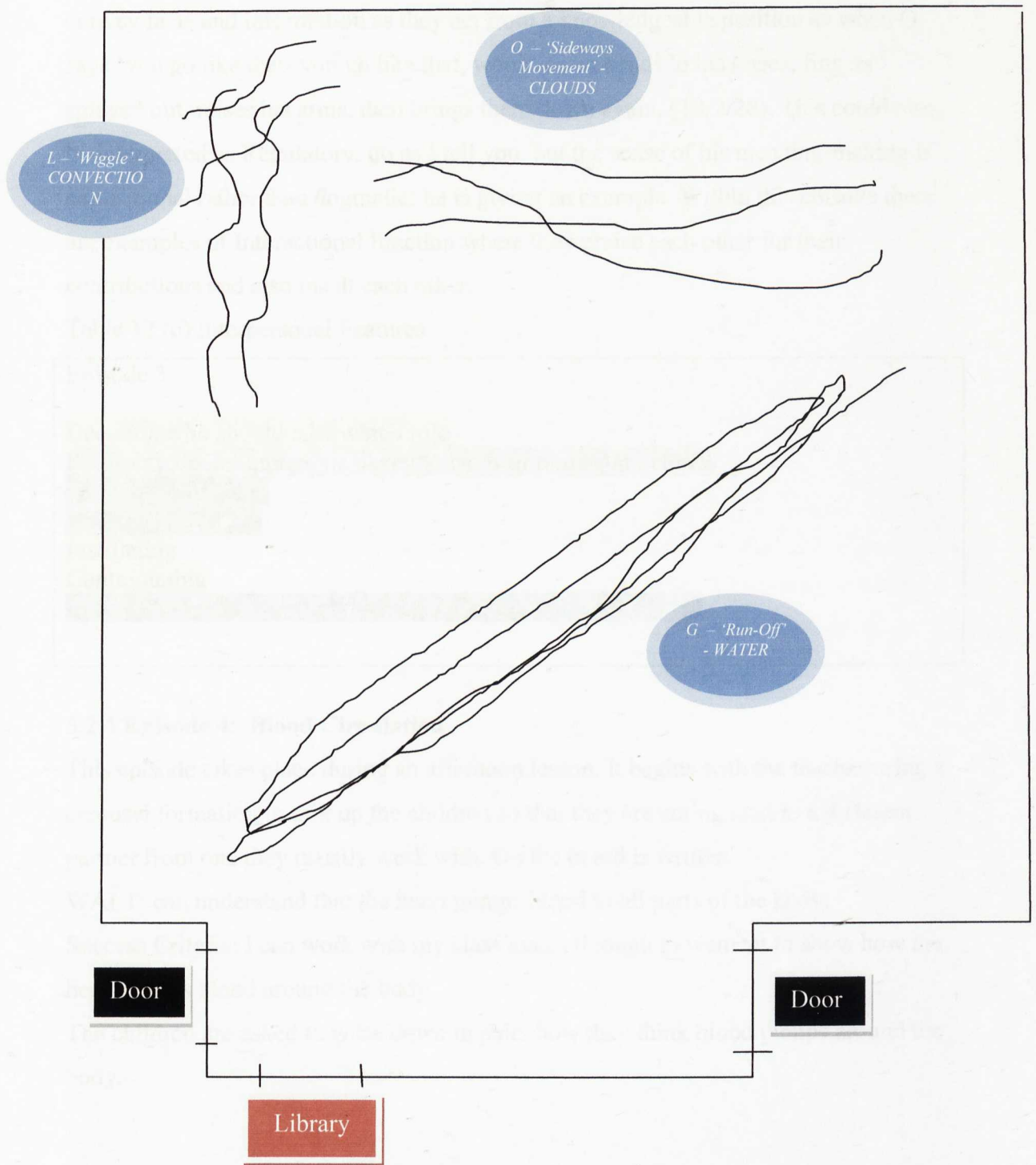
and sickness and going to hospital. As an observer with a camera I did not want to interfere with their discussion and disturb their way of working.

Journal 04/06/2008

*'Boy did they muck about...but they knew what they were doing'*

I understood that despite the impromptu football moves with the pencil on the floor and the examination of a wall display of school sporting successes, the boys were largely focussed on the task of enacting the water cycle. For most of the episode the boys were huddled in a close group sitting or crouching on the floor. there were several instances of kicking and retrieving the pencil across the hall which led them to claim this space for the enactment of the water cycle. The re-presentation of the 'run off' of mountain water into rivers to the sea then involved a run the full length diagonally across the hall. The space in the hall allowed for large scale presentation of the diagram posturally. I stood in various positions around the hall as I was filming but viewing the movement around the space from the south wall of the hall (bottom of the diagram) it is possible to see L's positioning for the convection and evaporation 'wobble', O's sideways cloud movement for the clouds moving across the sky, and G's sweeping run diagonally across the hall. Viewed from above, the spatial orientation of the movements seems to mimic the diagrams the children have drawn in their topic books. I can only comment for one of the groups involved in this activity which has been filmed and closely analysed for this episode, but the relationship between children's representation of diagrams through posture and graphic modes is something which could be further considered in future studies.

Figure 4 – Movements of G, L and O in the Junior Hall



As with any role play activity the interpersonal aspects of Regulation, that is deciding who should take which role, instructing and contradicting each other play a central role to the communication. The Imaginative function is realised through the children assuming the parts of the rain, the clouds, and the rivers. When the children show



each other how to do an action they are using the Representational function, used to convey facts and information as they act from a knowledgeable position as when G says ‘you go like that- you go like that, wooh’ as he bends to his knees, fingers splayed out, raises his arms, then brings them down again. (T3/2/28). This could also be interpreted as Regulatory, do as I tell you, but the sense of his meaning-making is expositional rather than dogmatic: he is giving an example. Within this episode there are examples of Interactional function where they praise each other for their contributions and also insult each other.

Table 12 (c) Interpersonal Features

<p>Episode 3</p> <p>Deciding who should take which role</p> <p>Role-playing- assuming the characteristics of rain , sun , clouds</p> <p>Insulting each other</p> <p>Praising each other</p> <p>Instructing</p> <p>Contradicting</p> <p>Demonstrating how to do an action ‘go like that’ 3:2/43/46/50</p>
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#### 5.2.4 Episode 4: Blood Circulation

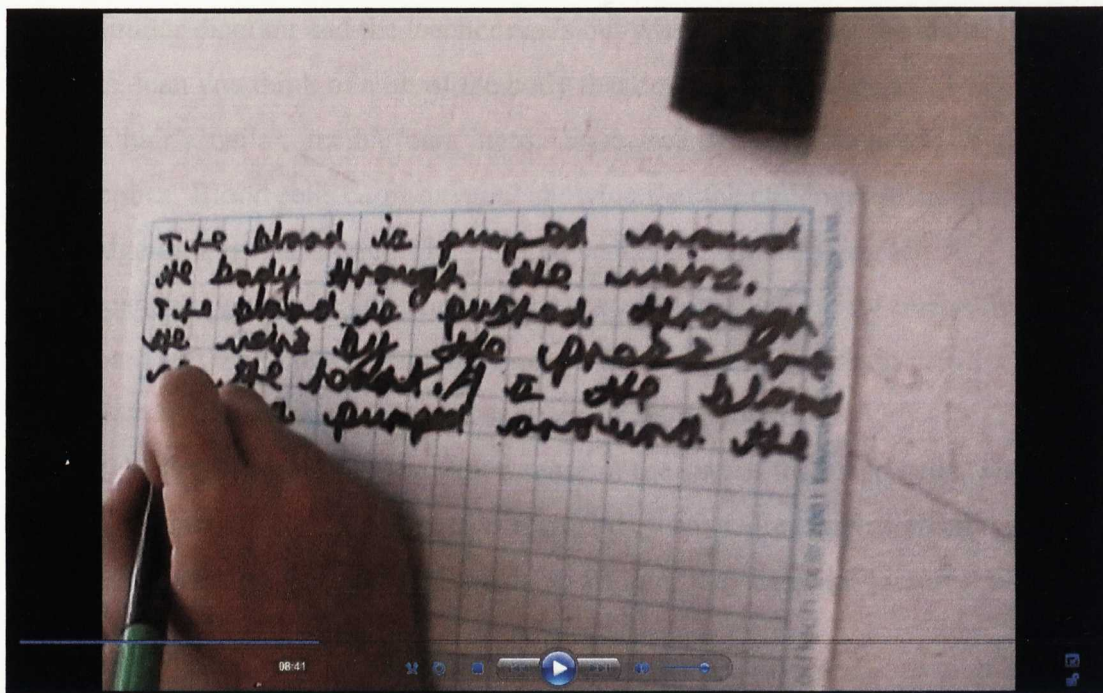
This episode takes place during an afternoon lesson. It begins with the teacher using a carousel formation to mix up the children so that they are sitting next to a different partner from one they usually work with. On the board is written:

WALT: can understand that the heart pumps blood to all parts of the body.

Success Criteria: I can work with my class mates through movement to show how the heart pumps blood around the body.

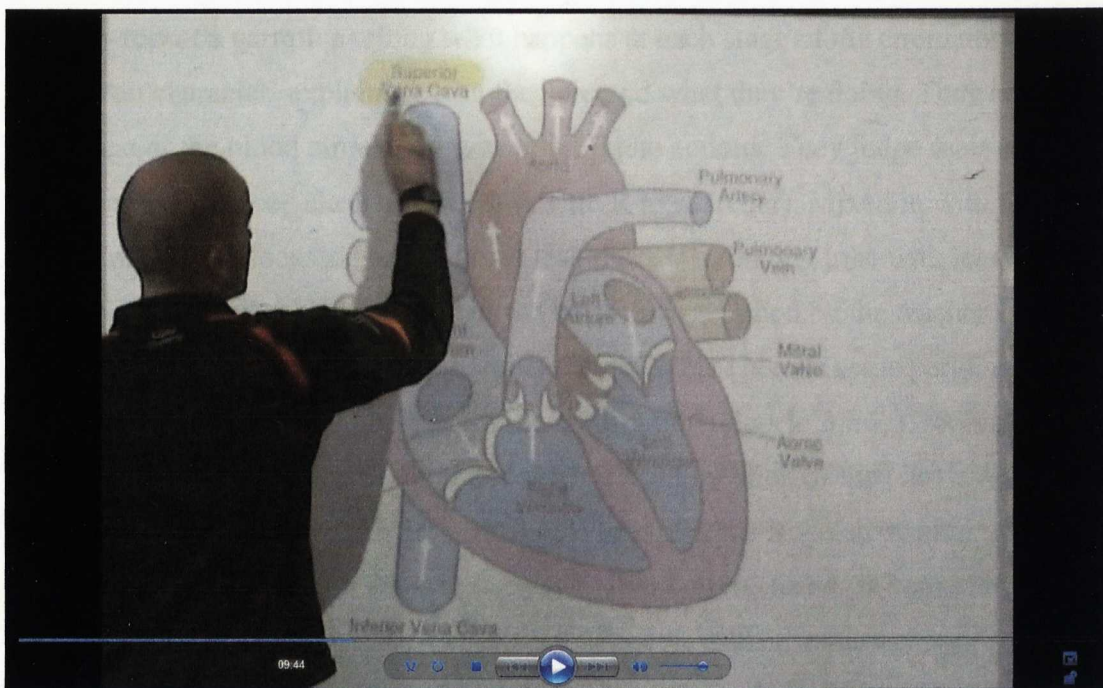
The children are asked to write down in pairs how they think blood pumps around the body.

Figure 5 LK writing about the heart



They then move on to the carpet area where the teacher talks them through a diagram of the heart on the interactive whiteboard. He explains that the diagram is from a medical website and that they don't need to know all of the words.

Figure 6 Teacher explains heart diagram.



M produces a book, *The Human Body*, from the shelves in the corner of the room with a similar diagram and the teacher reads out what it says about the heart. He asks the class, 'can you think of a bit of the body that doesn't need oxygen?'. The children suggest 'hair', 'nails', 'teeth', 'ears' until J announces 'Everything needs oxygen'. D also supplies 'Blood cells carry oxygen' showing that the children are bringing their knowledge into the classroom. The children watch an animated diagram ([www.mayoclinic.com/health/circulatory\\_system/mm00636](http://www.mayoclinic.com/health/circulatory_system/mm00636)) on the interactive whiteboard and then the teacher talks through the diagram pointing to pertinent parts as he does so. They then watch another short diagram about cells ([www.cellsalive.com/howbig](http://www.cellsalive.com/howbig)) to gain a sense of the size of the blood cells. The children then return to their tables to edit what they have already written on their whiteboards and add a bit more. JB wants to know if they can add 'pictures' which the teacher replies 'yes' to.

The class is then divided into two groups and I am invited to take a group of nine to an empty classroom upstairs to practise acting out the circulation of the blood around the body. The recording of interaction of seventeen minutes duration was roughly transcribed and three extracts of one minute, two minutes and two minutes were then multimodally transcribed and analysed. During this episode the ideational aspects to the interaction include the children's talk about who will 'be' each part of the process and they repeat a narrative telling what happens at each stage of the circulatory process 'in character' explaining who they are and what they're doing. They act out each stage of the blood circulation with appropriate actions. They judge their own performances and they check information with R (researcher). Mixed in with the interaction closely focussed on the given task there is a running joke with lots of word play around 'tissue' : this is not one of the key words supplied by the teacher but one they have heard on the 'Cells Alive' animated diagram. There is some peripheral messing about – such as L 'the blood cells are fighting – lets join in', L looking at the computer in the corner of the room and there is brief mention of the television programme, *The Bill*. As with the water cycle role play the Regulatory interpersonal function where the children are assigning and taking on roles and (in some cases physically, in some cases verbally) positioning people in their roles as heart lungs and blood cells. There are examples of the heuristic function where the children are displaying their knowledge of the heart and blood circulation and further examples of the Interactional function where the children are establishing and confirming

friendship groups. The social bonding and close physical contact discussed in Chapter 6 can be seen as a manifestation of the Interactional interpersonal function showing how attention to all modes through textual analysis can reveal the way in which all semiotic resources are being employed by the children.

Table 12 (d) Interpersonal Features

Episode 4

The children are establishing and confirming friendship groups.  
They are assigning and taking on roles  
They are positioning people in their roles as heart, lungs, blood cells.  
They are displaying knowledge

### 5.2.6 Episode 5: The Piano

This literacy lesson took place at nine o'clock in the morning and is the first in a series of five based around the animated film *The Piano* (last accessed 02.07.10 <http://nationalstrategies.standards.dcsf.gov.uk/node/85960>).

Pupil to pupil interaction in four of these lessons was recorded and the recording from the first lesson was judged to be the most useable in terms of being able to 'see' and 'hear' what was taking place between the children in their discussion. The morning started with a spelling exercise and my journal remarks:

Journal 30.06.08

*sense of calm and focus first thing this morning.*

The teacher starts the lesson by showing the film and asking some short pre-questions  
*How many characters are there in the film?*

*Who do you think they are?*

Following the first viewing, the children discuss their answers in pairs and there is some discussion concerning whether there are four or five characters. In a short plenary with the whole class the children are asked to speculate about the fifth person, the young boy, in order to elicit the response that he is the old man as a young boy as part of a reminiscence. The next exercise is to watch the film again and then write in groups on post-it notes their responses, what they liked and didn't like about the film. The teacher asks them to think about the music, the colours, any repetitions or patterns they see and anything they are puzzling over. This is the section that forms Episode 5 *The Piano* from which 2 extracts are used for the close textual analysis.

The interaction recorded was twenty four minutes duration and two extracts of two and a half and one and a half minutes were transcribed.

This is where my journal notes my first observations of the gestures used by the children as they interact with one another:

Journal 30.06.08

*Fantastic. Multimodal use of hands when talking about the piano to illustrate music. First by J. and then copied by L. L kept his hands in piano position for the rest of the discussion. ....Mr D. praises this group of boys (L, J.W., J and G) for the number of ideas and questions they generate.*

The lesson closes with a whole class plenary where the post-its are displayed around the room on large posters with Likes, Dislikes, Puzzles and Questions written at the top.

Table 12(e) Interpersonal Features

Episode 5
Asking each other for advice and help 5:1/1, 5:1/4, 5:1/10
Announcing intentions 5:1/19
Making suggestions 5:1/7, 5:1/20, 5:1/26, 5:1/28, 5:1/32, 33
Encouraging each other and affirming the contributions of others 5:1/8
Evaluating their own and others contributions 5:1/6
Checking writing and ideas put forward 5:1/38,5:1/42
Choosing suitable words ( 'graphics' is changed to 'animation' as this is thought to be better) 5:1/21
Disagreeing 5:1/28
Monitoring behaviour of others 5:1/ 36
Demonstrating 5:1/ 26, 27, 28, 30
Explaining how things are 5:1/33, 5:2/19

Within this extract six of Halliday's (1975) Interpersonal Functions can be seen. The children use the Personal function to demonstrate ideas to each other such as 5.1.26 JW's piano fingers to explain his suggestion of 'Realistic...ummm ....realistic movements' and G announcing his intentions 5.1.19 'I know what I'm putting'. the Heuristic function is used where they are making suggestions, evaluating their own and others' contributions, checking their writing and the ideas they put forward and choosing suitable words, such as when JC changes JW's suggestion of 'good graphics' to 'animation' (5.1.21). There are examples of the Regulatory function

where the boys are disagreeing and monitoring the behaviour of others such as 5.1.1. where L uses gaze and an outstretched arm to request the pen and post-its from G and then takes the objects he wants from G who acquiesces. There are also examples of the Representational function where the boys explain how things are such as JC's explanation of the scary smile as 'He's got plastic surgery on him' (5.2.19). The Interactional function, where the children are embodying their need for human contact is present where JC pats L on his back as a way of praising and affirming his contribution saying 'You can have a pat on the back' (5.1.8). The close textual analysis of the two extracts allows for closer interrogation of the Interpersonal aspects to the boys' interaction and is discussed in Chapter 6.

As I observed in my journal notes at the start of the lesson the pupils in this lesson were focussed on the tasks they had been assigned and as a result the Ideational content of their interaction was closely aligned to the subject matter of the film. In the main the discussion revolves around the task set. The children are focussed and appear motivated. They talk about the characters in the film, features of the film that they like and dislike and aspects which puzzle them. They briefly mention their musical preferences in talking about the music in the film. They spend some time organising the post-its and who will write upon them and they compare how many ideas they have with those of other groups. These are more peripheral activities than off-task content. The boys are seated in the corner table of the classroom and are therefore restricted in terms of opportunity for more bodily expression although I noted that in the following lesson, still seated in the same location, as the boys were speculating about the war scene and discussing the images from World War Two and death, their hands were poised in gun gestures with some gun actions. While full bodily action and movement are not afforded by this situation, gestures, gaze, posture and facial expression remain available semiotic resources.

### **5.3 Concluding Remarks**

This chapter has given an account of the wider data set locating the textual analysis which forms Chapter 6 in time and space giving details of lessons, timescales and locations. Through the use of journal notes, photographs and discussion of Ideational and Interpersonal aspects to the specific instances chosen for close analysis, it gives the contextual information needed for full exploration of the minutiae of specific

instances of child-to-child classroom interaction. Whilst conducting the fieldwork for this study, I noted in my journal

Journal 01.07.08

*What I'm seeing in the multimodal communication is children routinely using posture and gesture along the same lines as they use language; that is they repeat, mirror, they subvert, convert, play with mannerisms: It is spontaneous and subconscious and it is understood by peers. Cohesion achieved through linguistic means is similarly conveyed through non-verbal modes..... what about other linguistic features of spoken English? Back-channelling? Reference? Anaphoric/ cataphoric? Need to check this in analysis.*

It is from a Hallidayan (Halliday, 1978) understanding of language as a semiotic resource that Kress (2001, 2010) developed the ideas for a social semiotic theory of communication and multimodality as a communicative concept. As Bezemer and Jewitt (2010 in Litosseliti) point out:

The starting point for social semiotic approaches to multimodality is to extend the social interpretation of language and its meanings to the whole range of modes of representation and communication employed in a culture.

Bezemer and Jewitt, 2010: 183

During the data gathering process I became aware that for the close analysis of instantiations of interaction between pupils in classroom contexts I would require a framework for textual analysis which would allow me to consider the turns taken by the children multimodally and which would examine multimodally those linguistic cohesive devices identified by Halliday and Hassan (1976) which give our communication structure and coherence and make us socially intelligible. This analysis is presented in Chapter 6.

## Chapter 6 Analysis of the Textual Function

### 6.1 Introduction

The focus in this chapter is the textual metafunction (Halliday, 1994). The reason for this focus is that in examining the moment-to-moment interaction, the multimodal choices made by the children can be examined through close attention to the way they negotiate the flow of meaning through the turns they take. Interwoven into each text, in this case extracts from each episode, are the different meanings being made through a range of modalities. Chapter 5 has broadly examined the wider data set and the ideational and interpersonal metafunctions and this chapter examines the ways those metafunctions are realised and organised through the texture of specific instantiations. The analysis of the textual metafunction in multimodal analyses of texts has been conducted in studies of image and language (Royce, 2007; Liu and O'Halloran, 2009; Unsworth and Cleirigh, 2010) and language and embodied action (Martinec, 1998). Scollon and Scollon (2010) caution against taking models of linguistic analysis and applying them to multimodal analysis:

...it is fatal to the research endeavour to simply transport linguistic analysis over into analysis of other modes.

Scollon and Scollon, 2010:177

However, the precedents above for investigating intersemiotic texture and the relation between image and text in print media consider the part played by cohesive devices and have followed a Hallidayan perspective. This study takes the position that if a book comprising image and text can be considered a 'multi-semiotic text' then a face-to-face interaction can be similarly considered. The work of textual cohesion described by Halliday and Hassan (1976) in the semiotic resource of language may be applied to examine the use of other semiotic resources: rather than applying a linguistic approach to analysis, this study is applying a social semiotic approach to all modes including spoken language.

The chapter discusses the ways in which cohesion and coherence are achieved in each instantiation. The first three sections (6.2, 6.3, 6.4.) examine key features of **cohesion**, that is namely repetition, omission and intertextual referencing. Following that section 6.5 discusses features of **coherence**, namely the manifestation of genres



and the expression of identity, specifically through the invocation of the voices of others. Whilst these features have been considered by sociolinguists (Tannen, 2007; Maybin, 2006) in examining discourse realised through language, in this study these features of texture are examined through **all** modes employed by the children.

### **6.1.2 Identification of Key Textual Features**

As I have noted above the key features of repetition including through the use of non-verbal modes, intertextual referencing, and identity revealed through background information emerged as prominent through the analysis of transcripts.

The repetition served to fulfil many aspects of meaning-making, namely patterning and pre-patterning, as an act of participation, to achieve social bonding, for emphasis (1:1/71, 1:1/31, 1:1/3), for clarification,( 1:1/60 and /63), for demonstration purposes (the 'wiggle' movement representing convection 2:2), and for exemplification ('like that' accompanied by actions, 2:2/ 11,28,29,31 and so on). I have taken the first three examples to focus upon as they yielded the most frequently occurring instances of repetition across all five episodes.

Intertextual referencing was also present in all 5 episodes and presented itself across modes but in particular through speech and posture/ bodily actions. It is interesting to note that these are not separate features of the children's discourse, but they work alongside and in co-operation with each other. An example of what I mean is where as an intertextual reference may be repeated by another participant thus embedding this meaning-making device, as in 5.1 where JW makes a piano playing gesture (5:1/26) and this is repeated, or mirrored by L (5:1/43).

Meaning-making communicated through modes such as gaze, speech, drawing and bodily actions/posture in an integrated way also emerged as a significant feature. In reviewing the transcripts it became clear that in any one interactive episode a number of 'conversations' at foreground, midground and background level were being played out alongside statements by the children about 'who they are'. A specific instance of this is the 'footballer' identity of one particular participant which is prevalent in most of the episodes he was present in, frequently as background communicative acts, but present nevertheless.

The textual features associated with *cohesion* are presented in the following sections 6.2, 6.3, and 6.4. Those features associated with *coherence*, the context of situation and culture, and the children's use of generic features are discussed in section 6.5.

## 6.2 Repetition

In this section I focus on the three most prominent and frequent examples of repetition. I include repetition in modes other than speech as this analysis is multimodal in focus. However, the theoretical basis for the review of repetition as a cohesive feature of discourse is taken from commentators who have largely focussed on the mode of speech (Halliday and Hassan, 1976; Tannen, 1989; Cameron, 2001). I believe it is possible to consider the work of repetition in all modes in discourse using what we know about repetition in language as a starting point for examining all modes.

Repetition can take the form of repeating one's own words, actions, gestures or sounds for effect, for poetry, for emphasis, to express agreement or contrast, or repeating the words – or actions - of others for similar effects and thirdly, the patterning laid down in language which is constituted of the words of previous utterances or instances of language. In terms of the mode of speech, Bakhtin (1999:123) is clear that whilst 'any utterance....is individual and therefore can reflect the individuality of the speaker (or writer)', our words are not wholly our own in that language choices are made based on the historical legacy of utterances and the modifications made through time. In each epoch the language in social situations develops in a particular way. As researchers are able to document meaning made through modes such as posture, I believe a similar legacy can be revealed here. When I think of the definitive popular iconic images of the 1970s in my childhood, I recall trying to adopt the postures and poses of Marc Bolan and David Bowie in my youth. While it is clear that we are encultured into certain speech genres in our childhood and beyond, it is also possible we are encultured in other modes of meaning-making. The codified or emblematic gesture (Kendon, 1982) such as the contemporary forefinger and thumb gesture for OK or the victory V symbol of the Second World War era are examples of this. It is beyond the remit of this study to look at cross-cultural differences in semiotic modes but our communicative practices are embedded in our

situation in time and place (Scollon, 2003) and that is not restricted to language but includes all semiotic modes.

