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UNIVERSITY OF SOUTHAMPTON

FACULTY OF SOCIAL AND HUMAN SCIENCES

School of Education

**Making Connections:
Problems, progress and priorities –
a practitioner's viewpoint**

by

Miranda Julia Dodd

Thesis for the degree of Doctor of Philosophy

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UNIVERSITY OF SOUTHAMPTON

Abstract

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**MAKING CONNECTIONS: PROBLEMS, PROGRESS AND PRIORITIES –
A PRACTITIONER’S PERSPECTIVE**

Miranda Julia Dodd

In this thesis, the reader **is invited** to ‘think with the story’ (Bochner, 1997) **as** the issues arising from a research project undertaken by a full-time classroom teacher are explored. The study began with the intention to help children make connections in their learning. Taking an action research approach, over a span of two and a half years, ways to help children link ideas were investigated, their responses observed and their views explored through techniques such as interviews, games and stimulated recall. As the study progressed, it developed a stronger focus on practitioner research, especially in relation to teacher research with children. Following a change of school, the research focused on working with a ‘pupil research group’ over a six-month period. The thesis addresses the learning of the teacher-researcher about the connections and challenges involved, including contextual issues, different methodological strategies, power relationships, different voices and viewpoints in research and the process of change. A narrative approach is used to tell much of the story, in the form of an informal dialogue between the author as a teacher and the author as a researcher. Thus, the common and conflicting demands and benefits of research and teaching in such a project are explored in dynamic fashion. Ultimately, a framework to support practitioner researchers, based on the problems and progress in the study, is presented with some priorities for the future.

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Note: Throughout this study the word ‘child’ is used to refer to children and young people under the age of 18 as defined by the United Nations Convention on the Rights of the Child, Article 1. I recognise that many children towards the older end of primary school prefer the term ‘young people’ but for clarity I have kept to the word ‘child’.

All children’s and adults’ names have been changed throughout the study to assist in preserving their anonymity and confidentiality. Occasionally I felt that even giving an alternative name would have identified someone too closely so have used the more generic ‘child’ or ‘adult’.

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DECLARATION OF AUTHORSHIP

I, Miranda Julia Dodd

declare that the thesis entitled

Making Connections: Problems, Progress and Priorities – a practitioner’s viewpoint

and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

- this work was done wholly or mainly while in candidature for a research degree at this University;
- where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
- where I have consulted the published work of others, this is always clearly attributed;
- where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
- I have acknowledged all main sources of help;
- where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
- none of this work has been published before submission

Signed:

Date:.....

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My warmest thanks to them all.

Definitions and abbreviations

Abbreviations

APP	Assessing Pupil Progress
ARC	Accessible Research Cycle
BPRS	Best Practice Research Scholarships
CAQDAS	Computer aided qualitative data analysis software
CARE	Centre for Applied Research in Education
CARN	Classroom/Collaborative Action Research Network
DfEE	Department for Education and Employment
DfES	Department for Education and Science
ECM	Every Child Matters (Treasury, 2003)
ICT	Information Communication Technology
NCSL	National College for School Leadership
NTRP	National Teacher Research Panel
Ofsted	Office for Standards in Education, Children's Services and Skills
PAR	Participatory Action Research
PRG	Pupil Research Group
SATs	Standard Assessment Tests/Tasks
SDP	School Development Plan
SLT	Senior Leadership Team
TTA	Teacher Training Agency
UNCRC	United Nations Convention on the Rights of the Child

Chapter 1 Introduction

Picture a classroom with three groups of five, six, and seven-year-old children rotating between three tasks. Some are using a projector and creating shadows on a screen. Some are sorting different papers to find out which ones let light through. The final group are putting a range of objects into a black box, which has a hole cut out of the top. When they have inserted an object, they then try putting different things over the hole. There is much talk about whether they can see the object or not. Suddenly one girl says, "That's just like when we were looking at the different types of paper! Some let light through and others didn't." The child is smiling and jumps up and down, apparently showing excitement in her discovery. A little later on, she is in front of the screen making shadows. The teacher asks why there are shadows and the children begin talking about their hands getting in the way of the light. The same girl watches and looks thoughtful. When the teacher asks her about the shadows, she describes how her hand is blocking the light just as some of the pieces of paper did.

Making connections

Occasions such as this led me to wonder how I, as a classroom teacher, could help children towards those critical 'Eureka' moments where they describe making a connection between two ideas, often showing excitement in their body language and facial expressions. It is difficult to explore their thoughts in detail but when they verbalise ideas in this way it appears that something is making more sense to them than it did before. It appears to help their learning. Observing myself as a learner, I have noticed that to make sense of something, I try to link it to other knowledge or understanding. Hanging something on what I know already helps me make sense of it. I appreciate that not all learners may respond to the same approach. However, in several situations, both social and professional, I have noticed adults relating something new to their previous experience, for example linking new practices in education to familiar ideas, sometimes considering similarities and differences. As a teacher, I wondered what I was doing to help or hinder the children in making connections in what appear to be 'critical moments'. I believed that researching my practice would help me understand the factors involved and make connections for my own learning as a practitioner researcher. When the study was being planned, the research focus fitted in with the expected school development in thinking and learning skills.

Many people describe learning as making connections in the brain and many programmes designed to enhance learning talk about making connections for the children to help them understand (e.g. Smith, 1998), with more connections being seen as an improvement. Some (e.g. Johnson, 2002) describe how this has been measured scientifically by monitoring the function of the brain while learning is taking place. In the classroom, it is difficult to know what is happening inside a child's brain, but we can observe their reactions and responses to different stimuli and attempt to draw some useful conclusions. For the purposes of this study I was looking for occasions in my classroom when the children verbalised some form of connection between ideas which showed that they were learning about one idea by comparing it with their previous (recent or more distant) learning about similar ideas, using phrases like 'that's just like ...', or 'it's the same as ...'. I was interested in the different teaching contexts and factors associated with these occurrences.

When observing the children informally while teaching, some patterns appeared to be emerging. Most of the 'critical moments' were in Maths or Science where children were talking about links between different concepts such as whether objects let light through and the formation of shadows, or working out change in money being like finding the difference. I was curious about learning in other areas such as literacy, for example when comparing genres or discussing stories. When I started the study, teachers were being encouraged to explore the cross-curricular links between subjects; it is recognised that the boundaries between them can be artificial within children's understanding, and working in a cross-curricular way can help with transfer of skills (DfES, 2004). I wondered whether children verbalise connections between different subject areas and whether they could be helped to do this more frequently and fully.

I observed that in almost all instances it was the higher attaining children who made these connecting remarks. I was interested to explore whether it is a skill that helps children attain at a higher level, or something that higher attaining, or more confident learners, are more likely to do, thus demonstrating their attainment. I wondered what I could do to encourage all children to verbalise their ideas in this way and whether it has any apparent benefit for their learning, as evidenced in their responses and reflection on their learning.

Schools are often encouraged to maintain strong links with home to help children's learning (Myhill and Brackley, 2004). By maintaining links, it is claimed that children will link school learning with their 'real-life' learning outside school. The style, presentation and discussion of learning appear to be different in the two settings. Whereas in school there is a highly planned curriculum, sequencing and revisiting

areas deemed to be significant, outside school children's learning has been found to be varied and often different, with them having a greater degree of autonomy and different relationships with adults (Mercer, 1995; Moss, 2001). The children have diverse experiences and expectations, based on many complex factors, that play a significant role in the ways in which they access and filter school experiences and relationships (Benjamin *et al.*, 2003). I wondered whether children generally linked ideas within their current context, or from across their experiences elsewhere. I had certainly observed this within school in Science where children have been encouraged to think specifically about other areas of their experience to help explain predictions, for example when heating and cooling different materials. Looking at it another way, children have often brought in items such as a story or piece of art work that they have done at home which link with something we have been learning about in school. Here they could be just practising what they have done at school whilst at home or extending and adapting the idea to fit with other areas of learning at home.