### **6.2.1 Patterning and Pre-patterning**

Tannen (1989:19) identifies repetition as being a basic component of our literacy practices with repeated patterns of sound such as alliteration, assonance and rhyme as well as words and chunks of words being a significant component of poetry (Finnegan 1977:90 in Tannen 1989: 20). In addition to the lexical patterning realised through the repetition of words or phrases, the sounds, or voice, are at work here, combining the speech act with van Leeuwen's notion of the 'sound act (2005:127). Van Leeuwen proposes that 'speech acts' and 'sound acts' arise from 'a combination of features' and also that rather than viewing these as separate components we need to regard the multimodal ensemble as 'communicative acts...understood as multimodal micro-events in which all the signs present combine to determine their communicative intent' (2005:121). If we accept the notion that 'everything that is said has been said before' then all communicative acts are, to some extent, an act of repetition. Tannen (1989:37) is clear however that we do not proceed under the illusion that this means that 'speakers are automatons, cranking out language by rote' but rather accept that language is a combination of *fixity*- (the idiomacity or formulaicity) and *novelty* and it is through this that the creativity of the individual utterance is possible. Within my own framework I include idiomatic and metaphorical language use and pay attention to collocation and lexical chunks. The examples of patterning and pre-patterning from the extracts analysed give some insight into the individual creativity at play in the children's communication. Each of the examples selected here are 'named' from the specific language or gestures used within the communicative act, but they are considered multimodally. The patterning in the first nine are linguistic focussed, the tenth is gestural and voice focussed; although all modes are at work in the multimodal ensemble the textual analysis of cohesion allows for focus on any specific mode at work in any instance.

Table 13: Examples of patterning and pre-patterning through repetition

Examples of Patterning and Pre-patterning through Repetition	Creative Interplay	Transcript Counter
Example 1: got no idea...know nowt	Metre/rhythm	(1:2/4)
Example 2 Right on , the right keys	Metre/rhythm	( 5:1/33)
Example 3 How old	Metre/rhythm	( 5:2/6)
Example 4 Tissue	Sound / phonic play	(4:1/21, 30)
Example 5: rope that longer than forever	Idiom	( 2:1/70)
Example 6 Use your Breadloaf, Jack Walkiton	Idiom	( 3:1 /15)
Example 7 Some people	Idiom	(2:1/29)
Example 8 Anyone there	Idiom	(3.2/
Example 9 Clouds Float	Metaphor	(3.2/
Example 10 The Singer	Gesture signifying genre	(2.2/

The first four examples show the children playing with patterning around **sounds, metre and rhythm**. (The episode/extract/line are represented by the numbers thus 1:2/4 signifies episode 1, extract 2, line 4)

**Example 1: got no idea...know nowt (1:2/4)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
3	SP How long does a mouse baby to develop before it is born?				

4	L I don't know...know nowt about mice	S and L laugh			
---	--	------------------	--	--	--

27	S we've got ...so we know that.	S hands L card			
28		L Recapping cards left on don't know pile			
29	S now I haven't...don't got a clue about mouse	L snorts/short laugh		L waves card in hand	

56	S so we got mouse			S Left hand down	
57	L Got Got no idea about that				
58	S Definitely, no no			S right hand, palm out , shakes hand	

This is an example of phonological repetition and word play. The boys start to play around with words describing their ignorance on the subject of mice – ‘got no idea’, ‘don’t know nowt’, ‘haven’t...don’t got a clue (about mouse)’. ‘Haven’t got a clue’ and ‘got no idea’ are synonymous idioms which both operate in the negative and ‘don’t know nowt’ is using local dialect use of a double negative. S self corrects himself from ‘haven’t’ to ‘don’t’ but then pairs it with ‘got a clue’ when ‘know’ would have been correct but less colourful language. There is a repetition of ‘know’ in two lexical chunks positioned together with the double ‘know’. S then repeats the homonym ‘No, No’ (1.2/58) emphasizing the negative with his hand gesture. They are making language choices which amuse and satisfy them and not speaking in the plainest language available to them. They are choosing to be creative in the ways that they communicate with one another.

Maybin (2006: 51) writes of the way in which children draw upon different speech genres in their meaning-making. In this instance the boys are drawing upon the genre of the television quiz with formal written questions being read aloud by the quizmaster. Together with this they are also using their own informal, everyday, Sheffield dialect talk. It is in using their own genre that they are taking the opportunity for creative language use. Carter (2004: 96) suggests there may be ‘an intriguing possibility of subliminal phonaesthetic echoing across speaking turns ‘and this appears to be a possibility here and in the other following examples of repetition.

**Example 2 Right on, the right keys (5:1/33)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
32 14.22	JW Yeah ...cos You know when he’s playing the piano L who’s the boy?		JW looking at JC , G looking up, G glances at whiteboard		G puts his head in his hands , elbows on table
33	JW He’s got his fingers Right on the right keys		JW still looking at JC		JW leans back , briefly stretches out hands then and folds arms

Here JW’s repetition of the word ‘right’ gives a metrical prosody in the rhythm from the position of the word in 2 instances. The word is used as an adjective meaning ‘correct’ in the second instance but in the first is part of an idiomatic collocation making a prepositional phrase meaning ‘exactly positioned’. The effect of the repetition of ‘right’ is in emphasizing the ‘correctness’ and ‘exactitude’ noticed by JW of the animation of the piano playing. He is adding weight to his suggestion for an idea to go on a post-it. It is following this exchange that he uses his ‘piano finger’ gesture to give further weight to this suggestion.

**Example 3 How old (5: 2/6)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
6	JC...how old is the old man...right?			G and JW smile	G chin in hands then G slaps hands down on table with frustration

Patterning here is through the repetition of 'old'. It shows a patterning with 'how old is the old man?' where the adjective is placed after the interrogative 'how' to make the collocated question form 'how old' and then inverted with 'old man' where the adjective is placed before the noun. This is a juxtaposition of 2 pre-patterned forms (Tannen 1989:38) with a resultant dee- daa...daa-dee metre or rhythm which gives the utterance poetic or creative properties. Tannen (1989:18) pays attention to conversational synchrony, 'the astonishing rhythmic and iconic co-ordination that can be observed when people interact face to face'. This in turn refers back to Carter's (2004:96) suggested 'subliminal phonaesthetic echoing'.

**Example 4 Tissue (4:1/21, 30)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
7	O you can be a tissue			O Points at K	
8	All children laugh				C moves toward K holding hands, BC comes to K's left shoulder

19	K what's a tissue	L, K, C BC advance on O			
20	L I don't know				
21	O blow yer nose				
22	All laugh	Girls retreat in to a circle, laughing.		OI hand in mouth	

30	OI, L, K, BC (all say word over and over) Tissoooo, Tish - ooooo				
31	L who wants to be a tissue with K****		O looking at K,	L fingers in mouth	

The children have seen an animated film of the blood circulation through the heart and lungs and around the body and understand the concept of 'tissue' as being 'cells' as they have also seen an animated diagram of this. However, they enjoy O's double-entendre by putting the article 'a' in front of 'tissue' and thus changing it from an uncountable noun referring to a substance in to a countable noun referring to a tissue for blowing one's nose: bodily functions being a staple of children's humour generally, this is setting up the joke from the start. K acts as a foil for O's next gag which is an extension on this by asking 'what's a tissue?' she returns O to his funny quip and he does not disappoint with 'Blow yer nose' itself an idiomatic expression and an example of *fixity*. The *novelty* here comes in its' deliberate out of place use in the genre of blood circulation. The subsequent repetition of the word 'tissue' by four girls is a confirmation of O's humorous contribution and their own gratification by linking the technical word with the onomatopoeic exclamation 'atishoo' for sneezing. This is an example of substantial interplay around the word 'tissue' and related concepts. The children are manipulating two speech genres here, the scientific, formal genre for describing the circulation of the blood and their own informal exchanges.



The next examples involve patterning and pre-patterning associated with idioms and metaphor.

**Example 5: rope that longer than forever (2:1/70)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
67	L Yeah If I ... what if...what if the walls like massive	L arms outstretched	K and J look at L C head down writing	L hands outwards movement	J leans forward
68	J You get a big rope				
69	K what if the wall bes on forever?		K looks at J		J leans forward L leans back
70	J You get a rope that's longer than forever	K smiling, hand over face			

The children here are playing around with quantifiable qualities and superlative and comparative qualities. 'Massive' is an ungradeable adjective. It cannot be more or less because by definition it is already extreme. L's outstretched arms emphasize this fact. However, it is not superlative which means it can be 'beaten' by something which is more extreme – and that would have to be the concept of infinity for that cannot be bettered. K introduces the notion of 'a wall that goes on forever' to which J is able to match the poetic 'rope that's longer than forever'. J has taken an adjective and a verb that collocate easily (rope, long) – an example of *fixity* – and introduced the *novel* idea which he has taken from K's utterance and repeated- 'forever'. Moreover there is a metre and rhythm within the two utterances which is repeated. The overall effect is poetic and full of imagery and co-constructed by the children. Carter notices that with the use of patterns 'creativity grows from mutual interaction rather than individual innovation' (2004:102) and this seems to be an example of that.

**Example 6: Use your Breadloaf (3:1 /15), use your Jack Walkiton (3:1/16)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
12	O You dumbo		G glances at S then looks at chart	Hands up and down sharply	
13	S I thought you were putting <i>sun on cloud</i>				
14	O Awww For godsake, S*****	O falls back to left side lies on floor			
15	O Use your breadloaf	O sits up leaning on left hand	L and O looking at S , S looking at chart		
16	O Use Jack Walk-it- on		G looking down at trousers		

Here is an example of idiom, *fixity*, being corrupted by local dialect, *novelty* to produce creative language. In the first example O mixes the cockney rhyming slang *loaf of bread* for *head* and the idiomatic expressions ‘Use your loaf’ and ‘use your head’ – meaning ‘think’. He turns it into a Sheffieldism – a breadcake is the local word for a bread roll – by mixing this up as *breadloaf*, thus producing ‘use yer breadloaf’ which appears to produce no problem in comprehension from his peers. O has incorporated the Sheffield voice within a common use of cockney rhyming slang. This is further extended with reference to a brand of bread found in the local supermarket, Warburton’s, advertised as being made by Jack Warburton, and for comic effect O has changed the name for the similarly- scanning Jack Walkiton. This is also an example of substitution as the brand name for the bread, albeit altered is there to stand for the word ‘head’.

O displayed his love of rhyming for comic effect during the pilot study 3 years previously, rhyming (football) ‘defender’ with ‘tea tender’. This is a character trait I have witnessed over time which gives the personal context to this interpretation of O’s utterances by me. There is an example of substantial, creative and comic word play here in spontaneous rapid speech. Carter (2004:98) discusses the ways in which speakers invent new words. He has noticed this feature of everyday spoken language and termed it ‘morphological creativity’ (2004: 97).

**Example 7 Some people 2:1/29.**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
29	J Some people get them, some people don’t		J looks at L – then into space Girls don’t look at him	K pulls back lips to show teeth J’s tongue exploring teeth in his mouth	L leans towards K , C puts fingers in mouth looking into space

Here is another example where the parallelism or balance and metre of the utterance with the repeated lexical chunk of (some people + verb phrase) + (some people + negative verb phrase) gives a poetic rhythm to the utterance. Tannen (1989:175) uses Jesse Jackson’s 1988 Democratic National Convention speech to illustrate the power of parallel constructions and repetition in political speech. This example by J uses a common device used in rhetoric and it would not be out of place in a political speech.

**Example 8: anything there? 3:2/18**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
18	L Is anything there?			S and O smiling	

19	G He's half home Play knocking on wood			G taps S 's head with knuckles	
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In this example the use of subverted idiomatic expression – or modification of a fixed pattern – is supported through the use of gesture. L ‘Is anything there?’, line 18, is a corruption of the idiomatic expression ‘Is anyone home?’ when personifying the brain as a person and the head as a home. By knocking on S’s head he is signifying that he acknowledges the head to be a door – to a home. G understands the metaphorical reference as he continues ‘he’s half home’ and then knocks on the door himself saying ‘play knocking on wood’ whereby the head has now become ‘wood’ . The metaphor of ‘head’ as ‘wood’ is accompanied by the knocking on the side of the head. This is suggestive of the expression ‘touch wood’ accompanied by a tap to the side of the head. ‘Touch wood’ is thought to be a superstitious expression based on the idea that touching wood will ward off evil or bad luck. Linking this expression with a gesture touching ones own head is seen as an example of self deprecatory humour, as if acknowledging ones own stupidity. This then makes the link with the previous expression which exhorts S to use his head, to think and not be stupid. The interplay between idiomatic, pre-patterned language use together with what could be argued as ‘pre-patterned gesture’ and the metaphorical referencing present is complex, instantaneous and rapid.

**Example 9: clouds float 3:2/40**

In response to the question ‘how can I turn into a cloud?’ the boys are making their suggestions with their voices, making noises, using speech and using their bodies.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
40	L O**** does that ..He goes ooohhh	O walks towards L, stops hands on hips , resting left	O and L lock gaze S looking	O and L smiling at each other S points at	L wiggles hips , movement from knees up through body S wiggles

		foot on trainer	at chart	L	head side to side slightly as he watches
41	S he..floats ( <i>Indistinct</i> )		S looks behind at doorway as he speaks, G and O follow gaze	S points at O	
42	O I do not float off		O stares at S	, O lifts chin up	
43	L He goes like that Yeah?  whooh	L Repeats action	G and O looking at L S looking at chart		L arms to sides, wiggles body and raises arms in upward motion O copies wiggle G raises arms
	LATER				
64	S (gets it ) O*** you do that			S points at O	S on knees by chart
65	S (to O) No!  You've got to float up And go like that	Pointing at O			S gives circular arm movement

The use of 'float' for cloud could be described as metaphorical. In the animated diagram on the whiteboard the boys have seen the picture of the cloud rise up and

have interpreted this as ‘float’ which is a common metaphor for describing the way clouds rise and sit in the air. The boys represent this through their upward arm movements, both L (3:2/43) and S (3:2/63)

The final example is of a gesture being used to signify genre and identity through the use of a recognisable ‘pre-patterned’ gesture.

**Example 10: singer 2.2/13**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
13	K I believe I can fly	singing	K looking down	K hand flicks out , fingers splayed	

K emphasises her identity as singer with her gesture – hands flicked out with fingers splayed. See figure 2(a) and (b). It is a gesture – or posture – as it has more in common with a pose- which will be familiar as a pose used by singers on television, on programmes familiar to this generation through shows such as X factor. This gesture or pose belongs to the genre of **popular singer** and it immediately affirms K’s identity at this moment in time.



Fig. 7 (a) Singer Gesture 2:2/13

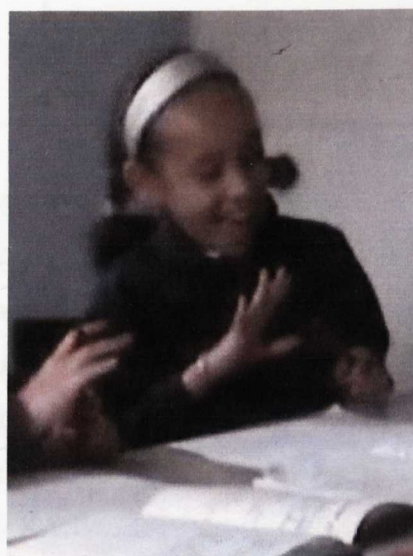


Fig. 7 (b) Singer Gesture Close-Up 2:2/13

### 6.2.2 Participation

Repetition does not only operate at a textual/ideational intersection, it also acts at an interpersonal/textual intersection for through repetition participants in any interaction signal their participation. Interpersonal functions of accomplishing goals coincide with the cohesive tie of repetition at textual level. It is through repetition that one of the children may enter the conversation or take back the floor from another. In this instance the repetition may ratify another's idea or show approval of another's contribution. Most of all it shows listenership and togetherness and inclusivity as it 'bonds the participants to the discourse and to each other' (Tannen 1989: 52).

#### Example 1: Travel (2:2/20)

20	K It's not sails L*** . What... what can they travel on?	K turns pages in book	C looking down writing, K looking at book, L and J looking at K's book	K points in book	
21	L Does yours travel in a spaceship?			L pointing at C , punctuating speech	L leans across K to C

In this example L takes K's question of 'what can they travel on?' and repeating 'travel' turns to ask C 'does yours travel in a spaceship?'. In this way she shows that she has listened to K's question and is offering a re-modelled question to C. She builds upon the first question by supplying 'spaceship'. The idea of the 'spaceship' raises possibilities of more ideas to be generated and is then picked up in line 26 and modified –'without spaceship' - it is this idea which leads to 'fly like a bird'. 'Flies' line 28 is then repeated line 32 and again modified by K who sees a negative side to this 'Ariadne ....can't fly' and this in turn leads to another new idea – the 'piggyback'. Repetition appears to be key to the generation of new ideas, linking the accepted idea with the new idea.

Line 39 L takes up the repetition of ‘flies’ and ‘spaceship’ and takes J’s idea of ‘throws around space’ and contributes a new idea ‘under’ whilst connecting the notion of the spaceship as a transposition of the island in the Greek myth version of the story.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
37	J What does he do? When he’s tired... take some steroids and throws around space		L and K look at J J looks down	J hand taps table  J hand to mouth J shakes head slightly, eyes side to side	K and L lean back slightly
38	L Yeah and drop ..yeah..yeah			L nods twice	
39	L Flies under the space ship which is the island			L sitting upright , looking down at book, hands up in front of her, alert	

The notions of flying and travelling have been built upon with each turn and this sequence shows a collaborative development of ideas, leading to the island of Crete becoming a spaceship, which necessarily involves a certain amount of repetition of each other’s ideas.

**Example 2 Piano Fingers Gesture 5.1/27 (JW) and 5.1/37 (L)**

The second example of repetition signalling participation is the use of the piano fingers gesture in Episode 5 where the gesture is initiated by JW in line 27 in support



of his suggestion the animation of the man playing the piano has ‘realistic’ movements. His gesture is not verbally acknowledged but it is visible to the others in the group and L repeats this gesture in lines 37 and 43 and 44.

26	JW Realistic ...ummm		G looking at whiteboard	JW Piano fingers splayed on table	
27	JW Realistic movements		JW looking at JC throughout exchange	JW fingers of both hands ‘play piano’	
28	G NOOO Three...fings		G looking ahead ( at L?)	G waving right hand up and down , JW stretches piano fingers across table towards JC and L	G bobs forward in chair
29	G Who shot him? L Who’s the boy ?		G looks down	L waving hand at whiteboard	
30	JW Realistic movements ..on the track...		G looks at JC writing on post -it	JW still piano fingers in front on table	G puts head in hands , elbows on table
31	L who’s the boy ? JW ...err on the piano				G fiddles with something on table
32 14.22	JW Yeah ...cos You know when he’s playing the piano L who’s the boy ?		JW looking at JC , G looking up, G glances at whiteboard		G puts his head in his hands , elbows on table
33	JW He’s got his fingers Right on the right keys		JW still looking at JC		JW leans back , briefly stretches out hands then and folds arms
34	JW They’re <i>not</i> <i>higher up or owt.</i>		L looks at JC		G and L both elbows on table chin in palms
35	JC Yes I know		L looks down		
36	JC I’m gonna		JC glances at		

	come to that in a second		R		
37	L Who's the boy ? JC animation ...realistic ..sticking to table	JC lifts post -it	G picks up post =-it, and looks at it L looking ahead	L hands in piano fingers on edge of the table	L rocking back and forth

The difference between the two boys use of this gesture is that JW uses it to accompany his speech as a *gesticulation* (Kendon, 1982) whereas L does not talk about the piano playing as he makes the gesture. In Kendon's terms (1982) this is a *representation*, or a gesture with no accompanying speech. From the speech column it appears that L is concerned more with the role of the boy in the story. However, his use of the gesture suggests a simultaneous discourse to the one he has realised through the mode of speech. He repeats JW's gesture as an act of participation in JW's suggestion of 'realistic movements' (line 5.1/27). This could be seen as an example of the way that Bezemer describes the work of the multimodal ensemble (2008:169). He explains that:

...often modes do not point in the same direction; they may be used to realize, simultaneously, complementary or even contradictory discourses.

Bezemer, 2008:169.

Whilst L's speech does not signal participation in JW's discourse, his repetition of the piano fingers gesture first used by JW does. In Norris's terms (2010:83) based on levels of attention or awareness, the speech and the writing of the post-it notes are the foreground modalities; L's gesture is not gazed upon nor commented upon but it is present.

### 6.2.3 Social Bonding

In the following examples repetition is again accomplishing interpersonal functions of bonding the speakers. The physical cohesion which is played out through gestures and bodily actions in each of these interactions is also realised linguistically through repeated words and phrases.

**Example 1 Farm (1:1 18, 19, 20)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
18	S Yeah, I go to a farm, me			S points to chest	
19	S There's a farm at top of my road.		G looking at S		
20	G Ahh Is that the farm when... where me you and Brendon, where we went?		G looks down S looking at G		G raises arms over head

Repetition here can be seen as accomplishing the social goals of bonding the 2 speakers (Tannen 1989: 51), linking one speaker's words to another's such as 'farm' where S starts by introducing the farm into the conversation and G continues this theme, first checking it's the same farm and simultaneously adding new personal information into the discussion. Repetition here is an example of how it 'bonds participants to the discourse and to each other, linking individual speakers in a conversation and in relationships' (Tannen 1989: 52).

**Example 2 Human Baby (1:1/63, 64, 65)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
63	S which needs caring for the longest ..calf, puppy Or human?				

64	L Human baby				
65	S Aww Human baby...that's like years innit.	L laughs			

By repeating L's proffered answer, S is signalling his approval and at the same time given time to form the next part of information he wants to introduce, taking more time with the interjection, 'aww' before adding his own contribution, 'that's like years'.

**Example 3 Who shot that guy? (5:2/8)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
8	L Who shot that guy?		G and JW glance at L		
9	G Yeah... it...			G raises head from hands then puts thumbs to eyebrows, leaning forward	

16	G Who shot the weird guy?		L looks at JC JC looks at G	G hands stretched in front across table	
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L suggests 'who shot that guy?' which G then takes up and repeats with a modification 'who shot the weird guy?' referring back to the notion that there was a 'weird' character in the first extract 6 minutes previously. By taking up L's question and modifying it slightly so that it becomes his own he is breaking in to the

conversation for himself whilst at the same time approving of L's contribution. His hands stretch across the table occupying empty space and he has the attention of JC who has turned his gaze towards him.

**Example 4: arms around shoulders (4.2/36)**

Social bonding could be seen as an interpersonal feature of discourse, which it is, but the realisation through words or actions is also a textual cohesive device. If the mutual appreciation of each other's ideas is achieved through repetition of words, for example, then their approval of each other and therefore each other's ideas is also demonstrated through proxemics, haptics and actions.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
36	L I wanna be the heart			L puts up hand	
37					O puts his arm around L's shoulders
38	O I'm the left side of the heart				
39				L puts right arm up	
40	L yes cos you're left handed				
41	O Of course I'm left handed, Left handed bloke	O and L slightly bouncing in time together		O left arm out, L right arm out	O and L arms around shoulders

In this example, O's immediate response to L's claim for the part of the heart is to align himself with L by putting his arm around his shoulders. When O claims the left side of the heart, L puts up his right arm signalling he wishes to be the right side. His

words then confirm O's role as left side of the heart and through his alliance his own role as the right side. The two boys cement their union with the bouncing lightly on the balls of their feet, arms around each other. The proximity of the boys' positions confirms their close alignment in posture as well as through language.

### 6.3 Omission

#### 6.3.1 Substitution, Ellipsis and Omission as Linguistic Concepts

In language words can be substituted by a pronoun or left out completely without any loss of meaning, ellipsis or omission (Salkie, 1995). Take the following examples

*The girl left the house. She walked straight to the nearest bus stop.*

*I'm not going to do anything I don't want to.*

In the first example 'the girl' has been substituted by the pronoun 'she'. In the second, the verb 'do' has been omitted from the end of the sentence without any detriment to meaning. That is because it is predictable from what has gone before (Gee, 1999:160).

The following are examples where part of the communicative act has either been substituted by another word in speech or another mode, or been elided altogether.

#### 6.3.2 Substitution in Narrative

##### Example 1 Action as part of narrative: climbing hay bales (1.1/21)

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
21	S Yeah. We were chucking hay bales		G looks up to S, they lock gaze		
22	G Remember	G Half rising out of seat			G leaning in
23	L sshhh	L stops him – hand on arm? Pointing at me		L points to camera	

24		G looks = stops			
25	G Remember ....	G Clicks fingers, stands up	G looks back to S	G both hands on desk in front of him	
26	L. Camera...you're on camera G****	G mimes climbing up,	G looking at S	G grin on face,	

In this example, the recount of the action they are referring to, that of climbing hay bales and then 'chucking' them is realised through G's climbing hay bales action: it tells the story without the words. The action is framed by the utterance 'Remember...'. This takes the boys to a shared experience, common ground, and the narrative is achieved through G's actions. In this case the words are substituted by the actions.

**Example 2 Gesture as part of narrative: tooth pulling 2.1/9**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
9	K No ,  my Mum got piece of string,  she got door  and she slammed it  and it came out		K looks at C J C and L look at K K looking up and way	K mimes pulling tooth. K hand flat against side of head K jerks hand from face, hand in upwards motion and open palm gesture up Then hand over mouth	



Fig. 8 T2:1 /9 Pulling the tooth.

Here K is recounting a story about her mother pulling out a tooth. Before telling her story, K performs the action of removing a tooth (see fig. 8) and it acts as an introductory frame for her story. One would have expected the word 'tooth' to be substituted by 'it' as a subsequent reference. However, on line 9 there is no previous utterance of 'tooth' to refer to but there is *an action* whereby K mimes the pulling of a tooth before the utterance. This suggests action can form an integrated, grammatical part of the interaction. That is, reference is not simply a linguistic feature but can be realised through gesture or action. The use of the pronoun 'it' is a substitution of the tooth in the enactment and not the word 'tooth'. This suggests that the narrative concerning the pulling of the tooth can be realised multimodally with significant, grammatical parts of the narrative being realised through modes of posture or gesture. The subject of the story here, the tooth, which becomes the pronoun (or referent) 'it', is introduced through an action, a visual creation of part of the narrative. In his discussion of the controversy over the relation of gesture to speech, Kendon (1996:xx) describes opposing positions in anthropology of gesture whereby gesture is either an add-on to speech, 'somehow helping the speaker to speak', or 'a distinct mode of expression with its own properties which can be brought into a co-operative relationship with spoken utterance' (1996:2). This particular example points to gesture and speech together with other embodied modes creating a narrative in a co-operative



way and to use Kendon's expression 'as two aspects of a single process' (Kendon, 1997:109).