In summary, my initial hypothesis, based on my experience and observations, was that when connections and links are made more explicit then it will help all children learn, and that there are ways in which the teacher can help this happen. A critical focus of my practitioner research was to investigate different approaches to find which appeared, from the children's responses, to be more effective. I was keen to investigate what I could do to foster these moments and explore the children's views and involvement. I thought there might be particular factors such as the area of learning, home experiences or child's previous attainment that influenced their responses. Through careful data collection and analysis, I planned to understand the processes at work more fully. Chapter 4 reviews the literature related to making connections and Chapters 5 and 6 explore this initial investigation, referred to as Part 1 of the study.

Before the project started, whilst working with a group on supporting teacher research locally, I can remember stating that it was important for research to be presented in the classic, third person, academic style. Like all new research students, a key element of my early reading focused on methodology and different research paradigms. As will be seen in Chapters 2 and 3, a series of seminars, together with reading, considerably changed my views. I found that initially at least there were tensions between my thoughts and aspirations as a teacher and as a researcher. This internal dialogue, along with reading an inspirational article about narrative approaches (Ellis and Bochner, 2000) led me to explore different ways of recording and reporting my research. I imagined an e-mail dialogue between myself as a teacher and myself as a researcher and used this format, with its more informal style of language, to explore

and tell my story as it strongly reflected the processes I was going through. Chapters 2 and 3 introduce this dialogic approach, which became a core element of the project. Generally I saw the teacher voice as more practical, immediate and classroom based, and the researcher voice as more outward-looking, analytical and reflective.

The realities of life as a teacher researcher

The best-laid plans are not always fulfilled and this was the case in this study. I undertook the work on making connections whilst working full-time as a class teacher, at a time when there was vast unanticipated change at the school where I was working. These included a new headteacher, major building works necessitating moves to different sites, and educational changes led by the government¹. Additionally, in February 2009 I was invited to take part in a seminar on participatory research (Dodd, 2009) which was both inspiring and challenging. From September 2009 to September 2010, the pressures were such that I took a year's break from the research, summarised in Chapter 7. When I returned to it, I became increasingly aware that in what had started as a teacher research project focusing on making connections and improving my classroom practice, I was now learning as much, if not more, about participatory research and practitioner research, connecting various ideas in those areas.

A key element of my learning journey whilst working on making connections was exploring how I could make the research more participative with the children and adults involved. Historically, educational research has generally been based on ideas generated by researchers and more recently teachers (Hammersley, 1993). I was keen to involve the participants as fully as possible in suggesting, selecting and discussing different approaches, with the aim of increasing their feeling of involvement and ownership (Stringer, 1996). Not only was this becoming a key expectation in schools more generally, with the development of School Councils (Rudduck and Flutter, 2000), Rights Respecting Schools (Sebba and Robinson, 2009; Covell, 2010) and pupil voice (McCallum *et al.*, 2000; Leitch *et al.*, 2007), I was also finding that the research process was raising many questions about who was in charge, who should be in charge, and the most effective ways of helping the children explain their thinking. Reading Freire (1970) deeply challenged my thinking on roles, relationships and the process of learning. I wondered whether there was a point at which changing the balance of relationships between adults and children could go too far or whether changing my deeper beliefs and attitudes was important. To explore this further I worked with a

¹ Maybe after about 20 years as a teacher I should know that there are always new demands, but moving the contents of an entire site 4 times during the course of the study, involving loading and unloading removal vans, could, I think, be considered unusual.

pupil research group in school. Chapter 8 reviews the literature in this area and I explain this project, referred to as Part 2 of the study, in Chapters 9 and 10.

I found myself exploring issues related to changing practice, how we initiate and sustain this and how we can explore deeper as well as more superficial change. When talking with others I was concerned that so many people seemed unwilling to engage in and with research, largely, according to their brief comments, because of the time factors involved, the language used, and the difficulty in accessing relevant resources. I was finding it tricky, but still rewarding, interesting and worthwhile to explore my own practice. With everything I had read about the power of research within the school development process (NCSL, 2010), I wanted to find ways of extending this more fully. Through my work with the National Teacher Research Panel (NTRP) I became aware that collaboration was often quoted as a key element of successful research and development (Cordingley, 2008a) so I was interested in how to establish this at school.

Initially, following data collection and analysis, I wrote up the two projects described in Chapters 4 to 10 as a dialogue between myself as a teacher and myself as a researcher. This provided the data for the final part of the study where I analysed my account to draw out key messages relating to my learning journey as a practitioner. As the process continued, I found myself returning to my original thoughts about connections, albeit with a different focus this time. My research question had developed from focusing on how I could help the children make connections to focusing on issues that helped me, as a practitioner researcher, link ideas and progress through the research process. The analysis of the narrative and critique of the dialogic process led to developing a model that identifies factors that have emerged as significant during this project (Chapter 11) which could be useful to other practitioners planning and working on their projects. Finally, I identify the emergent 'problems, progress and priorities' that impact on practitioner research (Chapter 12).

I retained an edited version of the e-mail dialogue for Chapters 2, 6, 8 and 10, which introduce, develop and comment on the process, as the format so closely mirrored my thought processes and these chapters particularly capture the debates I was having with myself. I have rewritten the remainder of the study in a more traditional academic format, albeit still using first person, to help convey the information more succinctly, whilst acknowledging my close involvement. Figure 1-1 gives a diagrammatic representation of my learning journey in relation to the thesis. It shows the chronological sequence of the different elements and how they link into one, connecting thread.

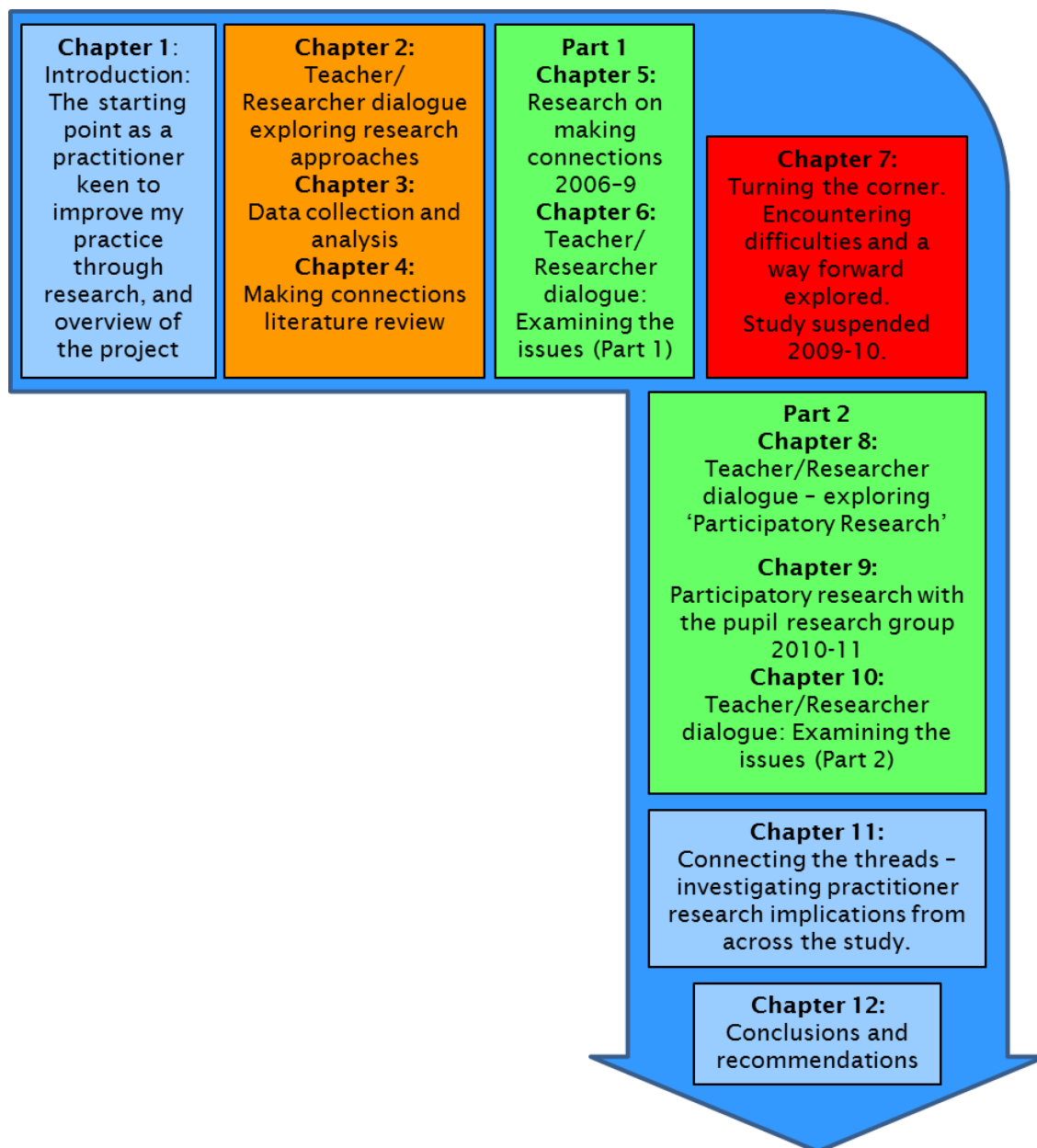


Figure 1-1: My learning journey – an outline of the various elements of the study

The colours in Figure 1-1 are significant:

- The blue arrow indicates it was one learning journey, with a significant turning point in the middle.
- The blue boxes set out the introductory section, analysis of the points from across Parts 1 and 2 and the conclusions.
- The orange box sets out the preparatory phase:
 - the exploration of my research approach, including the use of narrative and dialogue
 - the selection of the data collection and analysis techniques
 - the literature review from the start of the project, focusing on making connections

- The green boxes indicate the two main studies within the journey and the related literature reviews.