**Example 3 Gesture clarifying omission: blood all over (2:1/15)**

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
15	C D'ya remember?		C looking at L, K looking down J looking at L	C hands move apart	
16	L Yeah				
17	C And blood were all over		K looking ahead L and J look at C C looks at L	C Touches mouth fingers splayed, across chin miming blood flow C gestures outward manner	

In this example, the end of the utterance 'And blood were all over' has been elided or omitted. However, there is room potentially for confusion. The phrase could end all over the floor, all over her dress, all over the kitchen, all over her face. As a result, C accompanies this statement with a gesture across and down from her chin, clarifying an apparently unclear omission. Now we understand 'all over her chin'. This is an example of gesture supporting an omission in language in order to clarify the meaning.



Fig.9 T2:1/17 Blood all over

**Example 4: Drawing substituting language as an integrated part of meaning-making (1:2/69)**

In the X stream life Cycle episode drawing becomes part of the conversation as S finds that drawing a diagram of the problematical part of the flower may help to clarify the exact part they need to remember the word for. S sketches a rough drawing of a flower on a stem. The unknown word is substituted by the pronoun ‘that’ and indicated by the tapping pencil.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
69	S Look!	S Grabs pencil and paper, draws	L and G look at paper	L hands together at right side of head	
70	G That’s good		G looking at drawing		
71	S ovary Stigma	S speaking as he draws		L head in hands	
72	L stigma wi’ thing on top				
73	G No the male p...				

	the male part thing				
74	S Then! That's what I'm talking about	S Points , tapping pencil on drawing			
75	L. That's fema!				
76	S Are you sure?		S looks down at drawing		

The **drawing** becomes an integral part of the boys' conversation. The act of drawing is part of the process of text construction and the boys' references to it through speech, T1:2/70 G: 'That's good!' through gaze directed at the picture T1:2/69, /70, /76 and through gesture, tapping with the pencil T1:2/ 74 confirms its integrated position within that text.

#### **6.4 Intertextual References**

In this research 'texts' are viewed as multimodal acts of meaning making and intertextuality is recognised as a multimodal feature of communication rather than a linguistic feature. In this case the focus of the multimodal act is face-to-face communication which draws upon all available semiotic resources. The various ways in which those semiotic resources have been employed in prior texts brings meaning to the construction of the new text. As Lemke describes:

Every text, the discourse of every occasion, makes its meanings against  
the background of other texts and the discourses of other occasions  
Lemke, 2004:3

The use of intertextual referencing in meaning-making is in one sense an extension of the notions of patterning and fixity and novelty. The idea is that in taking elements from another text and embedding them anew in our own text we deliberately incorporate preconceptions, connotations, assumptions and ready-formed pictures of what we are trying to communicate. Our communicative practices are a patchwork quilt of others' words, metaphors, idioms, gestures, references, and images which have been reformed to make our own idiosyncratic, individual and unique messages. This Bakhtinian view of discourse, whereby language brings the connotations of

previous usage to current discourses, is an aspect to Maybin’s investigation of intertextual language use in children’s classroom discourses: ‘..texts always consist of transformed elements of other prior texts which bring with them a taste of their previous use’ (Maybin, 2004:148). The children in this multimodal study of classroom interaction are adept users of references known to them. In these episodes we see them weaving in popular icons, generic characters, popular song as well as the images and narratives presented to them in class. The first set of examples considers linguistic intertextual reference and the second set looks at postural intertextual reference.

#### 6.4.1 Linguistic Intertextual Referencing

##### Example 1 Fangs and vampires (1:2)

The reference to fangs leads to a connection to vampires. The children clearly have an understanding of the conventions of this narrative genre. This is realised through the biting action (2:1/42), in conjunction with the words and (2:1/39) J’s noise accompanying two fingers in his mouth making a visual representation of fangs and a fearsome vampire facial expression. J connects the ideas of the teeth, the fangs, the drops of blood and the vampire and he does this through the modes of gesture, facial expression and noise but not language. His contribution to the discussion is extended and built upon by K when she says ‘I’m gonna bite yer’ and makes a biting action towards L. This is further cemented by K’s declaration ‘I’m a vampire (2:1/47) whereupon C’s expression matches the genre with a ‘damsel in distress’ squeal, an expression of mock fear and her claw-like grasping hand. For a few moments here the children have assumed genre–defined identities and expressed those identities using all available modes.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
26	C You don’t have <b>fangs</b>		C looking at L		J leans back slightly
32	K I’m not a <b>vampire</b>			K fingers in mouth	
33	L they look like <b>fangs</b>				C stretches hands out to

					K
34	K lets have a look	K Looks in C's mouth	J and L look at C and K	L touches lips	K pushes C's hands back
35	C I haven't got them				
36		K fingers in mouth C fingers in mouth L fingers in mouth			J leans in to look at K
37	K Have you got fangs? (to J)	K turns to C			
38	C I haven't				
39	J kkkkkkkkk noise	J pulls vampire face	L K C turn to look at J J looks up	J puts 2 fingers momentarily in mouth, shakes head J bares teeth J Hand below face fingers splayed	
40	L I Haven't Mine have fallen out, I think		C K J look at L	K fingers in mouth	J leans to K
41	K Oh I'm a vampire		K looking down C and L look at K		
42	K I'm gonna bite yer	K Biting action to L		K grimaces showing teeth	K bites air towards L L leans back
43	J You can have them on the top	All 3 girls playing with teeth, fingers	L and K	J puts 2 fingers in mouth pointing to	

		in mouth	look at J	teeth	
44	L Yeah you can		K looks down C L J look at K	K fingers from both hands in mouth	
45	C K*** has		C looking at K K wiggles canines		K shoulders hunched
46	K There I think		K looking down	K touches her canines	
47	K I'm a vampire ...		K, L C looking down	J fingers in mouth still	
48	C aaaarh (squeals)			C mouth open in expression of mock fear, left hand in claw like gesture.	C leans back

### Example 2 Song 2:2/13

K breaks into the song 'I believe I can Fly' (Appendix 6) spontaneously and without embarrassment. This is subverted to the parody version line 16 'I got shot by the FBI' and 'All I wanted was a bag of chips' which leads on to rude lyrics which K substitutes by humming. K and C sing effortlessly, in unison and both knowing the parodic version without rehearsal. C tries to stop K singing the rude lyrics aloud, telling her 'shurrrup' and putting her hand over K's mouth so K responds by humming that part. K has signalled her identity as the 'singer' with her hand gesture. She is presenting herself with a new identity of pop singer through her singing and visually for her peers through her use of gesture. She not only sounds like 'the singer' but she looks like one too. This example of singing in class is similar to those examined by Rampton (2006) and appears to be an instance of solo singing and humming activity designed to gain attention from peers, and in that respect it is successful. From the transcript and the film it can be seen that C, L, and J all look at K and C responds

haptically, by putting her hand over K's mouth, while her subsequent laughter and forward-leaning posture show interest rather than disapproval. K has succeeded in gaining the attention and approval of peers. She has subverted the lyrics which is an example of the mixing of words and the choice of a song has been 'sanctioned informally in friendship groups' (Rampton, 2006:121). Her choice of song is not random; she has chosen a song which she believes will be met with approval.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
11	C He go... He flies... mine	Hands outstretched arms like plane wings	L looks at C C looks at L J looks at his book		C body rocks side to side
12	C because he goes in spaceship				
13	K I believe I can fly	singing	K looking down	K hand flicks out , fingers splayed	
14	C (joins in)...can fly	singing			
15	L Oh Yeah				L leans forward
16	K and C I got shot by the FBI	singing	J looks at K K and C look at each other then	C and K smiling	K and C lean forward together
17	K All I wanted was a bag of chips	singing			

	but...				
18	C Shurrup	Girls laugh J smiling	C looks at K J looks at K L looks up , smiling		C pulls sleeve over hand and touches K's mouth
19	K mmm mmmm mmmm ...Danny	Humming tune	K looking down at book c and L and J looking at K	C puts hand in front of mouth C laughs	C leans forward

### Example 3 Batman 2:2/28

J suggests 'Batman'; by invoking this character his 'Theseus' is imbued with superhero powers and status. The notion that he 'flies' rather than 'sails' in a ship is built upon by L who suggests he doesn't have a spaceship or other 'flying vehicle' but 'flies like a bird'. This gives J the idea that Theseus is not just a classical hero of Greek Myth but is a superhero. He provides a visual image of the costume and 'bat' qualities of being able to fly. This confirms L's notion of the character flying because he has the power of flight. It gives Theseus a more popular image, with instantly recognisable attributes and draws comparisons between the stereotypical moral characterisations of myth.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
28	L Flies like a bird	L Hands out moving up and down	K and C look ahead / away from each other		
29	J Does he use a		L looks at J	C and K	J rocks



	batman costume?		, K and C away,	hand in mouth	back and forth in chair
30	L I dunno	LKC laugh	L K C look at each other		
31	J He could start flapping his wings...like that	J Waving both arms	J looking ahead then to side L head down writing C looking at book		J nod in front then to side

#### 6.4.2 Postural Intertextuality

I use the term *postural intertextuality* (Taylor, 2006) following the findings of the pilot study I conducted 3 years previously which showed ways in which children were taking meaning from one mode and re-presenting that meaning through their own embodied modes. Examples of this were the football images from photographic stills as seen in popular magazines such as ‘**Match**<sup>2</sup>’ which were then re-enacted through movement, or posture, for the benefit of peers and the humming of the ‘Match of the Day’ theme tune as a frame for their discussion of a football match. In these examples from this project the children are taking images they have seen in animated diagrams on the interactive whiteboard of the water cycle and blood circulation and embodying them in their own text. These are examples of factual information – the working of the heart, lungs, water cycle- or conceptual information – the scary smile, the effect of the piano playing- being re-presented using postural modes subsequent to the student viewing this information through visual and auditory modes on the interactive whiteboard. In Kress’s terms the prompts for the children’s postural acts of meaning making have occurred in prior, alternative texts and modes (Kress, 2010:33).

<sup>2</sup> Match magazine is a British weekly football magazine for children

At all times communication is a response to a 'prompt': a gaze might produce a spoken comment that leads to an action...that prompt has been interpreted becoming a new inward sign, and in turn leading potentially to further communicational action.

Kress, 2010:32

This reference to prior texts is not referred to through language but is communicated solely through posture as the following examples show.

**Example 1 Convection as a wiggle T3:2**

The first example is from the Water Cycle episode. The first time the wiggle appears is line 12.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
12	G These shoes are rubbing me	G Takes off shoes	G, O and S watching L		L arms out to side hands in wavy gesture L does body wiggle

This is part of L's suggested movement for the role of convection. Throughout the rest of this extract there is a **sideways** movement and a **wiggle** enacted by each and all participants. It was not until I reviewed the animated diagram representing the water cycle ([bbc.co.uk/rivers](http://bbc.co.uk/rivers) and coasts) that the purpose of these postures became apparent. The wiggle was a bodily or postural representation of the convection of air from the sea to form clouds. On the animation this was represented as a series of dashed, wavy lines rising from the sea. The sideways movement was encapsulated by the dancing sideways movement of the 'floating clouds'. It is difficult to represent the sequence of movements in the transcript or in description. Photographic stills capture a slice of the action but only in reviewing the film can the full power of these images be expressed.



Figure 10 Body Wiggle T3:2/ 40

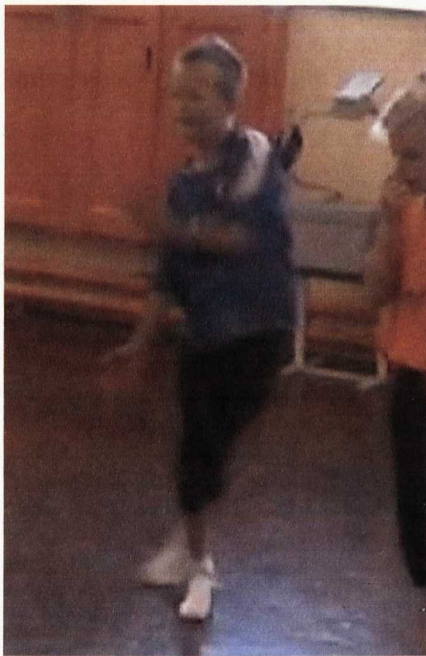


Figure 11(a) T3:2/38 sideways



Figure 11(b) T3 2/38 sideways

**Example 2 Heart valves gesture 4:2/7**

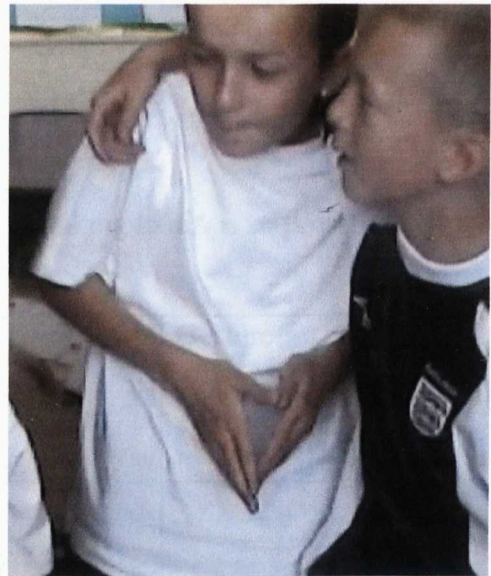
In this example the movement of the heart valves as demonstrated on the diagram on the whiteboard is re-presented through a hand gesture accompanied by noise.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
7	R What do the valves do then? What do the valves do?				
8			L eyes down , thinking		
9	L Move/ boom ...			L hands gesture valve motion	

I asked the question ‘What do the valves do?’ and yet in the moment, in the classroom I missed L’s gesture and it was not until I reviewed the tape later that night that I saw the clear representation of the movement of the heart valves that L had seen on the animated diagram of the heart.



1



2

Figure 12 (a)

Figure 12 (b)

In the first picture L can be seen putting his hands together to make the valves of the heart. In pictures 2 and 3 the valves open and in picture 4 they return to the closed position. L is mirroring the images he saw on the animated diagram on the interactive whiteboard earlier. The movement of the valves on the diagram had a pulsating

rhythm which L replicates although that is not possible to show in a photographic still. He appears to press his lips together firmly and as he opens the valves he opens his mouth. He appears to say 'boom' or 'move' (it is indistinct) either as an accompanying sound or in answer to the question – they move.

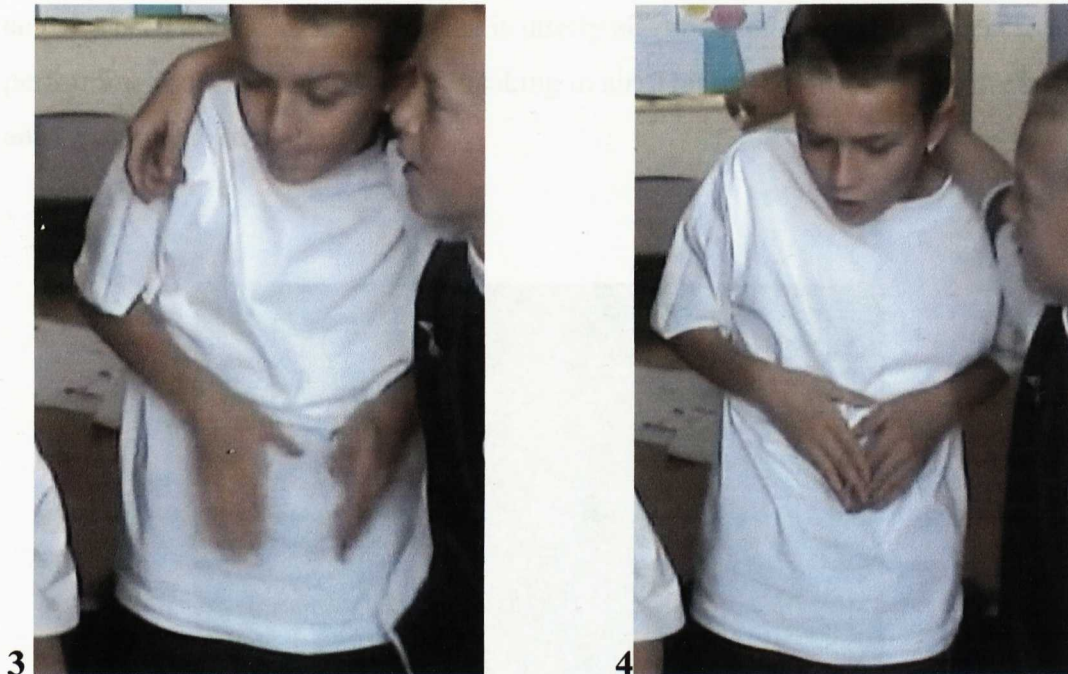


Figure 8 (c) (d) – The Heart Valves

**Example 3 The Lungs 4.3/9**

Here the movement of the lungs as they expand on taking in air, is re-presented through an action rather than words.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
7	R what are you going to do, lungs?				
8	O1 and BC laugh		O1 and BC look at each other		BC leans in to O1, then looks away
9		BC breathes in			

		exaggeratedly deeply.			
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BC demonstrates her knowledge of the function of the lungs through bodily action rather than words T4:3/ 9. As she performs this enactment she averts her gaze and actually partially closes her eyes. She is utterly absorbed for one brief moment in performing the action of the lungs in taking in air. This is demonstrated for my benefit and in answer to my question.

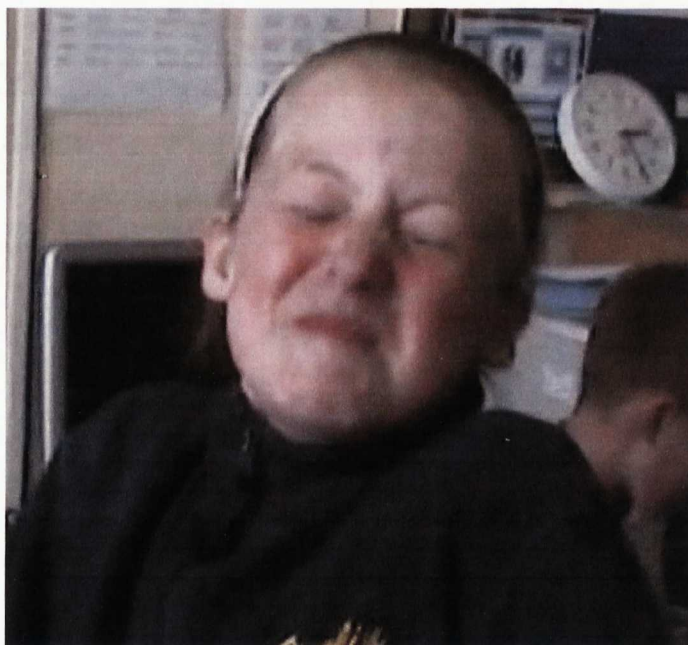


Figure 13 T4:3/9 Lungs

**Example 4 piano fingers 5:1/26**

The children have watched the animated film, *The Piano* by Aiden Chambers. The close detail of the fingers playing the keys is replicated by two of the boys in this group, firstly, JW, then L.

The interesting thing about JW's gesture is the way that L mirrors this not just during this lesson but also during subsequent lessons later in the week. The seemingly subconscious positioning of the hands and fingers on the edge of the table signifies meaning both to the co-participants but also for the person making the gesture.

Line	Speech/vocalisations	Actions	Gaze	Gesture / facial expression	Posture, proxemics, haptics
26	JW Realistic ...ummm		G looking at whiteboard	JW Piano fingers splayed on table	
27	JW Realistic movements		JW looking at JC throughout exchange	JW fingers of both hands 'play piano'	
28	G NOOO Three...fings		G looking ahead (at L?)	G waving right hand up and down , JW stretches piano fingers across table towards JC and L	G bobs forward in chair
29	G Who shot him? L Who's the boy?		G looks down	L waving hand at whiteboard	
30	JW Realistic movements ..on the track...		G looks at JC writing on post -it	JW still piano fingers in front on table	G puts head in hands , elbows on table
31	L who's the boy? JW ...err on the piano				G fiddles with something

					on table
32 14.22	JW Yeah ...cos You know when he's playing the piano L who's the boy?		JW looking at JC , G looking up, G glances at whiteboard		G puts his head in his hands , elbows on table
33	JW He's got his fingers Right on the right keys		JW still looking at JC		JW leans back , briefly stretches out hands then and folds arms
34	JW They're <i>not higher up or owt.</i>		L looks at JC		G and L both elbows on table chin in palms
35	JC Yes I know		L looks down		
36	JC I'm gonna come to that in a second		JC glances at R		
37	L Who's the boy? JC animation ...realistic ..sticking to table	JC lifts post -it	G picks up post =-it, and looks at it L looking ahead	L hands in piano fingers on edge of the table	L rocking back and forth

The piano fingers JW (5:1/ 26, 27, 28, 30) embellish the suggestion that the animation of the hands playing the piano is very realistic. JW's gesture is accompanying his words making them more powerful. L mirrors JW's actions subconsciously (5:1/ 37, 43) and in fact throughout the rest of the lesson his hands continuously and repeatedly



adopt a piano pose. In reviewing footage of other lessons on The Piano he does this there as well.

### Example 5 Scary Smile

This is from the same lesson on the animated film, The Piano. The animation the children have watched has eerie or mysterious qualities in the music and the graphic design which signals to the children the genre of **mystery**. They have been asked to consider amongst other aspects, what questions they have so they know that there are supposed to be unanswered questions raised by the narrative. From this cue they have supplied vocabulary which may be appropriate- ghost, weird guy, old man, scary smile, - and fits with the generic notion of ‘mystery’.

16	G Who shot the weird guy?		L looks at JC JC looks at G	G hands stretched in front across table	
17	JC Scary smile That's Scary smile	JC takes up pencil JC writes on post-it	L looks down		L leans back in chair
18	JC Freaky ...yeah	JC pulls off post -it	L looking at post it L glances at JC	JC grimaces a 'scary smile' JC puts right index finger in corner of mouth to stretch smile wider	JC flicks head up to right
19	JC He's got plastic surgery on him				

JC embellishes his offering of ‘scary smile’ and ‘freaky’ 5:2/17 and 18 by grimacing a scary smile and stretching his mouth with his fingers to make this even more scary;

in this way he is 're-presenting' the visual image he has seen in the animated film. He is taking the image from one text and re-presenting this through his bodily action in his own text which could be an example of *postural intertextuality*.



Figure 14 (a) T5:2/18 Scary smile

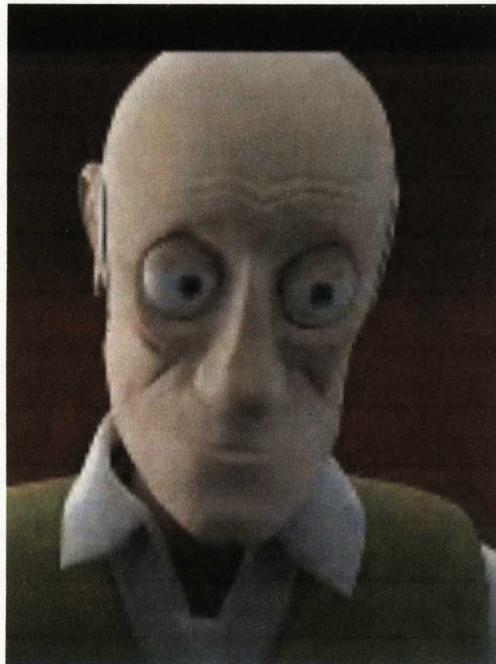


Figure 14 (b) still from the film

The concept of *postural intertextuality* which has emerged as a significant feature of children's face-to-face-interaction develops the notion of intertextuality noted in previous linguistic analysis of children's meaning-making (Maybin, 1994:148). It is an indication that features arising from linguistic analysis could in fact be a feature of communication rather than simply language.

In summary, the semiotic resource of language has been subject to investigation and analysis throughout history and particularly in the last hundred years. As a communicative mode speech has been particularly closely examined since the arrival of audio recording equipment. Halliday's functional perspective on language and his view of it as one of a number of semiotic resources opens up the possibility of 'grammars' or systems of meaning making operating in modes other than language such as music, colour and visual images (Kress and Van Leeuwen, 1996, 2002, 2006). This analysis presents some evidence to support the notion that grammatical aspects of cohesion noted in speech, namely repetition, omission and intertextual referencing, can be seen or heard operating in other communicative modes.

## 6.5 Identification of Key Textual Features: Coherence

### 6.5.1 Culture and Situation

The previous sections have examined the micro-analyses of cohesive features of the texts created by the children. This section considers coherence and the macro concerns of culture and situation and examines the episodes used to discover more of the meaning-making taking place in these specific situations.

The local, or situated meanings (Gee and Green, 1998) achieved by the children in the episodes in this study are located in Hallidayan terms within a context of culture and a context of situation or, according to Gee and Green, situated meanings and cultural models (1998: 121). The distinction which is useful to this analysis is between the immediate impact of the *situation* upon the meaning in any communicative act, and that includes prior knowledge which is brought to bear or informs that situation, and the impact of the *culture* within which the communicative act is located. Gee and Green (1998) use the example of coffee to illuminate the difference. In cultural terms, coffee has evolved from the unexciting grey instant Bird's Mellow beverage of my youth to an aspect of social life with the advent of the coffee shop chain such as Starbucks, the takeaway latte and accompanying eco-discourses about waste, globalised economics and intensive farming. Culture is continually evolving and synthesizing new ideas and concepts. In the immediate context of situation the semantics of 'would you like to go for a coffee?' can be quite different offered by a friend one afternoon in town, compared to 'would you like to come in for a coffee?' late at night in a taxi cab on the way home from a night out. Gee and Green point out that:

...situated meanings do not simply reside in individual minds; very often they are negotiated between people and through social interaction.

Gee and Green, 1998: 123

In terms of this study, the cultural models within which the interactions take place share features in common with most city primary schools in early 21<sup>st</sup> century Britain. The relationships between pupils, teachers and teaching assistants and the curricular parameters within which they operate, on some levels, are no different to any other year five class in a state primary school. The experiences of the pupils, parents and staff at the school as well as the influences upon policy and practice of the local Authority contribute to their understanding of the cultural model that is *education in a*

*primary school* and inform their personal cultural repertoires. Just as situated meanings are socially constructed, cultural models are achieved by groups working in collaboration with one another. 'Cultural models ... are distributed across the different sorts of 'expertise' and viewpoints found in a group' (Gee and Green, 1998: 123). The teaching culture has been informed by the National Curriculum and National Primary Strategies which itself will evolve in 2009 with the advent of a more integrated curriculum into a different model.

The situated meanings achieved in the episodes in this study rely upon the cohesive practices examined in the preceding sections and also upon the coherence offered by macro-structures of the cultural models in education discourses and generic features absorbed into the children's communicative practices. The following section will examine some of the examples of the children's use of generic patterns and invoked voices and consider how they are manipulating these features.

### **6.5.2 Genre: Examples of Genre Switching, Genre Mixing and Invoking Voices**

Understandings of speech genres are considered in more detail in the literature review (Chapter 2: 1:1). The view of generic features proposed here follows the same constructivist theoretical position as the view of language and communication expressed in this thesis. That is to say that in the same way that children can manipulate many ways of expressing themselves using the tool of language, and use 'schooled' language, popular culture language, Sheffield language and family language, they also use gestures and postures from different contexts. The children here manipulate known genres in the expression of their own identity. They express their identities using every communicative resource available to them and in the same way that language may be viewed as something not fixed but fluid and ever changing, then so can their expression of their identity. Characteristics of identity have been described as 'multiple, historically situated, negotiable, and changing over the lifespan' (Ivanic, 1998:19) which is congruent with the position of this thesis in terms of communicative practice.

Van Leeuwen is clear that as with all aspects to communication, genre is realised multimodally. He sees genres as 'semiotic resources, templates for doing communicative things' (2005:129). He cites as evidence of this Hasan's (1979) study of service encounters and the genre of a transaction in a shop being realised through

spoken discourser, and compares this with the multimodal experience of shopping in a modern supermarket where the stages identified by Hasan of initiation, request, inquiry and purchase occur through visual, sensory and haptical modes. The produce is visually inspected and handled silently. Speech is a less prominent mode of communication of this genre, within this context. Genres are not static and do not operate in isolation. They exist in social contexts which shape them as the example above illustrates.

Furthermore, genres can be seen as fluid, evolving and operating in conjunction with one another; as Fairclough reminds us:

A particular text or interaction is not 'in' a particular genre – it is likely to involve a combination of different genres.

Fairclough, 2003:66

The term genre here is used following Fairclough's discussion of the difficulty of different levels of abstraction in the use of the term (2003: 68). For example *narrative* can be a genre but that does not account for the different types of narrative such as spontaneous recounts in conversation, stories in the media, fiction and so on.

Fairclough (2003:68) makes the point that there are levels of genre according to the instances in which they are used. The more generality about the use of the term the less closely aligned to instantiations of that particular genre the term may be. It is for this reason that Fairclough proposes *pre-genres* which can be an overarching use such as *narrative* which does not tie it to any particular situation; then *disembedded genres* which are not aligned to specific instantiations but which are more closely defined than pre-genres, hence *report*, which could be a narrative but is not tied to a specific situation. In this case I use Fairclough's terminology and refer to the embedded form of genre which is closely aligned to the social context in which it is found. Fairclough (2003:69) terms this *situated genre*. In this way the situated genre of the children's interaction would be *informal spontaneous children's conversation*. Within these instantiations the children draw upon disembedded genres in their meaning-making. Particular disembedded genres are realised through a number of modes, in some cases through pre-patterning. However one cannot assume a simple relationship between situated genres and actual instantiations of interaction or social activity (Fairclough 2003:69) for 'particular texts may be innovative in terms of genre – they may mix different genres in novel ways'. This is certainly an aspect of the

children’s discourse here as the children can be seen mixing elements of different genres within their conversation.

Table 14: Levels of Abstraction in Genre (following Fairclough 2003)

<b>Level of abstraction</b>	<b>Genre type</b>	<b>Example</b>
Abstract	Pre-genre	Narrative
General application	Disembedded genre	A personal recollection
Specific instance	Situated genre	Informal spontaneous children’s conversation
Closely tied to situation	Actual register, lexis, posture , gesture used	Generic elements combined to form a conversation text

In addition to borrowing from different generic qualities to make meaning, the children can be seen switching between genres as described by Maybin (2006:34) which she terms ‘frame switching’ following Goffman (1974), to differentiate between the micro –levels of exchanges within an interaction (frames) as opposed to the overall generic quality of the whole interaction (a conversation).

Within this data the children are seen to borrow from and manipulate features from many genres and that includes the invocation or taking on of another’s voice or identity. Some are the schooled voices that Maybin (2006) writes of, some genres are imposed, some suggested and some chosen by the children. For example, the quizmaster role assumed by S in the X-stream life-Cycle episode was suggested by the teacher’s opening talk in preparation for the activity. Some genres are drawn into the children’s communicative practices peripherally and perhaps even subconsciously and are integral to the child’s perception of themselves, such as O as a footballer. This conception of himself seems to pervade his every move and has done at least since the pilot study was conducted with this group 3 years previously. Some genres are fleeting but drawn upon by the child of their own volition (or, given the political implications of that, at least arising from their own circumstances) such as J as the comedian (T2) entertaining the others in his group with his antics, such as making noises (2:1/39) and nick names with a dancing action (2.2/5) when he says ‘She

comes in behind King Yappy'. In some cases these identities form part of the 'background' level of communicative activity or following Goffman (1959), the subordinate or side activity rather than the foreground or dominant. This suggests that much of meaning-making surrounding identity can be conveyed through gestures or postures associated with particular genres as part of the periphery of communicative acts.

I offer five examples from the data of children either mixing or switching between genre patterns or frames and taking on identities and invoking voices of others using a number of semiotic resources in their informal spontaneous classroom conversation.

### **Example 1. Mixing football with school geography (episode 3)**

This example from the Water Cycle episode see a mixing of the school geography language and concepts such as precipitation (3.2/11) and condensation (3.2/17) realised through all embodied modes and the boys' own narratives and immediate concerns, such as the intrusion of a woodlouse into their space in the school hall (3.1/25) shoes hurting (3.2/12) and dust on their trousers (3.2/9). A further discourse is being realised through actions and postures by O, that of the footballer. In a separate but contemporaneous text constructed by this child, a series of moves signals a story of O as footballer, an identity of enduring importance seen over a number of years from the first research project conducted with this class in 2005 (Taylor, 2006). O simultaneously provides the actions of a cloud moving sideways across the hall whilst also projecting his footballer story. This is an example of a discourse present in this extract which is embodied but never spoken, that is O's constant football references. O reveals part of his own view of his identity as the football player of the group although at no point is this part of the discussion or acknowledged or responded to by any of the others. T3:2/14 he kicks his trainers lightly as he takes them off, (see fig. 11), T3:2/15 he steps back and then forward, followed by an air kick, T3:2/28, toeing his trainers on the floor, his posture T3:2/41, hands on hips, left foot resting on a trainer, T3:2/45 he taps his trainer with his foot, and in T3:2/50 he makes a kicking gesture towards S which looks as if it is done in anger. (There's something about the body language between S and O that makes me think they do not like each other very much. (See Table 1: Standoff). O is saying something about who he is constantly throughout this extract except that it is never spoken. I consider this to be an example of Norris' (2004) **background activity** as it is not part of the main discourse but is

nevertheless an integral part of it. At the same time that this personal narrative is being played out by O, he is also engaged in the construction of the 'school' text, the enactment of The Water Cycle.



Figure 15: T3:2/ 14: The Footballer

### **Example 2: Mixing Television quiz show, personal narratives and school biology (episode 1)**

In the first episode three boys are revising what they know about Life Cycles in preparation for a game of 'Who wants to be a Millionaire?' with the whole class. They have been given a number of question cards to use as prompts and to test their knowledge with. One boy, S, assumes the role of question master and he has the cards although he frequently passes them to G and L to read for themselves. In reading out the questions S is voicing scripted formal written language with a scientific lexis most of which the boys are familiar with. In their discussions and narrative recounts the boys use their own informal dialectical speech. However, there is a constant crossover with the words supplied by the question cards and their own vocabulary such as (T1:2/16) when L says 'when the dandelion gets hit by wind it just goes poosh'. In this example L does not have the scientific word 'disperse' but his use of 'poosh' shows he understands the concept. In some places they have become 'owners' rather than 'renters' of the scientific terms they use for example (T 1:2 /49) S says 'digest', (T1:2/73) G says 'The male part....', (T1:2/82) G says in the middle of telling a personal story that a bee 'was collecting pollen'. This is an example of Bakhtin's (1999) ideas on children learning to communicate in different speech genres as a way



of learning language itself. It is also an example of a child ‘learning’ – that is, a concept not just a word. Commenting on Halliday’s (1974) proposals regarding language acquisition, Hasan (1996:26) goes as far as saying that children learn about the world and learn the language they need through casual conversations:

It seems then that the paradigm environment both for learning language and for learning through language, for the child, is the environment of casual conversation.

Hasan, 1996:26

These children appear to be incorporating scientific lexis and concepts into their casual conversation. They amuse themselves as they move between two speech genres in one sentence (T1:1/45 below).

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
40	S How are the seeds in a strawberry dispersed?				
41	S Um...animals				
42	L. what?	L. Looking at card	G looking at fingers		
43	S How are the seeds on a strawberry				
44	L. Oh yeah cos animals eat them				
45	S...spreading of seeds from the hairy plants				
46	L Hairy plant!	L laughs			

(T1:1/45) S combines scientific or technical language, ‘spreading of seeds’, with more colloquial ‘hairy plants’ which amuses L. Furthermore, S moves between the formal 1<sup>st</sup> person plural ‘we’ of the questioner as in ‘what do we call the joining of the pollen and the bee?’ (T1:1/28) and ‘we’ referring to the friendship group of the three of them in ‘we were chucking hay bales’ (T1:1/21). All three boys are operating two simultaneous speech genres, one formal scientific schooled speech genre, the other

their own informal speech genre used for the narrative recounts such as when (T1:1/18) S says ‘I go to a farm, me’ and for supplying information and making suggestions of possible answers (T1:1/2) as when L says ‘oh them sticky fingers’. The quizmaster, S, also invokes his role with his control of the cards and possession of them, only releasing them to L to put into separate piles for ones they know and ones they don’t when there has been discussion of them. He is sitting on one side of the table with the other two opposite him which physically positions him in his role. At each turn L and G wait for S to read out the question; they do not challenge his identity although L asks to read the card twice.

Maybin (2006:45) talks of the linear structures in teacher talk, built up over weeks and terms. In a similar way the structure of the quiz has a formulaic, linear structure consisting of question and answer familiar to the boys. As they answer the questions they digress from the point of the question inserting their own stories and reference points T 1:1 /10 such as G saying ‘My auntie’s got a mouse’.

**Example 3: Invoking the school teacher voice in a literacy lesson (Episode 5)**

JC employs the tone, lexis and corresponding authority of the teacher as part of his talk with the group of four boys working on the animated story, The Piano.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
6	JC NO You can’t just put ‘weird’ on it. Come on You have to write more description than that	L writing	L looks at JC JC glances at G then looks at L  JC glances at R	JC emphasises with downward motion with right hand twice	L leans back Then leans forward

8	JC ( <i>indistinct</i> ) <i>Well she might be</i>	L tears off post it and	G leans left to look at		JC pats L on back
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	<i>angry as well</i> You can have a pat on the back	gently chucks post- it pad and pencil towards G	JC	L points	L arms folded, leans away from JC
9	L Thank you J****(sotto voce)			L grins	

35	JC Yes I know		L looks down		
36	JC I'm gonna come to that in a second		JC glances at R		

JC takes hold of the post-its and assumes the role of convenor and scribe. He pats L on the back and praises him. His teacherly voice has given him the confidence or authority to take on a more controlling role within the group. His use of voice with the stretching of 'Come on' (5:1/6) gives emphasis to his words, as described by Kress (2010:80). His pronouncement '*I'm gonna come to that*' exudes considered action; he will not be hurried by the urgency of JW's ideas. The encouraging, praising, censoring, pronouncing functions of his utterances are accompanied by actions of patting and impatient gesture (5.1/6) and all could be considered pre-patterned meaning-making.

**Example 4: Personal narratives and the gothic genre in a literacy lesson (Episode 2)**

The personal tooth narratives multimodally realised through tooth-touching gestures, postures, facial expression and speech in the Theseus Story episode contrast with the genre of vampire stories and the elements of gothic genre incorporated into this situated genre of informal classroom discourse. The children switch between the narrative elements of characterisation and setting which is the set task, their own personal recounts of tooth pulling experiences and elements of external or disembedded genres, the gothic genre and the superhero genre, drawn into their conversation. These are not separately dealt with but are integrated and the Batman allusion becomes worked into the set task as it is suggested by L that the hero of their re-worked Greek myth can fly under the space-ship.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
37	J What does he do? When he's tired... take some steroids and throws around space		L and K look at J J looks down	J hand taps table  J hand to mouth J shakes head slightly, eyes side to side	K and L lean back slightly
38	L Yeah and drop...yeah...yeah			L nods twice	
39	L Flies under the space ship which is the island			L sitting upright , looking down at book, hands up in front of her, alert	

**Example 5: School biology and assigning roles. (Episode 4)**

In the Blood Circulation episode the interactions are about the circulation of the blood and associated lexis which the children have learnt, mixed in with their own concerns with organising who should take on which role. The situated genre of role-playing the circulation of the blood, a school biology discourse, is mixed with the children's organising, assigning and claiming of roles and their manifestations of personal information, friendship allegiances and preferences. This results in some unusual utterances, which without the contextual information about the situation and a multimodal perspective on what is being communicated, could be misunderstood or even inexplicable.

Line	Speech/vocalisation	Actions	Gaze	Gesture, facial expression	Posture, proxemics, haptics
4	O Oh yeah, who are the valves			BP with hand in the air	
5	O you're a blood cell			L pointing at OI	
6	OI He's a blood cell			OI pointing at BP	

15	BP I wanna be it Me valves	BP makes gate shape with lower arms and hands		BP victory arms BP patting top of own head	
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From the second extract the utterances such as 4:2/15 BP saying 'Me valves' or 4:2/6 OI saying 'He's a blood cell' would need contextualisation in order to be understood.

### 6.5.3 Situation: the world outside the classroom

In much of the children's classroom 'talk' experiences from the wider world are brought in to facilitate their understanding of new concepts or embedding of familiar concepts within their world. JW's gesture of piano playing and his observation of the piano player's fingers being on the right keys (5.1/33) is an example of him bringing his knowledge to the table using language and gesture. From episode 1, the talk of animals eating barley leads to the 'farm at the end of the road' and the shared experience of climbing the hay bales is realised through gaze, language and bodily actions. The discussion of bees pollinating plants from the same episode leads to G's recount of the time when he got stung by a bee which was 'collecting pollen from a plant' because he poked it (1.2/82) and L's auntie who was stung when she stood on a wasp. As G recounts the moment to the other boys he points his finger at 'the bee' staring ahead in the manner which Sidnell (2006:400) described for moments of

moving from describing what happened to a recreation of an actual moment, such as poking the bee (in figure 12). The coordination of gaze, gesture and language all realise the experiential moment for the other boys in the group.

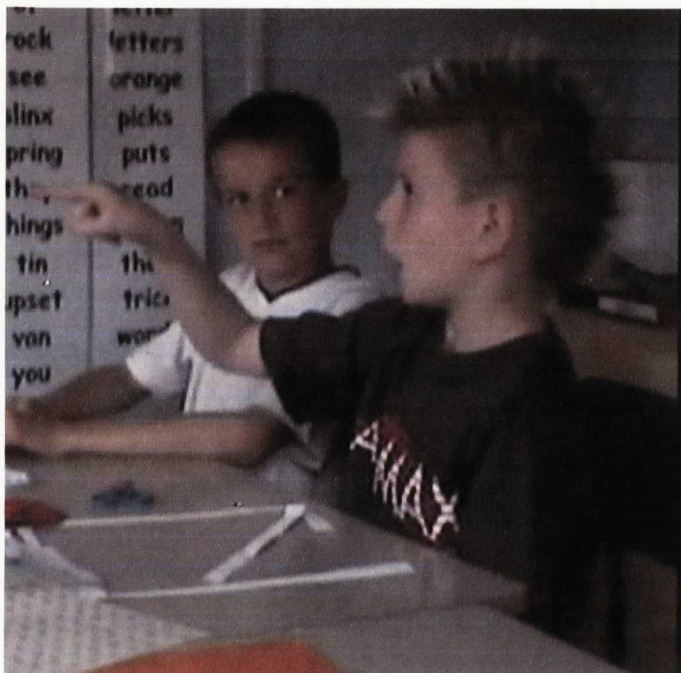


Figure 16 (T.1.2/82) G says 'I went to poke it'.

## 6.6 Concluding Remarks

The analysis of data in this section has set out to examine the ways in which children are communicating with one another during classroom activities. It is overtly concerned with attending to children's use of all semiotic resources available to them in any one instance. The framework devised to examine these semiotic resources has its foundations in the social semiotic approach to language and a view of communication as socially constructed and collaboratively achieved. The approach to analysis has also been informed by Vygotskian (1986) and Bakhtinian (1981) perspectives in common with Maybin's (2006) research into children's social talk. Its attempt to encompass all semiotic resources as much as possible signals a departure from audio tape recorded instances of interaction and a move towards embracing and understanding the perspectives that video recorded data can offer the educational researcher. A summary of the main findings of this analysis forms the first part of the next chapter of this thesis.

## **Chapter 7: Conclusions, Reflections and Future Possibilities**

### **7.1 Introduction**

In this chapter I revisit the research process and my own personal journey, summarise the key findings of this project and consider the implications of the research. In reflecting upon the research process I review the aims of the research, the questions I set out with and the literature drawn upon, the methodological approach and the development of each of the above in terms of my own learning experience. The implications for pedagogy and for future research in this area are presented and recommendations made. To conclude I give my final thoughts on this research project, although not my final thoughts on this subject as this is an area for development with potential for wider study which I wish to pursue.

Upon reflection on the whole process, I find that in conducting this research I have realised two main achievements: the first would be the production of the research thesis and the analysis and findings therein comprising new perspectives on children's face-to-face spontaneous interaction in class. The second would be my personal development as academic and education researcher. By investigating in depth views on language, meaning-making and understanding, I now feel more secure in my own ontological position. Key notions arising from this project for me are 'intersubjectivity', the social construction of what we call knowledge and the place of historically located Discourses within which we all operate (with the example of my thesis as a product of my education and experiences at a particular point in time with a generic form associated with early 21<sup>st</sup> century conventions of academic writing). In this concluding chapter I am aware of these concepts at work in the presentation of what I term my findings and my reflective views on the research which has been undertaken.

#### **7.1.1 The Research Process**

This research project requires a reflexive consideration of what has been achieved in terms of both what has been discovered and my own understanding of that and development as an educational researcher. The research has been conducted for the purposes of presenting a PhD thesis. This involves an in-depth study of an area of

interest to the field of Education and a process of becoming a researcher capable of conducting investigation of value to the field.

In chapter 2, I outlined a social constructionist ontology underpinning this research design. Simply put, this project has devised a framework for examining child-to-child interaction in educational settings. Based on theoretical literature from the fields of applied linguistics, anthropology and ethnography, a framework using a social semiotic, or multimodal, theory of communication has been developed. The data is that of spontaneous interaction between children working on set tasks in educational settings. The children are simply communicating or making meaning with one another. We can identify modes used, interpret the modal density of an interaction and extrapolate meanings made, but this is only useful if we acknowledge this to be our way of compartmentalising what we see so that we can understand it better.

Multimodal analysis is a 'tool' for understanding better the phenomena taking place. It does not give us 'the whole picture' or tell us 'the whole truth'. Rather it is a way of trying to fathom the myriad ways of interacting, in this case between children in a classroom. The understandings gleaned are an interpretation, and here, my interpretation of what is taking place. This research therefore does not make any claims to offer a definitive understanding of 'how children communicate' but it does offer insights into how these children make meaning as revealed through multimodal analysis.

### **7.1.2 Revisiting the Research Questions**

I now turn to the questions behind this investigation. These are focussed on two main areas of classroom communication and education research methodology.

My questions to do with classroom communication are -

- What do modes other than language contribute to the communicative process?
- Is there evidence that children can construct and present knowledge and understanding through multiple modes?
- What kind of additional information can multimodal analysis offer our understanding of creativity in children's communicative practices?



And to do with research methodology are -

- How can multimodal analysis be best used to inform study of classroom communication?
- To what degree do educational researchers need to take account of extra-linguistic contextual factors?
- How best should researchers decide what modes and aspects of modes to include in multimodal analysis of children's classroom communication?

I begin with reviewing the questions to do with methodology. First of all, multimodal analysis requires attention to **all** modes of communication employed in any given situation so any social research involving analysis of interactions between participants would be enriched by attending to all modes rather than focussing on language. In the classroom much of what is being communicated is through the visual modes or auditory modes of speech, diagrams, embodied exposition or exemplification of ideas, digital images or sounds but this is not the whole story as the dress of teachers or pupils, the layout and design of the classroom environment, the organisation of the school day all contribute to the meaning-making taking place. (Kress et al, 2005).

Under these circumstances analysis based purely on language use as a primary mode of communication will miss much of what is taking place (Taylor, 2006). The framework for analysis needs to be flexible and adaptable and not rigid or prescriptive allowing for the specifics of the circumstances to be put under the lens.

The second question which I set out with would now need to be revised as it makes assumptions about the foregrounding of language as a dominant mode and the inclusion of other modes as 'extra-linguistic contextual factors'. The position of this researcher now, which arises from having conducted this study, is that modes other than language are not simply additional contextual information, but part of an enmeshed nexus of many modes used in conjunction with one another for the purpose of making meaning. All modes are potentially available for making meaning, within the restraints of our social world. The mode selected by the communicator is the one judged to be the most apt and expedient at that moment in time. At the same time other meanings are simultaneously being realised around the communicator which are part of the meaning-making but beyond their control. In educational settings, these could be the wider institutional discourses and ways of communicating, such as the confines of a syllabus or for example, a bell signalling the end of lessons as a pupil speaks. Our social lives, the histories of our social practices and our social interaction

are inextricably intertwined (Jewitt, 2009; Coupland, 2007). Coupland (2007:86) uses the metaphor of freedom to select clothes to wear from a closet to explain the way in which our words, and in fact our wider multimodal meaning-making, are to some extent predetermined by social and cultural contexts. This view of pre-conditioning, which limits a 'real' choice about how we communicate, and the effects of our social world in shaping our choices in meaning-making, can be applied to all modes and not restricted to language. The key point is that modes other than speech are not 'extra linguistic contextual factors' but all modes are part of the communicative process and I have to concur with Goodwin's dismissive view of 'lumping everything together that isn't language into the category 'context' (Goodwin, 2000) as being inadequate. The researcher therefore needs to be sensitive to the selection of modes made by the communicator and to the affordances of modalities available in any given circumstances. In episode 1 where the boys are struggling to name a particular part of the plant S picks up a pen, draws an image of a plant on paper and points vigorously at the particular part saying 'then, that's what I'm talking about'. The moment seemed so familiar to me as in my life in innumerable situations I have witnessed pupils, friends or family members seek recourse to pen and paper when words were not sufficient and in fact have done so myself. (I cannot give directions verbally but can draw an excellent map). The drawing in these situations is more than additional contextual information, it is the act of meaning-making itself.

Review of this question then, advises that the researcher needs to take account of all modes according to the degree to which they are employed. Problems may arise where a researcher is not sensitive to the employment of modes other than language, regarding this information as 'additional contextual factors' and resulting in a restricted view of what is taking place being investigated.

This review also applies to question three regarding what to include in multimodal analysis. An understanding of the ways modes operate in a synthesized and simultaneous fashion, with some foregrounded, and some backgrounded, some instances of communication modally dense and others with clearly dominant modes, needs to be integrated into the analytical process.

Personally, I found that turning off the sound in order to focus on posture, gesture, facial expression, gaze and actions to be the most effective approach. Whilst I

attempted to include all that appeared on multiple viewings to be noteworthy in terms of communication, inevitably observation can reveal only a partial picture. Further systematic observation may continue to reveal features of children's multimodal meaning-making. It was from close reading of the transcript that cohered series of actions such as the 'standoff' scenario in episode 2 and fleeting gestures such as pulling a tooth or the singer gesture (fig 7) in the Theseus Story episode came to the fore. The heart valves gesture and the lungs exemplification from the Blood Circulation episode would otherwise have been missed. The repetition Tannen (1989) identified in our speech patterns was witnessed in movements such as the piano fingers gesture.

The question of how best to determine which modes to include will largely depend upon what it is the researcher is investigating. As my questions were to do with the nature of pupil to pupil talk, then my focus was with the immediacy of spoken interaction and my interest lay in examining the minutiae of spontaneous interaction through the lens of multimodal analysis. Other education researchers may have a focus on school information technology policy, design of classroom materials, teachers' use of whiteboards or children's playground rhymes and the modes included in the analysis may be adjusted accordingly. The principles behind the framework, of using Hallidayan concepts of Ideational, Interpersonal and Textual aspects to meaning-making, can be applied. The principle of considering what is being communicated (Ideational), how it is being communicated (Textual) and between whom it is being communicated (Interpersonal) can be transposed to **any** given situation and can be used to examine **any** communicative mode.

Having revisited the questions concerning the methodology, I now turn to the questions about classroom communication. The key findings in this area follow in the next section. Here I wish to review the questions themselves and my thoughts on them now. The first question feels as if it is making the same assumptions about the primary importance of language by 'othering' the non – linguistic modes. My position here is in line with Sidnell's (2006) views on modes as being integrated within acts of communication and Jewitt's (2009) views of all modes contributing to an act of meaning-making, to a greater or lesser extent. Whilst a mode may be very important at one point, at different times different modes can be important. Given my previous

comments about our location within social lives and social histories, all communication is an apt use of modes as deemed appropriate and expedient by the meaning maker at that instant. Some meaning-making is more crafted, complex and sophisticated given time for consideration and deliberation. This doctoral thesis is a moot point being the result of three years semiotic work. Spontaneous interaction is uncrafted, fluid and responsive and the use of modes needs to be considered in that light. Modes other than language contribute to all aspects of children's communication as can be seen from the key findings in the next section, but to separate them out from language is not necessarily helpful to the analytical process. Question 2 is closer to the epistemological concerns at the heart of the project and the terminology, multiple modes, better reflects the position of the researcher. The key findings set out the ways in which children use all modes to construct and present knowledge and understanding.

Similarly the wording 'additional information' in the third question presents us with oppositional conceptualisation of speech on the one hand and other modes on the other, with non-linguistic modes subjugated to providing additional information. The key findings show that creativity, following Carter's (2004:13) conceptualisation of the term as 'an exceptional property of all people', is expressed through all semiotic resources. There are many examples in the data of creative language use in spontaneous interaction. There are also examples of creativity realised through other modes. Creativity is not restricted to the mode of language in any realm of society and therefore it would be restrictive to consider children's creativity solely in terms of their language use. In arguing for an integrated view of the ways in which modes operate it would be similarly restrictive to focus on any one mode in examining children's creativity. A project looking at children's creation of digital texts or model-making, for example, would similarly need to be multimodal.

It is only by following through the process of designing and conducting this research and reflecting upon it that I am now able to fine-tune my position regarding the integrated nature of multimodal meaning-making. My position now is that it is not about 'what modes other than language contribute' but it is about the ways in which all modes work in conjunction with one another in meaning-making. Multimodal

analysis does not offer ‘additional information’; rather, it incorporates all modes within an analytical process based on semiotic theories of communication.

## 7.2 Key Findings

I do not wish to give the impression that this is an exhaustive study or that everything that can be said about this data is included here for the data are rich indeed. However from the analysis that has been undertaken it is possible to draw out nine key findings which I present here and discuss below.

- Children’s text construction in spontaneous interaction is multimodal in nature
- Modes work together in an integrated and co-ordinated way
- Interpersonal relationships and identity can be signified through pre-patterning in all modes
- Knowledge can be conveyed through modes other than language
- Creativity can be a collaborative act and achieved through the use of all available semiotic resources
- Children re-present experiences from the wider world using multiple modes in their understanding of classroom texts and tasks
- The work of re-presenting information from a text can be conducted using alternative modes of meaning-making
- Genre switching and genre mixing noted in children’s language is evident through their use of other modes of meaning-making.
- Intertextual referencing, noted in children’s use of language is integral to their meaning-making and realised through posture and gesture (postural intertextuality)

**Firstly, children’s text construction in spontaneous interaction is multimodal in nature.**

In this instance I am using the concept of *text as a process* rather than product following Iedema’s realisation of text as ‘a semiotic manifestation of material social process’ (Iedema: 2001:187). Using this understanding of text it is possible to observe

the many modes that children use in their text construction. The children in this study are using all semiotic resources available to them, be that embodied modes such as speech, posture, gaze or disembodied modes such as drawing or writing. To support this finding I have selected five examples with the proviso that these are not the only examples but demonstrate the range of modalities employed in these episodes.

The first two examples come from the Theseus Story episode where four children are working on their own re-workings of the Theseus and the Minotaur Greek myth to be written in a science fiction genre. The children have started talking about ‘wobbly teeth’ and pulling teeth out. As K starts her narrative recount of an occasion when her mother pulled out a tooth, she gestures the action of pulling a tooth prior to the explication. This acts as an introductory frame for her recount and supplies the noun phrase for which she subsequently substitutes the pronoun ‘it’. Rather than explaining in words the story she is about to tell, K uses a **gesture** to signal the opening to the story to her peers.

From the same episode a second example is C’s use of a **gesture** to accompany and clarify her elision of some detail in her description of ‘blood all over’: she does not explain all over the floor or her clothes or her face, instead she gestures the blood all over her chin. Her gesture is dramatic and powerfully descriptive. In both these examples gestures have been used to convey meaning as part of narrative text construction.

The next two examples are taken from the first episode where three boys are asking and answering science questions as part of revising life cycles which I have titled X-Stream Life Cycles. In the third example, S uses pen and paper to draw the part of a flower he is referring to. The **drawing** becomes an integral part of the boys’ conversation. The act of drawing is part of the process of text construction and the boys’ references to it through speech, T1:2/70 G That’s good!, through gaze directed at the picture T1:2/69, /70, /76 and through gesture, tapping with the pencil T1:2/ 74 confirms its integrated position within that text.

From the same episode is an example of **action** carrying part of the narrative about the farm near S’s house. In describing the farm G and S share a memory with L of ‘chucking hay bales’ and G supplies more detail about the recounted story by miming

climbing hay bales. He rises from his chair and performs an action like climbing a ladder, hand over hand in front and knees raised. This narrative is partly being realised through the use of bodily action. The fifth example comes from the Water Cycle episode where a group of four boys have the use of the school hall to rehearse dramatic enaction of the geographical concept for performance to the class. A number of texts, formal and informal, are simultaneously realised throughout this episode, one of them the set task of re-enacting the Water Cycle from an animated diagram they have seen on the interactive whiteboard. The affordance of the space and the nature of the set task mean the boys are using their bodies to construct their texts far more than would be possible if they were seated in the classroom. They use their bodies to represent the Water Cycle as they have been instructed, but they also use their bodies in the construction of other texts within the episode. They also use their **voices** making noises to accompany actions of the wind fwooh T3:2 /19, blooh T3:2/22, wooh T3:2/29/31/44/61, pheew T3:2/35 and ooh T3:2/41. The **actions** form part of the text construction here as when L asks how can I turn into a cloud and G replies through the use of posture and action. T3:2 23-27 Not only is G suggesting that by raising arms above his head he can signify the cloud but he also moves to the side thus representing to the others the sideways movement of the clouds across the sky seen in the animated diagram.

These examples show some of the ways in which children are using modes of drawing, actions, gaze and gesture as well as speech to construct texts in spontaneous face-to-face interaction.

**Secondly, modes work together in an integrated and co-ordinated way.** This key finding arises from the perspective that different modalities are conceptualised as integrated within communicative acts. This means that rather than focussing on the meaning of one specific mode, say gesture, the analysis is considering the activities that the participants are involved in. This research set out to investigate how modes operate and concurs with Sidnell's work on adult interactions that they work in a 'co-ordinated and differentiated way' (2006). Five examples are offered from the data which show how children operationalise their use of different semiotic modes in a co-ordinated and integrated way. In each of these examples it can be seen that modes

such as speech, posture, gesture, gaze and touch are working in an integrated and coordinated way.

The first example shows that children use a number of modes in their re-working of metaphor. From the Water Cycle episode, S has been accused of making a stupid suggestion (O says 'You dumbo! (3.1/12). This is followed by an idiomatic expression – or fixed pattern 'is anyone home?' – which has been modified to L 'is anything there?'. This is taken up by G who understands the idiomatic reference and contributes 'he's half home' and follows this with 'Play knocking on wood' where the head is metaphorically 'wood' and possibly the door to the home. The use of the mode of **touch**, where G taps on S's head with his knuckles as if knocking on a door, is an integrated move adding depth and power to the utterance and providing a visual image to further embellish his meaning-making. In this instance the interplay between a number of **spoken** metaphorical references and pre-patterned **gesture** as well as pre-patterned **language** is complex, instantaneous and rapid as well as coordinated.

From the same episode, the second example shows the occasional underlying tension between two of the boys, O and S is realised multimodally from O's rejection of S's idea that as a cloud, O 'floats off'. O's rejection is clear from his **language** and the use of the full forms 'do not' for emphasis but it is his **posture** and **gaze**, or more correctly glare, which powerfully conveys the emotion. Any one of these modes would convey a clear message of rejecting an idea, but as integrated and coordinated modes they are more powerfully effective.

The next two examples are from the Theseus story episode. The 'massive wall' image is spontaneously accompanied by an outstretched arms **gesture**. The problem of tying one's tooth with a rope to a wall is compounded by making the wall 'massive' and to emphasize the problem the arms are outstretched. The enormity of the wall emphasized by this gesture could be the spark that leads to the metaphorical 'wall that goes on forever' and the rope that's longer than forever'. The fourth example from later in the conversation shows how the associations between teeth, blood and fangs and vampires made by J are all realised through modes other than speech such as **gesture**, **vocalisation**, and **facial expression**, and then K follows this up through **speech**, **posture** and **gesture**. Here whilst the idea of fangs has been introduced, the 'vampire' part of the narrative is developed by J through modes other than speech. This idea is subsequently creatively developed by K with her biting. The meaning-



making here is being substantially realised through modes other than language operating in a coordinated and integral way.

The final example here supporting this finding is from the Piano episode. JW's use of the piano fingers **gesture** embellishes and exemplifies his contribution to the group discussion about the realistic movements of the piano player captured by the animation.

**Thirdly, interpersonal relationships and identity can be signified through pre-patterning in all modes.** Pre-patterning here is evident in all levels of discourse structure from the turn-taking exchange patterns of spontaneous conversation, generic structure patterns, lexical patterns such as collocation and functional or grammatical patterns such as modal verbs for politeness (Eggins and Slade: 1997) and it is shown can be realised through any mode. Pre-patterning can take place at any of these levels as the following examples from the data demonstrate.

Firstly, JC employs the tone, lexis and corresponding authority of the teacher as part of his **talk** with the group of four boys working on the animated story, The Piano.

JC takes hold of the post-its and assumes the role of convenor and scribe. He pats L on the back and praises him. His teacherly voice has given him the confidence or authority to take on a more controlling role within the group. His pronouncement '*I'm gonna come to that*' exudes considered action; he will not be hurried by the urgency of JW's ideas. The encouraging, praising, censoring, pronouncing functions of his utterances are accompanied by **actions** of patting and impatient **gesture** (5.1/6) and all could be considered pre-patterned meaning-making.

The second example of pre-patterning realising interpersonal relationships and identity is from the Theseus story episode; K's hand **gesture** of the pop singer giving a visual image seen on television programmes such as X-Factor which is very popular with these children. From the same episode, the collaborative development of the gothic elements in the conversation about tooth pulling follows generic pre-patterning, with the fangs, blood, biting and C's girlish fake **scream** using **actions, gestures,**

**facial expression** as well as **language**, all contributing to the overall discursal patterning. C's damsel in distress **posturing** is pure gothic in its realisation. In the fourth example from the Blood Circulation episode where children are taking on parts of the body roles, a 'blokey-mates' discourse patterning is realised through **touch** – the arms across shoulders, **language**, 'left handed bloke' (4:1/41), cohesive **posture**, O and L lightly bouncing on the balls of their feet together, and distancing from the girls realised verbally (4:1/42) 'The girls are lungs' accompanied by a dismissive flick of the thumb. The boys do not say exactly in words 'we two boys want to be together' but everything about their **posture**, **gesture** and **lexis** signals this. Their interpersonal relationships and their identity as 'blokes' are clearly evidenced by their use of **multiple modes**.

The fifth example of interpersonal relationships and identity realised through pre-patterned modes involves O's manipulation of **language**, **posture** and **gesture** for comedic effect when insulting his friend for making what he considered a stupid comment (The Water Cycle 2:1 Use Yer Breadloaf). O's dramatic flopping to one side on the floor is a **posture** of exhaustion or disappointment and his rebuke to use 'yer breadloaf', further developed for comedic effect with the play on words – 'Use Jack Walk-it-on', is clearly intended to amuse all present, even if at the expense of S. The pre-patterning of idiom is creatively made a-new through the use of breadloaf and O's **actions** are integral to the comedy show.

#### **Fourthly, knowledge can be conveyed through modes other than language.**

I have chosen two examples from the data of knowledge being conveyed through modes other than spoken language which were not immediately apparent at the time but were revealed through close analysis of the video recording. As with Gordon Wells' (2000) experience of working with a small group and not noticing the meaning made through the use of modes other than spoken language by the boy, Alex, I too had not noticed two clear instances of understanding and knowledge contemporaneously.

The first example is B's **action** in response to my question, to a group of three girls Ol, Le and B (4:3/7 'what are you going to do, lungs?' whereupon B breathes in exaggeratedly deeply. B answers my question with an action. When I persist with

‘what do you say?’ ‘Ol replies ‘I give the blood cell oxygen’ and pats Le, the blood cell, on the hand. B’s reply shows she knows what lungs do. The second example comes from the same episode and is L’s spontaneous recreation of the movement of the heart valves, a carefully reconstructed representation of the animation seen on the interactive whiteboard. His use of his hands to represent the movement of the heart valves is repeated by L and then by J which shows an understanding of what has been communicated through **gesture** between the two boys. It was not until I reviewed the film data that I recognised the significance of these movements.

**The fifth key finding is that creativity can be a collaborative act and achieved through the use of all available semiotic resources**

I have selected five examples from this data which I believe show some of the ways in which children are using all semiotic resources available in creative text construction. The first two examples are from the Theseus story episode. The first is the development of their ideas on how their hero, Theseus’ character, will travel. At first the group are using ‘he sails..’ borrowing from the original Greek myth, until K points out (2:1/10) He doesn’t sails...he goes on...its futuristic...he doesn’t sail does he?’ C is confident and says ‘He flies mine’ as she outstretches her arms like plane wings. She then clarifies ‘because he goes in a spaceship’. It’s from this notion that ‘He flies’ that K takes her cue for the singing of the song ‘I believe I can fly...’. The main point now is they all agree he does not sail. Further clarification is needed and L asks C ‘Does yours travel in a spaceship’ whilst C agrees, K has now embraced the possibility that maybe he flies without the spaceship which L clarifies as ‘Like a bird’ with her hands moving up and down, an example of **gesture** to support the **language** used. (2:1/28.). It is at this point that J sees the possibility for some superhero traits and supplies the idea of the ‘batman costume’ (2:1/29) and the image through **gesture** of him ‘flapping his wings’ where he waves both his arms. (2:1/31) K raises the problem of how he can take Ariadne back which L responds to by suggesting she can get on his back, taken up by K’s utterance ‘piggyback’ (2:1/34) accompanied by the **gesture** of the hand representing the pig. J suggests that when he’s tired he takes some steroids and ‘throws around space’ (2:1/37) which leads L to her idea that he ‘flies under the spaceship which is the island’, an idea which from her **posture** she seems to be pleased with. The development of these ideas is advanced and cemented through the integral use of **gestures** and **postures**. This example of contributions from all of

the children shows how their ‘talk for writing’ includes many embodied modes and how it develops the ideas for their story. Each child is making contributions and checking and clarifying at each stage.

The second is the evolution of the ‘vampire’ idea arising from the ‘blood drops on the floor’ described by K and **gestured** with a hand pointing to the floor (2:1/19) as she tells of a tooth pulled out. From this arises the idea of ‘fangs’ to describe the canine teeth from L (2:1/25) and K’s assertion ‘I’m not a vampire’ followed by J’s **actions** and **gestures** to give the image of the vampire. (2:1/39) all achieved by him without words. K then announces ‘I’m a vampire’ and ‘I’m gonna bite yer’ (2:1/41/42) which leads C to her damsel in distress **posture** and **facial expression**. Throughout this text the children’s **facial expressions, gestures** and **postures** are integral to the development of the vampire idea and this idea is developed collaboratively by each member of the group making contributions through the use of multiple modes.

The next two examples come from the geography lesson about the water cycle. The children have seen an animated **diagram** representing the cyclical process of water movement in the environment; the water is seen evaporating from the sea, demonstrated by dashed wavy lines rising to form clouds which then move across the sky, from left to right towards the mountains; the wavy lines going down represent the precipitation and then a flowing blue line represents the streams and then rivers rushing toward the sea for the process to start again. The children have been asked to act out the water cycle with one of the group taking the role of narrator. It was not until I reviewed the video footage that the sideways movement of the clouds across the sky from left to right became apparent in their **actions** and **postures**. The **language** used in their rehearsal was frequently minimal, although they used words like ‘precipitation’ and ‘condensation’, and it was frequently demonstrative and deictic such as when G says ‘you go like that’ in giving an example. ‘Go like that’ was repeated over and over as the boys acted out their moves. The boys had taken the image of the clouds moving sideways and re-presented this through their **actions**. The boys are showing L how to be a cloud moving across the sky through **actions** until O says ‘you dance across, like that’ (2:2/38) accompanied by another sideways movement. All three, G, O and S are showing L how to be a cloud until O defines the movement as ‘you dance across like that’. The movement which is in the final

presentation is a refinement of the movements made by all three boys. The next example from this episode shares much in common with the first in that the suggested movement of the water vapour rising from the sea, which I describe as a body wiggle, is modelled by L and G for O who modifies their suggestion with the introduction of a star jump. L is sure that the movement needs to be a slow representation for the water vapour rising, not a fast star jump and corrects O, L says 'No, slowly' while repeating the body wiggle ending with raised arms in an arch above his head. All four children are using bodily **action** as a conversation, with discursual features of turn-taking, repetition, response to and re-modelling or revising of the previous contribution. Their meaning-making here in both these examples is clearly collaboratively achieved and substantially through modes other than language.

The fifth example comes from the Blood Circulation episode and centres on the children's understanding of the concept of 'tissue' and their playing with the meanings of that word. The children have been told the key vocabulary for the exercise is 'arteries, veins, valves, circulation, lungs and blood cells'. They have **written** down ideas on how blood pumps round the body, looked at a **diagram** of the heart and the teacher, Mr J. has explained blood circulation around the body while pointing to the diagram, all prior to watching two animated diagrams on the circulatory system and cells and their size. It is in the commentary to these diagrams that the word 'tissue' is used, in reference to the flesh of the body. O introduces the word into their group exercise of role-playing the circulation of blood. He deliberately plays on the word **saying**, and **pointing**, to K 'you can be a tissue'. K knows what tissue is as she says 'It's a cell' and yet she returns to O's idea of the 'paper handkerchief' version giving him an opening for a joke with 'what's a tissue?'. O does not disappoint and replies with 'blow yer nose' to the amusement of all. From this four of the girls gathered in a close group start playing with the word 'tissue' and the sound 'atishoo'. In this extract all of the children are actively involved in the manipulation of the **language** and the wordplay around 'tissue'. Here an example of 'everyday creativity' is realised through **language** and supporting modes of **gesture**, **proxemics**, **tone of voice**, and **actions**.

The sixth key finding is that **children re-present experiences from the wider world using multiple modes in their understanding of classroom texts and tasks**

In much of the children's classroom 'talk' experiences from the wider world are brought in to facilitate their understanding of new concepts or embedding of familiar concepts within their world. JW's **gesture** of piano playing and his observation of the piano player's fingers being on the right keys is an example of him bringing his knowledge to the table using **language** and **gesture**. From episode 1, the talk of animals eating barley leads to the 'farm at the end of the road' and the shared experience of climbing the hay bales is realised through **gaze, language** and **bodily actions**. The discussion of bees pollinating plants from the same episode leads to G's recount of the time when he got stung by a bee which was 'collecting pollen from a plant' because he poked it (1.2/82) and L's auntie who was stung when she stood on a wasp. As G recounts the moment to the other boys he points his finger at 'the bee' staring ahead in the manner which Sidnell (2006:400) described for moments of moving from *describing* what happened to a *recreation* of an actual moment, such as poking the bee. The coordination of **gaze, gesture** and **language** all realise the experiential moment for the other boys in the group.

**The seventh key finding is that the work of re-presenting information from a text can be conducted using alternative modes of meaning-making.**

In three of the episodes included in this study the children were shown diagrams or animations from the interactive white board. Images from these semiotic resources were then re-presented by the children through embodied modes of **gesture, posture, facial expression** and **bodily action**. From episode three about the water cycle the sideways movement of the clouds seen in the animated diagram is re-presented **posturally**. The evaporation and convection of water vapour to form clouds is re-presented as the body wiggle. In the blood circulation episode the actions of the heart valves are re-presented **gesturally** and the workings of the lungs through the **action** of deeply breathing in. In both these examples the affordances of the 'space' within which the children were interacting, that is the fact that the children were working in the hall or an empty classroom with plenty of room to move about, and on a task which required them to role-play a geography or science concept, needs to be born in mind. JC re-presents the scary smile of the piano player in episode five through his **facial expression** and the **gesture** of widening his smile with his fingers. In each of these examples, information from class-based digital texts are being re-presented using embodied modes other than speech, suggesting a physical understanding of the

knowledge presented. The opportunity presented by space to physically move about has been taken up by the children in two of these examples.

**The eighth key finding is that genre switching and genre mixing noted in children's language is evident through their use of other modes of meaning-making.** The evidence for this comes from all of the five episodes examined. The first episode, X-Stream Life Cycle shows a mixing of the television quiz show genre with personal narratives enmeshed within the situated genre of school biology. The **speech** has the formal register of the quiz master and the school biology lesson mixed with the informal register of the children's personal narratives, at times seen within the lexis of an exchange such as 'dispersal' 'the spreading of seeds' and 'hairy plants'. The formalised **posture** and position of the quizmaster, holding the cards and opposite the two other boys, are mixed with G's **action** of climbing the hay bales and the **gesture** of poking the bee. In the Theseus Story episode personal narratives are interwoven with the formal school English situated genre with its concerns with 'characterisation' and setting' and the gothic elements introduced via personal narratives into the 'schooled' story texts being constructed. The children switch between these genres and mix and weave them together. The **actions, postures and gestures** operate integrally with the language. The third episode, The Water Cycle the boys switch **multimodally** between the school geography concepts of convection, wind and precipitation and their own concerns with football, and their immediate environment and the intrusion of a woodlouse. In 'Blood Circulation' the school biology situated genre and the interpersonal function of assigning roles are explored multimodally through **postures, gestures and actions** as well as **language**, each mode sharing the important task of making meaning. In the fifth and final episode, The Piano, J's invocation of the teacherly voice is realised through his voice **pitch, tone** and **lexis** as well as through his **actions**, acting as scribe, and **gestures**, patting a fellow pupil, and **gaze**, twice at the researcher, seeking approval or acceptance.

**The ninth key finding is that intertextual referencing, noted in children's use of language is integral to their meaning-making and realised through posture and gesture.** I have termed this **postural intertextuality**.

This key finding represents an original contribution to knowledge in that the intertextual referencing which Maybin (2004) has described as integral to children's

talk, through the use of multimodal analysis can be seen to be present in children's use of all embodied modes and not solely speech. Maybin describes the use of intertextual references as being automatic, unconscious and strategic (2004:102) and the analytic framework has allowed for the ways in which children are using posture and gesture intertextually to be seen.

The specific postural references noticed in this data include images from digital texts such as the body wiggle to represent convection (T3:2/40) and the sideways movement of the clouds (T3:2/38) from the Water Cycle episode, the heart valves gesture (T4:2/7) mirroring the digital image viewed in class, and the re-presentation of the function of the lungs using posture (T4:3/9) in the Blood Circulation episode. The singer gesture (T2.2/13) is a cultural reference from popular culture which could be deemed iconic. From the Piano episode, the gesture of the piano fingers (T5:1/26) and the scary smile (T5:2/18) embellishment are both examples of children taking meanings made through one mode and re-presenting them posturally.

These examples contribute to our understandings of the use of gesture and posture from the fields of anthropology and social semiotics, and require us to consider their role in interactions diachronically and not simply synchronically; that is, in relation to previous instantiations of meaning making in any chosen mode. Following Bakhtin's idea that 'Each word tastes of the context and contexts in which it has lived its socially charged life' (Bakhtin, 1988: 49) we can see that this can apply to all modes of meaning making and that gestures and postures can refer to previous instantiations of meaning-making in the same or a different mode. The use of gestures and postures is spontaneous and intertextual but it is not random or incoherent: its coherence arises from its recognisability and the meeting of expectations of the interactant. Prior instances of meaning-making help shape the posture or gesture in question.

Havilland's three gestural types (2004:201) whereby gestures are divided into those actions which are 'conventionalised language-specific emblems', those which accompany speech and those which are referent or pointing gestures differentiate between the functions and intentions meaningful postures or gestures fulfil. It allows for the notion that meanings can be made unintentionally. Kress (2010) on the other hand refutes the idea of the arbitrary sign, believing that all signs are motivated (2010:65). In the case of these examples of postural intertextuality, the functions of the posture or gesture are to convey meaning through a choice of an embodied mode such as the wiggle, or to embellish speech such as the piano fingers. In each example



the meaning made in a prior text or texts is re-created posturally with recognisable (in this case, visual) attributes from the prior text recognisable in the intertextual reference. Following Kendon (1997:112), these examples of postural intertextuality can be seen to be iconic in that they offer a visually recognisable representation of something observed, in this case digital images. However, they can also be abstract ideas, such as convection. The intertextual postural reference for convection comes from the previously seen visual image potentially enmeshed with some conceptual understanding of what it is. In common with the use of other semiotic modes, the choice and design of the posture or gesture as a meaningful sign is a combination of prior instantiations and the making anew of a sign. This key finding is congruent with Kress's social semiotic theory of communication and the notions of the motivated sign together with the notion that the sign-maker always making new meaning even in everyday, banal situations from prior uses and associated connotations and potentialities of that sign (2010:64). The posture recreating the function of the lungs in answer to my question communicates that idea through the use of an apt sign and an available resource at that moment in time.

In summary, these key findings indicate 3 overarching principles regarding the multimodal nature of children's spontaneous classroom interactions:

1. Modes of meaning-making are integral to the communicative activity. Whilst they can be examined separately, in interaction the power of each mode lies with its integration within any given situation. They work in coordination with each other.
2. One mode may be dominant but that does not tell the whole story. Features, such as intertextuality and genre switching, which have been noted in linguistic studies of interaction can be seen in this multimodal study and could be classed as features of multimodal communication rather than linguistic features.
3. Child-to-child classroom meaning-making is intersubjective and collaborative. Knowledge can be presented through any chosen mode and can be developed collaboratively through multiple modes.

## **7.3 Implications, Recommendations and Suggestions**

Having presented the key findings of this research I now turn to the implications of these findings for pedagogy and for future educational research and tentatively make some recommendations. I begin by reviewing the scope of this research project.

### **7.3 1 Scope of Research**

This is a small scale study of pupil to pupil interaction in one Year 5 class in a state primary school. Its remit does not encompass assessment of participants in any way. It does not make evaluative judgements about the communicative competence of the participants or the pedagogic approaches of the teachers involved. Whilst the participants are both boys and girls, the study of gender differences in multimodal meaning-making is beyond the remit of this study. Furthermore, decisions have had to be made regarding the data and what is included in the analysis. It is not possible to include everything from the data in this report. What this study does offer is insight into some of the ways children are making meaning whilst working on class –based tasks. It also offers insight into the potential use of multimodal analysis in classroom observation and future research projects. From these insights it is possible to make tentative suggestions about implications for education research and classroom pedagogy. The classroom environment which was the setting for this research, both physical and curricular, has undergone changes over the three years of the study. From this September, and beyond the scope of this research, a new integrated curriculum is being introduced following the recommendations of the Rose Report on the Primary Curriculum (2009). The foci of this new curriculum is on knowledge and understanding in six areas of learning rather than on specified subject areas with corresponding skills and related expected outcomes. The aim of this new curriculum is that connections will be made between previously separate subject areas. A recommendation is made within the report that (2009:22) children’s spoken communication should be developed intensively across the curriculum and that schools should capitalise on the potentialities of drama and role play for exactly this purpose. The new curriculum aims to be less prescriptive and give greater freedom to schools and teachers in deciding what and how to teach. The implications for

pedagogy presented here are directly relevant to these recommendations and to the new curriculum to be in place in all primary schools by September 2011.

### 7.3.2 Implications for Pedagogy

In setting out his ideas on a Social Semiotic Theory of Communication (2008) Kress highlighted the importance of recognition. That is the importance of recognising semiotic work, which is the making a new or the re-making of signs. The first two points concerning pedagogy outlined here are to do with teachers and educationalists **recognising** what is semiotic work. I use the term ‘work’ because it fits with the ‘process’, rather than ‘product’, position on learning. The first point is that teachers need to recognise that children’s contributions in the classroom may not necessarily solely be through the linguistic modes of speech or writing, but as I have shown, can be through other modes or integrated multiple modes. This is not to suggest that language is not frequently a dominant or foregrounded mode of communication. Children, however, can incorporate modes of gaze, gesture, posture, bodily actions, facial expression as well as graphic modes and the manipulation and presentation of visual images within their meaning-making. *There is a need for teacher recognition of children’s employment of modes other than language in their semiotic work.* This has implications in terms of **planning**; that is, in terms of the spaces and opportunities that are provided in the classroom for pupils to fully explore, experiment with and collaborate on new themes and concepts using all modes available. It requires the teacher to recognise and value multimodal contributions as part of the **process** of creating a text where the **product** may be the result of one or two dominant modes.

The second point regarding the findings of this research is that there may be an inclusion issue in the marginalisation of pupils whose contributions are not recognised. The inclusion and encouragement of the use of multiple modes of meaning-making will promote inclusion of children who may present knowledge and collaborate on development of ideas through modes other than language or where language is not the dominant mode. To give a practical example of what I mean I turn to the Talk for Writing strategies proposed in the DCF document (HMSO DCSF; 2008). Here as part of an agenda for promoting talk and collaboration as part of the writing process, a tightly structured model of pedagogic practice is presented which

involves, in order, understanding and exploration of generic text qualities, generation of ideas orally, scaffolded writing and teacher modelling writing and finally pupil writing activity. The dominance of linguistic modes in this process is clear from the outset. The implications of the key findings of this research are that language does not always operate as the dominant mode in spontaneous interaction. Generic features of discourse can be presented through all modes of meaning-making. Moreover, given the space and opportunity much collaborative, creative text making is achieved through a variety of multiple modes. The product may be realised through one or more dominant modes such as a stretch of writing but the process, the journey which is taken to realise that product, requires multiple modes used in an integrated and coordinated way (Sidnell, 2006). I was fortunate that one of the class teachers in this study, an early career teacher, was particularly sensitive to the affordances of different modalities in children's meaning-making and in both the geography lesson on the water cycle and the biology lesson on the circulation of the blood, set up role-play activities which lent the children the opportunity for the use of a wide variety of modes of meaning-making. In both these instances images seen on the interactive whiteboard were recreated posturally suggesting knowledge can be presented in any semiotic mode. It is the teachers' recognition of the value of this semiotic work which is key here. If the child is presenting this information with a presumption that the addressee, or recipient will find it meaningful and yet there is no recognition that this is so, then it follows that the child may not make that assumption in the future. In this way they may be marginalised and become disenchanted with the school experience. In order for teachers or educationalists to recognise and value this semiotic work they need first to be aware of its instantiations.

The third point I wish to raise is regarding the nature of creativity in children's face-to-face communication. In this research creativity in child-to-child interaction is regarded, following a Vygotskian perspective, as being achieved socially through the use of semiotic tools such as language, voice, gesture and posture. The framework for analysis is informed by the conceptualisation of creativity as ubiquitous (Banaji and Burn, 2010, Craft, 2000) and everyday (Carter, 2004). It has been identified and investigated through textual analysis of multiple modes used in face-to-face interaction. Carter demonstrates that creativity in common talk is more prevalent in collaborative talk in intimate settings than in transactional exchanges (2004:126). Using Van Leeuwen's example of the multimodal transactional experience of

shopping in a supermarket (section 6.5.2) it is possible to understand that novel use of representational gesture is less likely in that context than in informal, face-to-face exchanges. Thus the prevalence of creativity in language use identified by Carter (2004:126) in collaborative talk in intimate settings has been shown to be present in the use of all available semiotic resources by the children in this study. The intimacy of small group work and the collaborative nature of group role play have provided the children in this study with an environment for the creative use of language, gestures and postures.

In summary, I propose this study proposes four pedagogic recommendations from these three points.

In summary, this study proposes three pedagogic recommendations.

1. Education professionals need to be **aware** of their pupils' operationalisation of multiple modes in class-based tasks and that this should be overtly included in initial teacher training programmes and in-service continuing professional development.
2. Teachers and teaching assistants need to **recognise** the semiotic work of all modes in the creative and collaborative making of texts as part of the process of learning and the contribution made by all modes to the final product.
3. Teachers need to take account of the multimodal nature of children's interaction in planning their lessons in order to ensure that **opportunities** for the use of multiple modes in an integrated way are included.
4. Education settings need to provide informal, intimate and collaborative environments to enable and facilitate creative exchanges between pupils.

### **7.3.3 Implications for Research Methods**

There are two main recommendations regarding research methodology. The first is that *Investigation of classroom discourses need to take account of all modes* and the second that *Hallidayan semiotic concepts of Ideational, Interpersonal, and Textual aspects to communication can usefully form the basis for multimodal analysis of interactions*.

The first recommendation is to do with research design. As I have discovered research design on a small scale project such as this is a personal issue and is led by the positionality of the researcher as much as by research paradigms and epistemologies. The research aims and questions themselves, what the researcher is setting out to

uncover, will determine much of the process of design. This makes it difficult to make a blanket recommendation. However, all research involves a review of literature and we do not work in isolation but build upon the experiences and contributions of researchers working in our field. We are not in the business of re-inventing the wheel. It is with these provisos that I make this recommendation then, that if an educational researcher is investigating what is taking place in the day to day semiotic work of the classroom then **all** modes will need to be taken into account to a lesser or greater degree. I am aware that this study has not overtly focussed on the environmental or spatial aspects to the children's communicative practices in this study. That is because the interest has resided with the minutiae of interactions. However, I have been aware that all modes are working together and that has informed my analysis.

The second recommendation involves the promotion of the framework which has successfully enabled me to uncover much of what is taking place between children in spontaneous classroom interactions. The proviso here is that the framework needs to be adapted according to the specific research questions. I have found that the semiotic aspects of Halliday's key concepts have been most productive in uncovering some of what is taking place between the children ( It is not possible to uncover everything or understand fully what is inside another's head). The importance of context to meaning has been fully explored in the literature review and this framework allowed a full exploration of the contextual information which coheres the interactions under investigation as well as cohesive features which emerged as significant. Perspectives on the interpersonal aspects to these interactions enriched and illuminated the picture of how the children are communicating. In another study with a different focus the ideational aspects may have greater prominence but the important thing is that all three concepts helped to build a coherent picture of what is taking place.

#### **7.3.4 Directions and Possibilities for Future Research**

There is one specific linguistic item which has emerged from this study which may merit further investigation and there are also some general areas for future research. The specific item which has raised questions for me is children's apparent omission of conjunctions in their spontaneous speech (Chapter 5). Having noted that the use of conjunctive lexical ties as one form of cohesion is apparent in adult speech, I had included this on my analytical framework. It was clearly not a feature which presented

itself in my data. From this sample it would not be possible to say anything more about this possible omission of conjunctive ties. Studies of speech, and casual conversation in particular, have to date focussed on adult discourses. Linguistic features of children's speech have not been a site of interest other than in studies of language acquisition. This study has observed one discernable difference in the grammatical linguistic features of child speech compared to adult speech, although this has been an 'accident' and not a focus for this study. It has raised questions for me which future Linguistics research may be able to address.

In terms of more general areas for future study, the differences between child and adult linguistic choices may be of interest to the applied linguist. Deeper investigation of children's identity and text construction was not possible within this study and yet multimodal investigation of this may prove fruitful. This project included participants from both sexes, although gender differences in multimodal text construction was beyond the remit of this study. This is something which could be inquired into in future studies. Finally, I would particularly like to explore further differences between spontaneous texts and considered texts in terms of semiotic resources and modalities employed. As a lecturer in Higher Education I feel this is an area which could be usefully explored for teaching and learning in Tertiary Education.

The digital age is calling for a re-think of what we consider texts to be, how we value the semiotic work involved in them and how we keep pace with the changes in communicative practices within our societies. Even the very notions of 'community' and 'society' need to be reconsidered. Multimodality is a very new area for social and education research and the tasks facing researchers are immense. A social semiotic approach seems to be lighting the path ahead.

## **7.4 Concluding Remarks**

At a time when creativity is seen as a desirable skill in classrooms in the UK, as recommended by the Rose report (2009, DCFS) and collaborative talk between children is being encouraged and embedded in approaches to learning and understanding (DfES 2008:5), some understanding of ways in which children are multimodally, creatively building on each others' ideas in their text construction can contribute significantly to pedagogical understandings.

The children's creativity in this study is realised in all semiotic modes through their dexterity with *fixity*, those pre-patterned elements of language and behaviour, and *novelty*, their intertextual and new use of those elements. Children use those fixed elements they are socialised into and encultured into and they work and play with them in their meaning-making in a collaborative way, each building on the others contribution. Genre, intertextuality and metaphor in spontaneous interaction are not simply linguistic devices but pervade and shape all our meaning-making. Bakhtin (1986:89) noted that 'Our speech is filled with others' words'. We also borrow others' gestures, postures actions and facial expressions in our communication. We work with them and make them new and interesting.

This study is also interested in the Interpersonal dimensions to our meaning-making. The ways in which people operate within communities of practice include not just literary practices but ways of being, our social selves, our identities and our use of all semiotic resources. As our children are communicating at school they are borrowing and re-working each others' words, appropriating postures, gestures, images from all sources, and capturing some meanings whilst making others anew. This is all part of the process of learning together. As they communicate meanings they anticipate that their ideas will be heard and understood and it is the work of educationalists to see, listen, understand and value that semiotic work and in turn make new and remake signs to convey our society's knowledge and skills. This study supports the plea made by Kress for:

....a pedagogy that acknowledges and values the (semiotic) work of students and yet does not give up on the importance of authoritative knowledge.

Kress, 2007:38

In this study multimodal analysis suggests some interesting aspects to the ways these children are interacting and making use of modes available to them, working to construct knowledge for themselves. The study does not offer a teaching methodology or advocate changes in policy. It does, however, make a case for greater sensitivity to the nature of communication itself on the part of those working in the field of education.



### 7.4.1 Closing Thoughts

I started on this programme of study with an initial interest in talk and spoken language in the classroom and in the notion of the guided construction of knowledge mainly, though not exclusively through the mode of speech. My ideas evolved during the pilot study investigating the affordances of discourse analysis and multimodal analysis as approaches to researching children's classroom communicative practices and this led me to investigate in more detail what multimodal analysis can offer research in this area.

This project has offered insights into the ways children use multiple modes in an integrated way to make meaning in spontaneous classroom communication. I am now in a position where I wish to investigate further assumptions made regarding the relationship between spoken and written texts. Kress (2008) suggests that given that speech and writing are so different, we may want to consider whether in grammatical terms the mode of language in its written form has more, or as much, in common with the mode of visual design than with language in its spoken form. This study has shown the symbiotic relationship between all embodied modes in spontaneous interaction as well as contributions from disembodied graphic modes. As our text construction in the early twenty-first century grows to occupy spaces, including digital spaces, that never existed in the past, both in immediate spontaneous 'conversation' (including mobile phone conversations, e-mail, texting, Skype, internet chat rooms) and crafted, considered graphic texts, the distinctions between 'spoken' and 'written' language are either blurring or crossing boundaries. In the fields of Linguistics and Education the distinction has been made between the spoken and written, as if that is where the difference lies. We may now need to revisit this and consider whether the difference lies between *spontaneous* and *crafted* communicative acts. The calls for more opportunities for oracy in the classroom prevalent in my early teaching career in the 1980's now need to be re-visited in this post-modern age. This is not to question the important place of debate, role-play and oral question and answer interactions in the classroom. It calls for an enrichment of our understanding of how 'talk' is more than words.

In terms of learning, the process of collaboratively and creatively constructing texts seems to be achieved by children through the use of multiple modes. How these

processes may shape the products of classroom tasks and what those products need to look like is a further question for educationalists. From conducting this study it is my position that learning is a process collaboratively achieved and in order for this to be inclusive, enriching and motivating, attention needs to be paid to all modalities selected by pupils in the classroom and opportunities for all modalities to be exploitable seems to be key to engaged and vibrant learning. In researching young children's meaning-making, Flewitt claimed that 'the multimodality of pre-school children's meaning-making remains undervalued and under researched' (2005: 209) and in fact this could be applied more widely to the meaning-making of children in classrooms generally. It is hoped that the findings of this study will make a small contribution to the field in addressing this situation.

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## Appendix 1: Film Data Catalogue

<b>Dates</b>	<b>Tape</b>	<b>Lessons and Activities Recorded</b>	<b>Episodes for Transcription and Analysis</b>
10/04 /08 - 09/05/08	1	Numeracy – S,L and G in withdrawal room Science - Life Cycles – S,L and G in withdrawal room History- constructing a timeline ,	1. X-Stream Life Cycle 1.1 Chucking Hay bales 1.2 The Fema
4/06/08- 6/06/08	2	School Library – choosing books Geography- Water Cycle P.E. – tennis on the school field	3. The Water Cycle 3.1 Use Yer Breadloaf 3.2 Practising Actions
17/06/08 – 18/06/08	3	Numeracy – Mr Hepworth’s Travel agency –C and L Literacy - Theseus story Geography Water in School – a walk around the school grounds with the caretaker	2. Theseus Story 2.1 I Believe I Can Fly 2.2 Pulling Teeth
19/06/08 – 24/06/08	4	Literacy- improving writing with powerful verbs, adj, advs. metaphors, similes. RE – Koran film, questions about beliefs Numeracy- sports in the yard measuring distances and times Science – Blood circulation	4. Blood Circulation 4.1, Tissue 4.2 Heart Valves 4.3 Lungs
25/06/08- 26/06/08	5	Numeracy –Multiplying big numbers generated by dice, Inventing a numbers game S and J , presenting to class	
27/06/08 – 01/07/08	6	Art- painting Literacy- The Piano – first impressions of film	5. The Piano 5.1 Piano Fingers 5.2 Scary Smile
02/07/08	7	Literacy - The Piano –storyboard Guided Reading – Cider with Rosie extract Geography – Water deserts and rainforests	
02/07/08- 07/07/08	8	French - counting and numbers Numeracy- problem solving Prisoners and Cells – JG , BPP, Ol and J in withdrawal room Literacy – The Piano	
08- 15/07/08	9	Art- a lesson on figurative drawing from Mr W.	

## Appendix 2 Multimodal Transcripts

### Multimodal Transcript 1 X –Stream Life Cycle

#### Context

Three boys, L S and G are in a withdrawal room and have been given the task of working through a set of question cards on the subject of Life Cycles in preparation for playing a game of ‘Who wants to be a millionaire ?’ as a whole class activity. This is a revision exercise on a topic they have been studying for some weeks previously. The follow-up activity which they are going to do is to design a board game of their own using the question cards and they settle upon the title of ‘X-Stream Life Cycle ‘ for their board game which is the title given to this transcript to celebrate their idea. S has appointed himself as holder of the cards and hence question master. The boys were humming the theme tune to the TV programme as a precursor to starting the activity. All three boys collaboratively answer the questions and contribute to the working out of the answers.

#### Extract 1.1: Chucking hay bales

21.50	Speech	Actions	Gaze	Gesture , Facial Expression	Posture, proxemics, body haptics
1	S how are seeds dispersed?		S looks at card then up at L G looks down		
2	L What? oh them sticky fings				L leans in towards S G chin resting on hands, elbows on table
3	L animals! Animals!	L points	G glances up at S	L points at card	
4	L gets stuck to dogs and fings and then they go....				L leans forward
5	S How are those dispersed				
6	S....wind! L wind!				
7	S How is barley pollinated?	Rising intonation at end of question	L looking down, S looks at L , lock gaze	S raises right hand to temple	L takes card
8	L Can I look at it? ...what barley? awww	G fiddling with green card cross			

		on table			
9	S Its like hay.				L takes card
10					
11	G Ooh barley..like			G hands in front on table playing with ruler	G leans back ,
12	L Is it animals ?		L locks gaze with S		
13	L. They eat it then they.....do something	L card in left hand pointing down		L grins	
14	S I dunno, oh yeah could be.		S looking at L		S puts head in hands , elbows on table
15	S. Name an animal that eats hay That's barley innit? Yeah .....eaten			S points at card	G makes square shape on table with bits of paper
16	G Horse! Horse eat hay				
17	L Does cows!		L looks at G G looking into space		
18	S Yeah, I go to a farm, me			S points to chest	
19	S There's a farm at top of my road.		G looking at S		
20	G Ahh Is that the farm when... where me you and Brendon, where we went?		G looks down S looking at G		G raises arms over head
21	S Yeah. We were chucking hay bales		G looks up to S, they lock gaze		
22	G Remember	G Half			G leaning

		rising out of seat			in
23	L sshhh	L stops him – hand on arm ? Pointing at me		L points to camera	
24		G looks = stops			
25	G Remember ....	G Clicks fingers, stands up	G looks back to S	G both hands on desk in front of him	
26	L. Camera...you're on camera G****	G mimes climbing up,	G looking at S	G grin on face,	
27	G. ow!	Bangs foot , sits down	G looks behind at whatever he has hit, L looks behind too.		
28	S what do we call the joining of the pollen and bee?		L returns gaze to S		G returns to fiddling with paper on desk
29	L. A....What. .lets have a look... what do we call the joining.....	L. Takes card			
30	S Pollination... Pollination... WING!	S hands card to L.			
31	S ...WATER!	S reads card			
32	S how long does it take a human baby to develop...? .... 9 months. Is it? Is that right?	S takes another card  S hands card to L			
33	L	Takes q. card, studies it			G has paper in V shape balanced on nose

34	S.... or is it 6 months?		S and L lock gaze G looking at L		
35	G 6		G looks at L		
36	L ( unsure) I know that....	S taps table in front of him S shaking head			
37	S It's nine, its nine				
38	G yeah becos...				
39	L I'm thinking of a year in 6 weeks	S has next card in front of him			
40	S How are the seeds in a strawberry dispersed?				
41	S Um...animals				
42	L. what?	L. Looking at card	G looking at fingers		
43	S How are the seeds on a strawberry				
44	L. Oh yeah cos animals eat them				
45	S ...spreading of seeds from the hairy plants				
46	L Hairy plant!	L laughs			
47	S Oh it's on it . There! - disperse		S looks down at table  S looks at next card	S taps table , palm flat S picks up another card,	
48	S how are tomato seeds dispersed?				G makes triangle shape with paper on table
49	L. Animals!				
50	S Eaten ... animals				
51	S Do you like tomatoes?				

52	L no				
53	G no S No		S looks down		S shaking head
54	L my sister likes them with salt		L looking at S G looking down		
55	S eeeurhh	L laughs			S leans back
56	S name the male part of the flower				
57	L. stamen				
58	G ( sing song) stay...mon		G looks ahead		G leans back
59	G statement ( laughs)				
60	L I like sticky stamen		G looks at L		
61	S which...which needs caring for the longest...?				L leans forward
62	L What?	L Takes card			
63	SP which needs caring for the longest ..calf, puppy Or human?				
64	L Human baby				
65	S Aww Human baby...that's like years innit.	L laughs			
66	L I know		L looks down at card G looks at S		
67	S what about a calf?		L looks up (recall gaze) G looks ahead		
68	L You should know ... you work wi' ye farm		L looks at S		
69	S Yeah...oh no				
70	S It's not				
71	L it's gotta be baby It's gotta be baby				

	because all you do with puppies is like give them water ...feed them and that.				
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Extract 1.2 The Fema

26.00	Speech	Actions	Gaze	Facial expression, Gesture	Posture, Proxemics, Body Haptics
1	S how long does it take...a mouse baby to say (inaudible)		G looks up		L leans forward, chin resting in left hand
2	L What????				
3	SP How long does a mouse baby to develop before it is born?				
4	L I don't know...know nowt about mice	S and L laugh			
5	G Neither do I			G eyebrows raised , eyes wide	G shakes head
6	S What ..	S picks up next card			
277.00	S I used to have a mice..a mouse	S and L lock gaze G looks at S			
8	L MOUSE! Mice!	L laughs			
9	S what comes between a child and an adult in the human life cycle				
10	G My auntie's got a mouse	L takes card	G looks down		G throws head back
11	S A teenager!		G looks at L		G chin in right hand
12	L (mutters ) what comes between...A teenager!				G leans towards L
13	G .A Teenagerrrrr!	G Hand down			
14	L No This first	L holds up			

		card on table in front			
15	L (Mutters) Describe....				G head in right hand
16	L The ...the... when the dandelion gets hit by wind it just goes poosh	S stretches hand across table to card		L Waves hand	
17	S Naw		G looks at S		
18	G poosh shhh		G and L lock gaze		G shakes head
19	L. It does though really It just goes ..	L waves hand			L holds hand out , palm up
20	L They both got				
21	S They both got seeds ..no, they both got seeds at the bottom, don't they? With the like flying thing on top.	S holds up card	L looking up and away		
22	G yeah		G looks at S		G sits up alert
23	SP Yeah. Don't they. Cos sycamores have got 2 ont bottom – like propellers	S Fingers out in front hand up in air		S waves hand to left	
24	L. One...			L holds up one finger	
25	S No ... and also down there It's got thing on seed on bottom	S Gesturing with fingers V shape		S waves hand , fingers upright	
26	L stem bit I think				
27	S we've got ...so we know that.	S hands L card			
28		L Recapping cards left on don't know pile			
29	S now I	L		L waves	



	haven't...don't got a clue about mouse	snorts/short laugh		card in hand	
30 28.30	S what part of the flower produces pollen? We know what it is but... We can't remember name of it				
31	L What ...	L Takes card			
32	L( mutters .....)	L swaps card with S			
33	L What part of the flower produces pollen	L holds up card			
34	L. Errrn (Frustrated) El....errnnn Fema!		L looks at card L eyes wide at S		G leans toward L
35	S No	S holding a card in front of him			L puts card in front of mouth
36	L It is It's summat male L It's fema			L points at card S is holding	
37	S Fema..ma				
38	L Fema				
39					
40	S We haven't got that right				
41	L It is summat like that				
42	S Yeah...I know				S holds card up to side of head
43	G Because when we were on education city		G glances down Then up at S		
44	L The fema's that little...thing that carries the pollen	L Gesturing both hands alternately		L raises left hand then right , drawing it across body to left	
45	S I still think we		L locks	S taps table	L leans

	should put it on the don't know pile, shouldn't we? Ask Mr D*** when we get back		gaze with S	with Question card	forward, left arm stretched across table, index finger points up
46	L No Think of it after, then				
47	S ok				
48	S What do we mean by gest.... gestation period of an animal?				
49	S That means when it eats the ... It eats the seeds An' it digests it but the seed stays in there				
50	L It goes out yer back garden - when it poohs it out				
51	S You know what that means don't you?				
52	L then it just grows again			L flicks right hand up	L leans back
53	G Yeah	S puts card on L's pile.			G leans back
54	S Right ,			S Hands on table palms up	
55	L soooo				
56	S so we got mouse			S Left hand down	
57	L Got Got no idea about that				
58	S Definitely, no no			S right hand, palm out, shakes hand	
59	L. Ahh I think it's fema				

60	G I do think it's summat like fema		G and L look at S's cards		
61	S Right , we'll go with fema				
62	L Which one... Which one is it the big stick thing...				
30.14					
63	L	Hands up			L right arm raised above head
64	L Or the big ball thing on top that holds the pollen stick thing...ball thing				L leans head to right side
65	S Do ya know... stigma..that's the big thing			S waves index finger	G leans head slightly to right side S moves head left to right
66	L sticky stigma				
67	L Yeah that's the big thing that			L hands in prayer pose in front of body	
68	S what...				
69	S Look!	S Grabs pencil and paper, draws	L and G look at paper	L hands together at right side of head	
70	G That's good		G looking at drawing		
71	S ovary Stigma	S speaking as he draws		L head in hands	
72	L stigma wi' thing on top				
73	G No the male p... the male part thing				
74	S Then! That's what I'm talking about	S Points , tapping pencil on drawing			
75	L. That's fema!				

76	S Are you sure?		S looks down at drawing		
77	L. Yeah				
78	L and it's not 2 , it's 1				
79	S So we've got 2 of 'em				
80	L It's fema				G leans back , points to drawing with pencil
81	G Inside the plants is one we don't know				
82 30.50	G I got stung by a bee once It was colleting pollen from a plant So I went ...I went to ..poke it	Pointing in the air	G looks down , G looks at S  G looking into space	G touching paper on desk  G points in air	G sits up straight
83	S Why would you poke it ?		G looks at L G looks at S then away	S grinning	
84	G Cos I do		G staring ahead		
85	L ...my auntie ...		L looking at G		
86	L A Bee?				
87	G. I don't know				G shrugs
88	L My auntie got stung by a... She stood on a wasp		G looks at L		
89 31.12	S What time do you think it is now??				

Multimodal Transcript 2 Theseus and the Minotaur story

Context

Four children K, L, and C, (girls) and J (boy) are working in a group in a small room discussing and writing their version of the story of Theseus and the Minotaur. The room is used for withdrawing small groups for focussed work on literacy and numeracy with teaching assistants. The walls are covered with spelling charts.

### The task

Their task is to transpose the setting from Ancient Greece to a futuristic science fiction story. This involves re-working the characters, which they have done in the previous lesson and changing the setting and key features of the story such as the black sails on Theseus' ship. This is what they are working on today.

### 2:1 Pulling Teeth

42.52	Speech	Actions	Gaze	Gesture, Facial Expression	Posture , Proxemics/ Body Haptics
1	K Oh HE..!	K Reading L's writing  C looks at L's writing	K looking at L's work L looking at K	K mouth open K hand over mouth , laughs J and C heads down writing	
2	K He will	L leans forward and writes K copying L's writing			K moves head next to L K and K lean back
3	C Danny says...	Speaking as she's writing			
4	K He will....go first...		K and L looking down at L's book C looking at K's work		K pushes L's hand away so she can see her book L leans back
5	L I think my tooth's gonna come out		L looks into space J looking at L	K smiles L smiles L raises her hand and puts the fingers from her left hand in her mouth	J leans forward
6	K Pull it out then		K looking at L's work and writing		
7	C That's what Evelyn does... she just goes	K writing	C looking away/ ahead / into	C left hand mimes tooth	

	like that		space J and L look at C , (re-enactment)	pulling movement , smiles	
8	C1,2,3,Yank			C hand in mouth mimes downward pulling motion , gasps after each number	
9	K No , my Mum got piece of string, she got door and she slammed it and it came out		K looks at C J C and L look at K K looking up and way	K mimes pulling tooth K hand flat against side of head K jerks hand from face, hand in upwards motion and open palm gesture up Then hand over mouth	
10	L yeah?		J and C looking at K K looking at L's work	L leans forward	L rocks toward K
11	K Yeah			K smiles	
12	C Remember when Rosie did that			C Hand by chin	C's face moves forward
13	L Well, she didn't actually do it though			C strokes neck C opens mouth, fingers in mouth	
14	C No, but she tied it an' someone opened the door , didn't they?	C fingers in mouth	C and L lock gaze	C hands gesture circular movement C points to mouth, gestures open	L and J lean toward C

				door , C touches mouth	
15	C D'ya remember?		C looking at L , K looking down J looking at L	C hands move apart	
16	L Yeah				
17	C And blood were all over		K looking ahead L and J look at C C looks at L	C Touches mouth fingers splayed, across chin miming blood flow C gestures outward manner	
18	L Yeah?				
19	K Yeah, That's happened to me and there were blood drops on floor		K looking down	K hand pointing down	
20	L Eurhhh			K raises both hands to mouth C hands raised, elbows on table	L leans back momentarily
21	K yeah Mum said		K looking ahead	K puts pen down K puts hands in mouth	
22	L Was there?				
23	K Yeah. I said my mum, mum turn it ... take it out then and she was about to take it out and then she pulled it out Oh God it hurt It was a big tooth	Fingers in mouth	J C and L looking at K K looks down /away  K glances at L	K hands in front of mouth, gesturing to teeth , K mimes pulling out tooth- jerks hand away from mouth	

24	K Er That one...there ..that one It was that one there			K smiles, runs finger along teeth	L leans in to look in K's mouth
25	L Have you still got your fangs? Your fangs here?		K, C and J looking at L	L left hand points to own front teeth	L moves back L moves towards K
26	C You don't have fangs		C looking at L		J leans back slightly
27	L you do				
28	L K**** has		K and L lock gaze C and J look at L		L leans towards K
29	J Some people get them, some people don't		J looks at L – then into space Girls don't look at him	K pulls back lips to show teeth J's tongue exploring teeth in his mouth	L leans towards K , C puts fingers in mouth looking into space
30	C	C fingers in mouth	C glances at J then puts fingers in mouth		
31	L There ...and there		J looks at L L looks in K's mouth C looks at K	C fingers in mouth K's fingers in mouth	L touches K's teeth
32	K I'm not a vampire			K fingers in mouth	
33	L they look like fangs				C stretches hands out to K
34	K lets have a look	K Looks in C's mouth	J and L look at C and K	L touches lips	K pushes C's hands back
35	C I haven't got them				
36		K fingers in mouth C fingers in mouth L fingers in mouth			J leans in to look at K
37	K Have you	K turns to C			



	got fangs? ( to J)				
38	C I haven't				
39	J kkkkkkkkkk noise	J pulls vampire face	L K C turn to look at J J looks up	J puts 2 fingers momentarily in mouth, shakes head J bares teeth J Hand below face fingers splayed	
40	L I Haven't Mine have fallen out, I think		C K J look at L	K fingers in mouth	J leans to K
41	K Oh I'm a vampire		K looking down C and L look at K		
42	K I'm gonna bite yer	K Biting action to L		K grimaces showing teeth	K bites air towards L L leans back
43	J You can have them on the top	All 3 girls playing with teeth, fingers in mouth	L and K look at J	J puts 2 fingers in mouth pointing to teeth	
44	L Yeah you can		K looks down C L J look at K	K fingers from both hands in mouth	
45	C K*** has		C looking at K K wiggles canines		K shoulders hunched
46	K There I think		K looking down	K touches her canines	
47	K I'm a vampire ...		K, L C looking down	J fingers in mouth still	
48	C aaaarh (squeals)			C mouth open in expression of mock fear , left hand in claw like gesture.	C leans back

49	L Right... we're gonna get done.					K rocks forward
50	C Who's gonna say who will go...		L and C look at K's writing	J fingers still in mouth		
51	K Danny says 'who's ...					J sits back a little
52	K( IN UNISON) L Go first in the labyrinth		L looks down at her writing K glances at l's work C writing J pencil in hand looking down			
53	K No – it's not the labyrinth!					K touches l's left arm – stop gesture
54	C No – it's not the labyrinth!		J looks to C C looks up	C waves hands excitedly to side		
55	L Oh no, it's not is it...it's there	L pointing to book			L hand over mouth	
56	K Hey all these things dumped on mine! ...look at mine	K gets book out from under others K turns page L turns page	L looking at her book J looks at k C looks at her book			
57	L .. labyrinth	K Turning pages in book				
58	C The moon and the sun,					
59	K The Sun ! The sun!	J looking down , thinking			K points to work , J looks at K C and L look at their books smiling	
60	K Who will go first in the sun?	C , K laughing				
61	J I know the most painful way to get your teeth out...		L looks at J J looks at L	J hand under chin		L head up, L leans forward

62	L What ?				L momentarily leans forward
63	J tie your tooth... tie your tooth to a car with a rope and then tie your body to a wall with the rope then someone drives the car.		L and J lock gaze J looks up C and K look at books L glances at R	J punctuates words with hand  L pulls quizzical expression	
64	L How can you tie your body to a wall?		J looks at L L looks at J	Head moves side to side	
65	K Why don't you try it?				J shrinks back in chair
66	K Depends how big it is.			K hands quick motion outwards / sideways	
67	L Yeah If I ... what if ..what if the walls like massive	L arms outstretched	K and J look at L C head down writing	L hands outwards movement	J leans forward
68	J You get a big rope				
69	K what if the wall bes on forever?		K looks at J		J leans forward L leans back
70	J You get a rope that's longer than forever	K smiling, hand over face			
71	L You'd have to tie loads and loads and loads of string together though wouldn't you.		L looking up then at J		L leans back then forward to J
72	K No but it'll lead on forever so it can't	Hands miming walls	K turns to look at L	K's hand side to side , K 's hand s gesture width of walls	
73	K and if there's a wall there it		L looks at J K looks at J	K hands move up and	

	blocks the edges of it		J looks ahead	down gesturing walls K smiles triumphantly at J	
74	C We're not actually getting any work done.		C Looks up above K's head		

Multimodal transcript :2:2 I believe I can fly

	Vocalisation/ speech	Action	Gaze	Gesture, Facial expression	Posture, Proxemics/ Haptics
1	C to K ....(unclear)		C looks at K	C points pen at K	
2	J It's just the minotaur, King Minos, King Aegius, cos Ariadne comes in really late in the story.	J waving hands	J staring ahead , into space J looks to K	J pen in hand punctuating speech, waving, fingers splayed, hand in air then across body	
3	K she's around here...no she's around there	Pointing at storyboard sketched in exercise book	K looking at book , C looking at J 's book, J looks at C's book	K tapping book	
4	K laughs (at J)		K looking down at book		
5	J She comes in behind King yappy	Dancing motions with hands and shoulders			
6	L Kevin sails for ...er	Reading aloud as she writes	L looks into space then at book		
7	J Ariadne's gonna...				
8	J on mine Ariadne's gonna be on a... whaddy callit... hologram disk	J waving hands, makes book gesture Girls don't respond to this		J book hands then touches neck and ;looking up to right J makes book hands again	J rocking back and forth

9	C At least didn't put set on fish	C Laughs L turns page		J makes fists then prayer hands , puts hands below desk. C pointing at K's writing	
10	K No .. but Danny he doesn't sails.. he goes on.. its futuristic .. he doesn't sail, does he?		K looks at L's book J and C look at L K and L lock gaze	K touches face	K leans back L leans back
11	C He go .. He flies .. mine	Hands outstretched arms like plane wings	L looks at C C looks at L J looks at his book		C body rocks side to side
12	C because he goes in spaceship				
13	K I believe I can fly	singing	K looking down	K hand flicks out , fingers splayed	
14	C (joins in ) ..can fly				
15	L Oh Yeah				L leans forward
16	K and C I got shot by the FBI		J looks at K K and C look at each other then	C and K smiling	K and C lean forward together
17	K All I wanted was a bag of chips but...				
18	C Shurrup	Girls laugh J smiling	C looks at K J looks at K L looks up , smiling		C pull sleeve over hand and touches K's mouth
19	K mmm mmmm mmmm ...Danny	Humming tune	K looking down at book c and L and J looking at K	C puts hand in front of mouth C laughs	C leans forward
20	K It's not sails L*** . What... what can they travel on?	K turns pages in book	C looking down writing, K looking at book, L and J looking at K's book	K points in book	

21	L Does yours travel in a spaceship?			L pointing at C , punctuating speech	L leans across K to C
22	C Yeah				
23	L Ohh		K and L lock gaze momentarily		
24	K ..ours				
25	L How does it do that ? ..it actually flies	L Hands out			L leans forward slightly
26	K Without spaceship	K hand over mouth	C looking up , mouth open	K laughs	J head to one side looking ahead
27	C K laughs				
28	L Flies like a bird	L Hands out moving up and down	K and C look ahead / away from each other		
29	J Does he use a batman costume?		L looks at J , K and C away,	C and K hand in mouth	J rocks back and forth in chair
30	L I dunno	LKC laugh	L K C look at each other		
31	J He could start flapping his wings ..like that	J Waving both arms	J looking ahead then to side L head down writing C looking at book		J nod in front then to side
32	K How does he take Ariadne back then cos she can't fly can she?		C looking ahead		
33	L yeah but she can get on his back	C K L laughing	L and K lock gaze	C hand over mouth	L leans forward face touching book
34	K piggyback			K gestures hands with fingers pointing down	
35	L Yeah				
36	C We're not getting much				

	work done				
37	J What does he do? When he's tired... take some steroids and throws around space		L and K look at J J looks down	J hand taps table  J hand to mouth J shakes head slightly, eyes side to side	K and L lean back slightly
38	L Yeah and drop ..yeah..yeah			L nods twice	
39	L Flies under the space ship which is the island			L sitting upright , looking down at book, hands up in front of her, alert	

### Multimodal transcript 3. Water Cycle

*The boys have entered the hall and L has demonstrated evaporation by doing a full body wiggle and G has run and leapt sideways to show convection. They are now positioned on the floor. S has the pen and the chart in front of him and appears to have designated himself in the narrator role and is trying to work out who will take on each aspect of the water cycle. O is resting on his haunches. S, L and G are lying prostrate on their stomachs facing in around the chart on the floor in a circle.*

#### 3: 1. Breadloaf

	speech	actions	gaze	gesture, facial expression	posture, proxemics , body haptics
1	L That's where you come in for me – to me You come crying to me, then I put my arm up		O and L lock gaze		All leaning in to one another in circle
2	S Yeah so that's O***	S looking at chart		S gestures circular movement with hands	
3	G You're gonna need ( <i>a lamp?</i> )		O and I looking at G, S looking at chart on		

			floor		
4	O oh yeah				
5	G	G gets up		G hands stretched out in front does breast stroke action pulling upper torso forward	G rises to knees, leans back , spitting action forwards to group
6		G spits forward			G goes back on hands and knees
7	L Ooh mate, That's horrible			L turns face away from G momentarily	
8	S Why did you put O*** for that?		All looking at chart on floor		
9	L That's me		L and S lock gaze	L points to chart	O sits up, leans back
10	S What?		S looks at chart		
11	L That's me O That's L***		L and S lock gaze O looks at S	O raises hands for emphasis	
12	O You dumbo		G glances at S then looks at chart	Hands up and down sharply	
13	S I thought you were putting <i>sun on cloud</i>				
14	O Awww For godsake, S*****	O falls back to left side lies on floor			
15	O Use your breadloaf	O sits up leaning on left hand	L and O looking at S , S looking at chart		
16	O Use jack Walk-it-on		G looking down at trousers		
17	L (short laugh)			L pats S head	
18	L Is anything there?			S and O smiling	
19	G He's half home			G taps S 's	



	Play knocking on wood			head with knuckles	
20	G	G on hands and knees, moves away from group, returns			
21	S Alright. So what's the stuff we need?	S turns paper over and back	All looking at paper		Boys move closer together, O and G sitting up on haunches, S and L lying
22	L I dunno				
23	S We need				
24	S something causes.....	All lean in together			
25	(ALL)Euurrrh	All laughing		O pats floor in front of him in mirth	S, O L and G all rock back and forth once O lies back laughing
26	(ALL) laughing				
27	G I didn't				
28	L That were <i>right mental</i> , that.			L pointing at G	
29	L Its sort of like that. It were in like that and then it came off			L pointing at paper	

### Multimodal transcript water cycle 3:2. Practising Actions

The boys have been talking about the chart they have been given to help them,( S: 'The sun causes the evaporation of moisture'), as well as messing around, kicking objects around the hall and talking about what they would do in the event of a fire. S, G, and L are lying on their stomachs at the front of the hall: O is sitting with his legs curled in front of him making a circular group. S is propped on his elbows with a chart of the water cycle in front of him in the centre of the circle on the floor. At this point all the boys are looking at the paper. S refocuses attention on the paper with 'Right come on lads, eyes down, get on with business...'

09.10	speech	actions	gaze	Gesture, facial expression	Posture, proxemics, body haptics
1	S ....and turns	S writing on paper	All looking at chart on floor		All leaning in, relaxed posture
2					
3	L That's nearly all of it				
4	S (Snorts) shurrup		O looks at G grins	S raises hand with pen in dismissive gesture	
5	L we need ..you know...I'll practise my actions	L gets to feet	O looks at L		
6	O yes	O gets to knees, G sits up			
7	G The two ( <i>millionth</i> )	Lifts up head			
8	L G*** G*** you need to practise it		L looking at G		
9 09.30	L oh god there's things on it	L brushing dust from his trousers O and G get up simultaneously	S and O looking at L		
10					O swings legs and feet alternately G bends to study his trousers
11	L You should be <i>participation</i> going down like that	L arms outstretched runs forward	G and O watching L S looking at chart		L arms behind head , head dives down then up as he runs forward then stops suddenly O puts arm out in front of L

12	G These shoes are rubbing me	G Takes off shoes	G, O and S watching L		L arms out to side hands in wavy gesture L does body wiggle
13			O and L lock gaze		
14		O takes off shoes – kicks first trainer lightly then removes 2 <sup>nd</sup> trainer and drop kicks it to floor	O looks down at feet		
15	S I've got to draw that sort of thing though...right I don't know what the name is		S looking at O G and L looking at S		O takes steps backwards then walks forward arms at side then kicks into air
16	O I dunno I ha'nt got a clue				O shrugs O walks towards S
17	L (to S ) Which one was er er um um condensation?	L walks towards S L points to chart on floor with left toe	O looking at S		O points to floor with toe
18		G arms raised to the side of his head, stretches out arms then waves exuberantly in air	L and O looking towards S		O circles ground near paper with toe
19	G It's that fwooh	G waves arms in air L snorts/ laugh			
20		O Hands in a whoosh action, from below going up. Then swings arms by side			
21	S Condensation is .... You do it for me....	L bends down to look at chart			

22	L ( to S)That's the one where it goes bloooh ?	L pointing at diagram			
23	G No... Liam don't ...				
24	L How can I turn into a cloud	O steps forward to look at chart, bends over	O , L , S looking at paper on floor		L straightens
25			G standing , looking from a distance		
26					G both arms arched in front of body to left side
27		G moves side to side	G looking at others, they do not look at him		
28	G You go like that, You go like that G Wooh	S gets to knees G bends knees, hands out fingers splayed raises up arms, then brings them down	O looking at L L looking at G S looking at G		O playing with trainers at feet S mirrors G's arm movement upwards.
29	L what do you do?		L looking at G		
30	S You go like that Like that whooh	S moves arms side to side across body	O G L looking at S S looking at L	S smiling	
31	L what do you do?		L looking at S		
32	O you go like that	O moves across G Running sideways			O lifts shoulders
33	L I could go like that		O G and S look at L		L lifts shoulders while watching O
34	S You go like that Pheeww (	S arms raised up circular gesture down			

	blowing sound)	to side , bending knees S steps to right			
35	G No			G frowns , hand to face	O taps trainer with foot
36					
37		S on feet			
38	O you dance across like that.	O moves sideways again			L arms to side
39		L arms to side			
40	L O**** does that ..He goes ooohhh	O walks towards L, stops hands on hips , resting left foot on trainer	O and L lock gaze S looking at chart	O and L smiling at each other  S points at L	L wiggles hips , movement from knees up through body S wiggles head side to side slightly as he watches
41	S he..floats ( <i>Indistinct</i> )		S looks behind at doorway as he speaks, G and O follow gaze	S points at O	
42	O I do not float off		O stares at S	, O lifts chin up	
43	L He goes like that Yeah?  whooh	L Repeats action	G and O looking at L S looking at chart		L arms to sides, wiggles body and raises arms in upward motion O copies wiggle G raises arms
44	S I thought you'd said....After you'd taken off your shoes			S points at chart on floor	O taps trainer with foot
45	O Oh yeah I know		S and O lock gaze		
46	S you said			S points at	S makes

	...with hands S I've got O*** behind that		L looking at S O and S lock gaze	O O walks towards S	circular movement with arms L arms in arch above head, G arms raised, makes arch
47	L O*** goes like that		O and S look at L		O taps trainer on floor with right foot
48	S So..... He goes ...	S walks towards O	O and S lock gaze	S points at floor	O jumps clapping hands behind him
49	S So that's what I put but you said 'no'!	O walks towards S  O makes kicking gesture towards S		S points at O  S steps back, O steps forward	L arms out to side  G swings arms by side , clapping in front and behind rhythmically
50	L I could go like that	O does star jump and claps	S, O, and G look at L		L makes arch above head with raised arms leaning to right side
51	G Now yeah I know	Copies action and sound			
52	S ...alright	S pointing to diagram			
53	L Behind O*** goes like that				
54					
55	O I can go like that	O Lifting leg			
56		L arms in arch, moves to side			
57	O Like that	O does star jump O claps hands			S goes on knees to chart
58	S alright	S writes on chart			
59	G	G repeats action			
60	L No O*** you do that	L slowly does action again			L does body wiggle

	Whooh				ending with arms arched above head
61	O What ...?	O jumps again			
62	L No slowly whooh	L repeats action in slo-mo			L raises arms above head S writing on chart
63		G mirrors action with arms up	G and L facing each other, O looking at L, S looking at O		
64	S (gets it ) O*** you do that			S points at O	S on knees by chart
65	S ( to O ) No! You've got to float up And go like that	Pointing at O			S gives circular arm movement
66	Watch me, watch me			S points at O	G steps forward arms outstretched in front
67	G WHERE? WHERE ?				G covers mouth with hand in shirt
68	L Shurrup G*** get up, get in corner !	L points to corner	L and G lock gaze		L holds G's shoulders , moves him to one side

Multimodal transcript 4: Blood circulation: 4:1 Tissue, 4:2 The Heart Valves and 4:3 The Lungs.

### Context

On the board the teacher has written the objectives for the lesson.

WALT : to understand that the heart pumps blood to all parts of the body

Success criteria: I can work with my class mates through movement to show how the heart pumps blood around the body.

They have started the lesson on the carpet by talking in pairs about how they think blood pumps around the body and have been asked to think of parts of the body that do not need oxygen. After coming up with lots of suggestions, (hair, nails, teeth, ears, doo-dah), JC suggests 'everything needs oxygen'. D proposes that 'blood cells carry oxygen around the body'. The children have been given a list of key words to use during the exercises – arteries, veins, valves, circulation, lungs and blood cells. The

teacher has specifically instructed them - 'These are the keys when talking to one another, I want you to use this key vocabulary'. (Interestingly, 'tissue' is not one of the key words, yet it has been introduced in the video they have seen. ) The children look at a diagram of the heart on the whiteboard and one pupil holds up a picture in a book on the human body from the library corner. They also watch an animated film about the heart and circulation of blood.

[www.mayoclinic.com/health/circulatory\\_system/mm00636](http://www.mayoclinic.com/health/circulatory_system/mm00636) and a film showing the relative size of a blood cell [www.cellsalive.com/howbig](http://www.cellsalive.com/howbig). The children write on whiteboards at their table a summary of what they have learnt in some cases drawing diagrams to help them. I am then charged with taking a group of 9 pupils ( OI, BC, Le, K, C, O, L, BP, J) to an empty classroom upstairs to rehearse their re-enactment of the circulation of the blood. I suggest to them that the carpet area of the classroom could represent the body and that they could organise themselves into parts of the body, which remain stationary, and blood cells which move about. I then stood back and tried to intervene as little as possible- although it is clear I am keeping them on task and directing their actions far more than if I had simply been in an 'observer' role. O immediately volunteers 'I'll be a lung' and L follows with 'I'll be a heart'.

#### 4:1. Tissue

	Speech	Actions	Gaze	Gesture, facial expression	Posture, proxemics, body haptics
1	O I'll be a lung				
2	L I'll be a heart	L goes down		Right hand touching left breast	
3	BP (indistinct) L pppchh	L goes up, arms to side	J looks at L		Hands clasped, elbows raised, rocking back and forth
4	C What can we be?		C looks at K		
5	K I know about J***		L, J, O, BP, C, OI, L all looking at K	K pointing at O	
6	K J*** can be that ..			K moves hand to point at J J smiles, looks away, hands loose in front	
7	O you can be a tissue			O Points at K	
8	All children laugh				C moves toward K



					holding hands , BC comes to K's left shoulder
9	K It's a cell				
10					
11	O I know it was I never said it weren't		O looking at J		
12	J what ... (indistinct)		J looking at O		
13	O you get poohed out		O looking at J then down	O frowning at J ,	
14	O I could be a lung				
15	Lots of laughing A lot of talking all at once				Girls line up in front of boys K advances on O
16	L oi	L arms raised			A push or two
17	L Oi that is.....		All children look at board	L points at board	
18	O How come you're a lung?	Girls line up facing boys	O looking at K		K advances towards O
19	K what's a tissue	L, K, C BC advance on O			
20	L I don't know				
21	O blow yer nose				
22	All laugh	Girls retreat in to a circle, laughing.		OI hand in mouth	
23	L Look...over there		All children turn to look at board	L points at board	
24	indistinct comments				
25	K I'm a tissue				
26	O I'm a lung				
27	K I'm a tissue				
28	O I wanna be a lung I'm a lung Babsy be a lung.				

29	R Um L***, L*** don't touch it	L walks to pc in corner, goes to touch it , walks away			
30	OI, L, K, BC all say word over and over Tissoos, Tish - ooooo				
31	L who wants to be a tissue with K****		O looking at K,	L fingers in mouth	
32	C I will			C finger up L finger up	
33	Girls talk – indistinct.				K puts her arm around c and L
34	O (To CAMERA) Is there only 2 lungs?				
35	R two lungs, yeah, but there's a heart and the heart has got a right side and a left side				
36	L I wanna be the heart			L puts up hand	
37					O puts his arm around L's shoulders
38	O I'm the left side of the heart				
39				L puts right arm up	
40	L yes cos you're left handed				
41	O Of course I'm left handed, Left handed bloke	O and L slightly bouncing in time together		O left arm out, L right arm out	O and L arms around shoulders
42	L The girls are lungs			L flicks out thumb towards girls	
43	O OI (L****'s the lungs....			O pointing to OI	
44	L OI/L****'s the lungs!			L grins at alliteration	

45	O .... Wi you You can be tissue			O pointing to Ol then to BP O indicates J with thumb	
46	O Who's a ... blood cell! Blood cell!			O pointing at BC then O pointing to J	
47	O Tissues			O flicks hand to indicate C and K	
48	O Lung			O points to Ol, then to BP then back and forth ( signifying the two	

#### 4: 2. Heart valves

12.45	Speech	Actions	Gaze	Gesture, facial expression	Posture, proxemics, body haptics
1	R Excuse me, what about... who's going to be the heart?				
2	L me O me			O Hands up	L arms around O
3	R what about the valves in the heart?				
4	O Oh yeah, who are the valves			BP with hand in the air	
5	O you're a blood cell			L pointing at Ol	
6	O He's a blood cell			Ol pointing at BP	
7	R What do the valves do then ? What do the valves do?				
8			L eyes down , thinking		
9	L move ...			L hands gesture valve motion	
10	L that means someone needs to stand wi'us		L looking around	BP hands up O hand raised	

11	L someone needs to stand wi'us				
12			BP looking at L	BP hands up looking at L	
13 13.07	R They said it was like a gate didn't they? On the video And it only opens one way You could have a gate like that couldn't you.				
14				L small hand movement like valves BP arms wide apart	
15	BP I wanna be it Me valves	BP makes gate shape with lower arms and hands		BP victory arms BP patting top of own head	
16	L psssh- shhh			J hands in shape of valves	

#### 4.3 Lungs

18.01	Speech	Actions	Gaze	Gesture, facial expression	Posture, proxemics, body haptics
1	O I'm the right side of the heart				
2	R yeah...and				J doing arms up and down for valves , leans forward to L to speak in his ear
3	L ( prompts O) You just pushed the blood cell to the lung		L looking at O		

4	R through the ... through....				
5	O oh yeah and I push the blood cell into the lung		O looking at BC and Ol (the lungs)		O , arms raised, clasps hands behind neck
6	R Into the lungs Ok				
7	R what are you going to do , lungs				
8	Ol and BC laugh		Ol and BC look at each other		BC leans in to Ol , then looks away
9		BC breathes in exaggeratedly deeply.			
10	R what do you say				
11	Ol (indistinct)		Ol looking to camera		
12	R What's that?				
13	Ol I give the blood cell oxygen			Ol smiles	Ol pats L 's right hand
14	R Can you do that ?				
15			BC looking at L		BC both hands outstretched moves arms up and down
16			Ol looking at L		Ol both hands out 'giving' L oxygen
17					BC mirrors action

### Multimodal transcript 5 The Piano

#### Context

This extract comes from the first in a series of five literacy lessons focussing on an animated film 'The Piano'. The children have watched the film on the whiteboard twice, the first time to introduce it and the second time focussing on the number of characters presented in the film. The introductory activity involves discussing in groups the aspects that they like and dislike about the film and any puzzles or

questions that they see in the film. They are to write their ideas on post-its which as a whole class activity will be put on three large posters on the walls around the classroom. This group comprises four boys, JC, JW L and G and they have been talking about the film for a couple of minutes: they have decided that any of them can write on the post-its as they have an idea- JC 'We'll take it in turns'. It is possible to hear the music from the film playing in the background.

Extract 5:1: Piano fingers

12.00	Speech	Actions	Gaze	Gesture, facial expression	Posture, proxemics, body haptics
1		G takes post – its and pen	G looks at post-its, JW looks at G		L has left hand outstretched towards G
2	G What shall we write ?				
3	L got an idea	L takes pen in left hand and post-its in right	G's gaze follows post-its JC looking at post-its over L's shoulder		JC leans in to L
4	L How do you spell weird?  ...W... E.... ..... I R D G ...I R D		G looking at post-its , L looks up, G looking at L writing, glances up at L JC watching L writing		L leaning head side to side G leans forward to L arms across body in front
5	G weirdo....weirdo...(sing song)		L looks at G, JC looks at post-its		L has pencil upright in right hand
6	JC NO You can't just put 'weird' on it. Come on You have to write More description than that	L writing	L looks at JC JC glances at G then looks at L  JC glances at R	JC emphasises with downward motion with right hand twice	L leans back Then leans forward
7	G The lady's weird.		G looking at L writing on post-its		G hands together in front on

					table
8	JC ( <i>indistinct</i> ) <i>Well she might be angry as well</i> You can have a pat on the back	L tears off post it and gently chucks post-it pad and pencil towards G	G leans left to look at JC	L points	JC pats L on back L arms folded, leans away from JC
9	L Thank you J****( <i>sotto voce</i> )			L grins	
10	G Shall we put them in the middle?		JW looking up, thinking		G leans forward, puts post-its on books in middle of table L right arm outstretched on table
11	L They don't stick on very well Put them like that		G looks at L	L twists hand to right, upside down with palm up	JC leans left towards G
12	JC They're sticky only one way	L takes post-it and puts it in middle			
13	G eeerrrr	G taps pencil on table	G looks up into space		L folds arms
14	JC ( <i>indistinct</i> )		G looks at L		
15	G errrrmmm		JC looks down, L looks at G, G looks up		
16	L and JC( talking – <i>indistinct</i> )		JW looks at G, G looks at L, L looks at whiteboard	JC stretches hand out	
17	G yeah	JC takes	G glances at poster		G rises briefly from

		post it pad from G	behind G hands post – its to JC		seat ,  JW holds chin, thinking
18		JC writes on post- it	G and JW look at poster behind		
19	G I know what I'm putting		L looking at whiteboard, G looking at JC	G stretches hand out across table then slaps them down on table	
20	JW Good graphics Got really good graphics		JC looking down , writing G glances at JW	G throws both hands above head in air	JW stretches out hand pointing thumbs up ( <i>giving gesture</i> )
21	JC Could put that Well...animation				L leans to G whispering
22	JC oww!		JC glances at L	L grinning	L sits back ( <i>does the chair leg go on JC's foot?</i> )
23	L Whaat?		L looks at JC writing	L both hands on the edges of the table	L leans towards JC
24	JC Good...animation and ...				G gets up, taps L's left hand to get attention , beckons with 4 fingers of left hand
25	G whispers to L		L and G look across room		L and G heads together
26	JW Realistic ...ummm		G looking at whiteboard	JW Piano fingers splayed on	



				table	
27	JW Realistic movements		JW looking at JC throughout exchange	JW fingers of both hands 'play piano'	
28	G NOOO Three...fings		G looking ahead ( at L?)	G waving right hand up and down , JW stretches piano fingers across table towards JC and L	G bobs forward in chair
29	G Who shot him?  L Who's the boy ?		G looks down	L waving hand at whiteboard	
30	JW Realistic movements ..on the track...		G looks at JC writing on post -it	JW still piano fingers in front on table	G puts head in hands , elbows on table
31	L who's the boy ? JW ...err on the piano				G fiddles with something on table
32 14.22	JW Yeah ...cos You know when he's playing the piano L who's the boy ?		JW looking at JC , G looking up, G glances at whiteboard		G puts his head in his hands , elbows on table
33	JW He's got his fingers Right on the right keys		JW still looking at JC		JW leans back , briefly stretches out hands then and folds arms
34	JW They're <i>not higher up or owt.</i>		L looks at JC		G and L both elbows on table chin in palms
35	JC Yes I know		L looks down		
36	JC I'm gonna come to		JC glances		

	that in a second		at R		
37	L Who's the boy ? JC animation ...realistic ..sticking to table	JC lifts post -it	G picks up post =-it, and looks at it L looking ahead	L hands in piano fingers on edge of the table	L rocking back and forth
38	JC What did you say?	JC puts post it in middle of table	JC looks at G then glances at L		
39	L Who is the boy?		L looks over at whiteboard		L hands together in front on table , rocks back and forth
40	JC Which boy?	JC holding post-it pad and pencil			
41	L The green eyed one. The green one.		L and JC lock gaze	L Hands with finger tips touching in two claws facing each other	
42	JC The second one?				
43	L Yeah G L JW ( <i>indistinct</i> )		L looking down  L glances at G		
14.54 43	JW Good trick with the piano...where			L piano fingers	
44		JC writing	L looks over at whiteboard.	L hands tapping table in front , fingers splayed.	L rocks back and forth.

Extract 5:2 Scary Smile

17.52	Speech	Actions	Gaze	Facial expression,	Posture, proxemics,
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				gesture	body haptics
1	JC We need more ideas Put that one there	JC reaches hand across table to post-it pad in L's hand G gives L post it to put in middle	G and JW looking at JC L looking at post its	All boys have serious thoughtful expressions	G chin in hands, elbows down on table G and JW leaning in to each other and forward to JC, JW arms folded
2	JC ok...so...umm	L puts post-it in middle of table in front of JC	JC glances up at R and down at post-its	JC flaps post-it pad in left hand	L knocking on table rhythmically with both sets of knuckles and bobbing back and forth
3	JC But we've found something...				
4	L Come on then ... You're not just ...er		JC looking down L looking at JC, eyebrows raised	L right hand slicing gesture , then right hand open palm	L leans forward with urgency L elbows JC with right elbow
5	JC I don't know I'm rubbish at ( <i>everything else</i> )			L smooths table with flat palms JC slight smile and shake of head	
6	JC...how old is the old man...right?			G and JW smile	G chin in hands then G slaps hands down on table with frustration
7	JW Yeah Because he could have A badge on him Saying Happy Birthday, You're 84 Something like that		JW looking at JC G looking at JC	JW slight smile as speaking JW points both index fingers at left chest where	JW leans in  G head in hands , elbows on table

	To make it To give it away.			school logo is on sweatshirt  JW moves hands under table	
8	L Who shot that guy?		G and JW glance at L		
9	G Yeah... it...			G raises head from hands then puts thumbs to eyebrows , leaning forward	
10	JC No...( indistinct) How old is the old man	JC writing on post-it	JC looking down L looks at JC		L hands clasped , left cheek resting on them
11	L yeah ..but that's not...		L looks away	L both hands flat on table in front L open palm gesture ( <i>imploring</i> )	L shrugs ,
12	G That's just stupid				
13	JC Yeah J*** he's old	JC tears off post- it and puts it in middle	L looks at JC JC looks at JW		
14	L We need to fit something...what we can...				
15	JC something I want		L turned to right to look at JC		L leans forward
16	G Who shot the weird guy?		L looks at JC JC looks at G	G hands stretched in front across table	
17	JC Scary smile That's Scary smile	JC takes up pencil JC writes on post-it	L looks down		L leans back in chair
18	JC Freaky ...yeah	JC pulls off post - it	L looking at post it. L glances at JC	JC grimaces a 'scary	JC flicks head up to right

				smile' JC puts right index finger in corner of mouth to stretch smile wider	
19	JC He's got plastic surgery on him				
20	JW How ...how ... the ghost umm		JW looking at JC		JW puts hands under table and leans forward G head in hands
21	G ( counting post-its ) six..seven		G looking at post-its	G pointing with index finger as counting the post-its in the middle of the table	
22	JW How ..how does the granny disappear ...		JW looking at JC		
23	JW Because they're not like...				
24	T ( To class)... Yes...Look this way please.				

## Appendix 3. Example Commentary

### Commentary 2:1 and 2:2

#### Context

Four children K, L, and C, (girls) and J (boy) are working in a group in a small room discussing and writing their version of the story of Theseus and the Minotaur. The room is used for withdrawing small groups for focussed work on literacy and numeracy with teaching assistants. The walls are covered with spelling charts.

#### The task

Their task is to transpose the setting from Ancient Greece to a futuristic science fiction story. This involves re-working the characters, which they have done in the previous lesson and changing the setting and key features of the story such as the black sails on Theseus' ship. This is what they are working on today.

<b>2.1: Pulling Teeth</b>
<b><i>Ideational</i></b>
<b><i>ON TASK Content</i></b> includes the temporal setting of their stories, the geographical location of their story, the form of transport, the spelling of certain words, the changing of the sails the names and attributes of their characters
<b><i>Ideational</i></b>
<b><i>OFF TASK content</i></b> recollections about friends and family, working out concepts (such as eternity), ways of extracting teeth, songs, vampires, clothes and nakedness
<b><i>Interpersonal</i></b>
<b><i>Functions within interaction</i></b> criticise and correct each other, make suggestions, ask each other for help, insult each other, tease each other, applaud each other, amuse each other display their world knowledge, assuming other identities (role-play) censure each other –the girls particularly J
<b><i>Textual</i></b>
<b><i>Textual Features of interaction</i></b> <b>A) Cohesion</b>

## Lexical cohesion

### Collocation

Within the discussion there are semantic ties between the main subjects of the conversation which are *pulling teeth out* and the re-working of *the story of Theseus and the minotaur*

Lexical area 1. Pulling Teeth- Tooth/ teeth/ fangs - come out, Pull out, fall out, bite door – slam, open,

Blood, blood drops, vampire,

String, tie , rope,

Lexical area 2. Theseus story

Labyrinth, sun , moon,

### Metaphor

A rope that's longer than forever – the concept of infinity.

### Repetition

(i) False starts for example lines 21 and 23 Mum is repeated, line 64, 'tie your tooth , line 24 'that one' and line 68 'what if ' .

(ii) Fangs line 25 and 26 is echoed from a previous utterance.

(iii) An example of patterning of discourse would be J's repetition of 'some people....some people....' Line 29 and for emphasis , 'loads and loads and loads' line 72

(iv) Agreement between speakers is exemplified by lines 43 and 44 'You can'.

Also C's exact repetition of K's utterance line 55. 'No – it's not the labyrinth'.

(v) Line 36 and again line 43 there is a symmetry of action as all 3 girls have their fingers in their mouths simultaneously mirroring each others actions.

### Reference

(i) Anaphoric reference is evident with 'It' referring to 'tooth' on the preceding line (line 5 and 6.).

(ii) On line 7 'like that ' refers to the tooth pulling action gesture simultaneously with the utterance .

(iii) On line 9 there is no previous utterance for 'it' meaning tooth to refer to but there is **an action** whereby K mimes the pulling of a tooth before the utterance.

**This suggests action can form an integrated part of the interaction. That is reference is not simply a linguistic feature but can be realised through gesture or action.**

### Intertextual references

The reference to fangs leads to a connection to vampires. This is also realised through the biting action line 42, in conjunction with the words and line 39 J's noise accompanying two fingers in his mouth making a visual representation of fangs and a fearsome vampire facial expression. In fact J is the first person to connect the ideas of the teeth, the fangs, the drops of blood and the vampire and he does this through the modes of gesture, facial expression and noise BUT NOT SPEECH.

### Conjunction

J uses 'then' for temporal connection line 64.

### Ellipsis and substitution

(i) 'Big' is substituted by 'massive' lines 67 and 68.

(ii) Line 17 and blood were all over' : this could stand alone but we could understand 'all over the floor' or 'all over her chin' but C accompanies this statement with a gesture across and down from her chin clarifying an apparently unclear omission.

(iii) Lines 26 and 27 show a typical pattern of omitting a verb phrase

C You don't have fangs

L You do.

(iv) There's other stuff going on here that I'm not sure where to put

For example

Line 47 48 adopting the voices of others – K I'm a vampire, C squeals mouth open in mock fear , claw like hand gesture.

Songs and humming

Miming

actions

## 2.2 I believe I can Fly

### *Ideational*

#### **On Task Content**

They discuss the setting for their stories and the ways in which their characters will travel.

### *Ideational*

#### **Off Task Content**

K and C sing and hum a version of a pop song which is connected to the subject of 'flying' but is an extension to their on-task discussion.

### *Interpersonal*

#### **Functions of Interaction**

Making suggestions.

Asking for and checking information with each other.

Mocking others suggestions.

Censuring each other

### *Textual*

#### **Textual Features of Interaction**

A) Cohesion

1. Lexical cohesion

#### **Collocation**

Words associated with the legend- Theseus, Minos, King, Aegius, Ariadne, story, minotaur  
Lexical areas of journeys – sail, spaceship, travel, fly, piggyback, 'batman costume' . Flying – 'flapping wings', Futuristic – spaceship, 'hologram disk' : medicine – 'take some steroids',  
Taken from the song parody- 'a bag of chips, 'shot by the FBI'

#### **Metaphor, Idioms, Similes**

2.1/28 'Flies like a bird '- this is to clarify that L has had the idea that her character of Theseus is going to fly *himself* -not in a vessel, such as a spaceship,- but with wings of some sort.

#### **Repetition**

1. **Examples of repetition as false starts:** - Line 7/ 8 Ariadne's gonna... Line 20..'what ...what '
2. **examples of echoing a previous utterance:** – 'Fly' lines 2.1/11, 13, 14, 25,28,32
3. **repetition as participation:**
  - (i) Line 20 'what can they **travel** on? Is followed by line 21 'does yours **travel** in a spaceship?' whereby L has repeated the idea of travel in K's question and added an idea to it with spaceship thus cohering the two ideas and building upon them.
  - (ii). The idea of the 'spaceship' raises possibilities of more ideas to be generated and is



then picked up in line 26 and subverted – ‘without spaceship’ - it is this idea which leads to ‘fly like a bird’ . ‘Flies’ line 28 is then repeated line 32 and again subverted by K who sees a negative side to this ‘Ariadne ....can’t fly’ and this in turn leads to another new idea – the ‘piggyback’. Repetition appears to be key to the generation of new ideas, linking the accepted idea with the new idea.

(iii) Line 39 L takes up the repetition of ‘flies’ and ‘spaceship’ and takes J’s idea of ‘throws around space’ and contributes a new idea ‘under’ whilst connecting the notion of the spaceship as a transposition of the island in the Greek myth version of the story .

**4 metrical repetition-** the rhythm of ‘on his back’ equals the metre of piggyback as well as the repetition of the sound ‘back’ giving a lyrical quality to the exchange as well as giving the opening to a new idea.

### **5. repetition of gesture**

(i) As J has the idea of the hologram disk for the setting of his story he starts by explaining ‘on mine Ariadne’s gonna be on a’ accompanied by ‘book hands ‘ as he then searches for the word, ‘whaddycallit’, he breaks off the gesture as he touches his neck and looks up to the right and as he supplies the idea ‘hologram disk’ he repeats the ‘book hands’.

(ii) C touches K’s mouth when she tells her ‘shurrup’ line 18 and then puts her hand in front of her own mouth in mock shock –horror. The same action of touching someone’s mouth has different semantic connotations and yet the repeated action plays a cohesive part in the discourse.

**6. Repetition for checking :** line 10 K ‘he doesn’t sails....he doesn’t sail, does he?’ K is tentative in her suggestion and asking for support and verification from her peers which is taken by C as an invitation to contribute and she does so line 11 C ‘He flies ...mine ‘

### Reference

1. Line 3: ‘ Here...there’ accompanied by deictic gesture pointing to the storyboard transforms the spatial or positional meaning of ‘here’ to a temporal one meaning at this point in the story or at this point in time. In the previous utterance J says Ariadne ‘comes in really late in the story’ which is clearly referring to time.

### Intertextual references

(i) Line 29 ‘Batman’ by invoking this character their ‘Theseus’ is imbued with superhero powers and status. He provides a visual image of the costume and ‘bat’ qualities of being able to fly.

(i) Line 13 K ‘I believe I can Fly’ song

Subverted to the parody version line 16 ‘I got shot by the FBI ‘ and ‘All I wanted was a bag of chips’ which leads on to rude lyrics which K substitutes by humming.

### 2. Conjunction

### 3. Ellipsis and substitution

(i). verb substitution of ‘put’ for ‘write’ line 9 and examples of use of pronouns ‘she ‘ line 3 for Ariadne line 2

(ii) Line 8 ‘J ‘on mine’ –J is prefacing the next part of his utterance where Ariadne is ‘on a hologram disk’ and at the same time referring back to an earlier part of the conversation where the children have been describing where their stories are set with ideas ranging from ‘set on Mars’, ‘set on a spaceship’ and K’s incongruous idea ‘set on fish’ which caused much amusement. ‘On mine’ then appears to be 2 ideas – the story and the setting combined as in ‘my story is set on’. This is then picked up by C in the repetition of ‘set on’ in line 9 ‘At least didn’t put ‘set on fish’.

### 4. Vocalisations such as noises, songs and humming

Line 19 K humming the rude part of the parodic lyrics ( [see appendix](#))

## 5. Miming and actions

- (i). J playing 'the entertainer' of the group with his jokes line 5 King Yappy and dancing hands and shoulders accompanying this utterance .
- (ii). J invites response from K to his utterance; line 1 by turning his gaze to her,: K responds line 2.
- (iii) Line 13 k emphasises her identity as singer with her gesture – hands flicked out with fingers splayed PHOTO
- (iv). Gesture supporting speech such as line 31 J waving arms like wings as he says 'He could start flapping his wings like that'. Also K gestures pig's legs with her hands as she says 'piggyback. Line 37 J puts his hand to his mouth to indicate taking medicine .

### **Context / Coherence**

#### **Context of culture-**

Genres – science fiction, legend :  
children at planning stage of writing a story.

#### **Context of situation –**

individual instance – conversation between 4 children in a withdrawal room

## Appendix 4 Letter to School (anonymised)

Dear Governing Body,

I am writing to ask permission to conduct a research project working with Mr DXXX year five class from the beginning of the Summer term. Mr DXXX has already said that he is happy to accommodate me.

I am a PhD student at the University of Sheffield in the School of Education supervised by Dr Julia Davies and subject to University Ethical Review Procedures.

My research interest is children's classroom communication and the ways that children collaboratively advance their knowledge through interaction with other pupils. I am interesting in looking at language alongside other non-verbal modes of communication such as gesture, posture and gaze.

As part of my research I would like to video record instances of children working together in a variety of class based tasks. I will write to parents to ask permission for their child to be included in the study and from those parents/ carers who agree, I would then invite children to volunteer for the project. I would like to involve **all** the children in the class in editing some of the footage to make a short film for the parents and the children of those who are filmed to be shown to them at a future parents' evening. Only children who agree to take part and whose parents agree to their taking part would be filmed and only those parents would see the film produced by the children. However it is intended that by including all the children who wish to make a short film of 'the everyday classroom experience' in Mr DXXX' class, that no child should feel left out, even if they themselves are not actually filmed.

The video data that I collect **would not be made available to any other party**. It would be anonymised and neither the school nor the pupils will be identified. It would be seen by my supervisor and some of the images may be viewed by my examiners. Some stills may be included in the final thesis. It is hoped that this research will be published and I would like to present my findings at educational conferences and training events. I would ask for specific consent at the outset from parents and children before any images would be used in this way.

I hope that this research will benefit future teacher education in general and the findings will be of interest to RXXX School as a whole in giving a picture of the kinds of interaction which takes place in our classrooms on a daily basis. I will be happy to give a short presentation to governors on the findings of this research when the project is completed. The research that I carried out in 2005 has already been published and presented at conferences and is having an impact on the academic community. It has been used on teacher training courses and was highlighted by Liz Grugeon at the UK Literacy Association conference in 2006 in a keynote talk on children's classroom communication.

If you require any further information I am happy to explain this further and answer questions at a future governors' meeting.

Yours sincerely,  
Roberta Taylor.

## Appendix 5 Letter to Parents and Children (anonymised)

Dear Parent/ Carer,

I am a researcher at Sheffield University in the School of Education looking at the ways in which children talk together in class about their work. I would like to video record children at work in Mr DXXX class doing everyday classroom activities during some lessons in the summer term. The children in this class will then use some of the film footage to make a video for **parents whose children take part** to show you what goes on in class on a typical day at RXXX. The film would then be shown to those parents/ carers at the next Parents' evening.

I intend to use the film footage as part of the research which is looking at the ways in which children communicate with each other whilst working on classroom tasks. As a parent of a child in a Y5 class myself I am aware that you may have questions about the use and storage of the film and I am happy for you to contact me through school if you wish to do so.

I would like you to know -

- ❖ No one will have access to the film except myself.
- ❖ The school and the pupils who take part will not be identified in any way and will be anonymised in the final report.
- ❖ The film will only be seen by parents of those children who wish to take part.
- ❖ My research supervisor may view the film.
- ❖ The film will not be submitted as part of the report.
- ❖ I may need to use stills from the film in the final report.
- ❖ I hope to publish reports from this research in educational journals and give reports to education conferences which may use stills or excerpts of film.
- ❖ The video will not be used to assess your child in any way.

If you wish to discuss this with my research supervisor, Dr Julia Davies her university telephone number is 0114 2228144 or alternatively you can contact the school if you have further questions about this research. If you would like your child to be a part of this project could you please tick the boxes on the letter overleaf which apply to you and sign the form and return it to school.

Thank you very much for your help.

-----

**Consent form for research to be carried out by Roberta Taylor at  
RXXX Primary School, April to July 2008**

Please tick all the boxes which apply.

- I am /we are happy for my/ our child to be filmed by Roberta Taylor doing classroom activities
- I am/ we are happy for stills from the film showing my/our child to be reproduced in the final report
- I am/ we are happy for stills showing my/ our child to be used in academic publication
- I am happy for film footage to be shown at education conferences.

OR

- I do not wish my child to be included in this film

Name

.....  
.....

Signed

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Date.....

Parent / carer of.....

## Appendix 6 Song Lyrics

from [www.azlyrics.com/lyrics/rkelly/ibelieveicanfly.html](http://www.azlyrics.com/lyrics/rkelly/ibelieveicanfly.html) accessed 01/04/09

I used to think that I could not go on  
And life was nothing but an awful song  
But now I know the meaning of true love  
I'm leaning on the everlasting arms

If I can see it, then I can do it  
If I just believe it, there's nothing to it

[1]

I believe I can fly  
I believe I can touch the sky  
I think about it every night and day  
Spread my wings and fly away  
I believe I can soar  
I see me running through that open door  
I believe I can fly  
I believe I can fly  
I believe I can fly

See I was on the verge of breaking down  
Sometimes silence can seem so loud  
There are miracles in life I must achieve  
But first I know it starts inside of me, oh

If I can see it, then I can do it  
If I just believe it, there's nothing to it

[Repeat 1]

Hey, cuz I believe in me, oh

If I can see it, then I can be it  
If I just believe it, there's nothing to it

[Repeat 1]

Hey, if I just spread my wings  
I can fly  
I can fly  
I can fly, hey  
If I just spread my wings  
I can fly  
Fly-eye-eye

Parody version from [www.forum.letssingit.com/topic/105564/i-believe-i-can-fly/2](http://www.forum.letssingit.com/topic/105564/i-believe-i-can-fly/2)  
accessed 1/04/09

I believe I can fly  
I got caught by the FBI  
All I wanted was a bag of chips  
Then they shot my dangly bits...