 - Part 1 focused on working with the children on connections, seen as 'critical moments'. This involved work across three academic years (2006-7, 2007-8 and 2008-9), with a different class each year. Each year could be seen as a cycle of an action research spiral.
 - Part 2 focused on developing participatory research with the pupil research group.
- The red box indicates the period where I stopped, reflected and redirected the study.

I had originally anticipated that my learning journey **would** be more conventional, exploring how children could be helped to make connections and presenting this for others. In reality, this became a starting point, from which I progressed to explore various aspects of practitioner research and participatory research.

The research was undertaken while I was teaching at two different schools (coincidentally I moved school before Part 2). Both contexts were one-form entry, rural primary schools, educating four to eleven-year-old children. In both I was class teacher for similar age groups (five to seven-year-olds in the first school and six to seven-year-olds in the second school). I was a member of the leadership team in both and I am fully appreciative of the fact that in both I was willingly supported by the headteacher, chair of governors, colleagues, parents and children.

Chapter 2 **Teacher/Researcher dialogue: exploring research approaches**

At the start of the study I had followed a largely standard academic path, starting with a review of the relevant literature. Reading and reflecting on a range of sources was already helping me think about different ideas in relation to making connections and prepare for the action research spiral I was envisaging in my classroom. This already challenged my thinking, but my ideas were still fairly firmly entrenched: the teacher leads the learning in class and writes the research up in an academic format.

We never know when a switch may be triggered so that our views change. Following on from a critical piece of reading and discussion, I found my views about research - how it is conducted and explained - being overturned. I ask the reader now to imagine an e-mail correspondence between myself as a teacher and myself as a researcher. I explain the reasons for this more fully in the ensuing narrative but, in summary, it provides an authentic sense of the process. The first and second person are used interchangeably for the two participants to reflect their interchanging dominance, rather than one of them having the strength of always being 'I'. The future and present tenses are used to situate the dialogue within the research process.

Narrative style

I couldn't help noticing how excited you were last week? What happened?²

Teacher

Imagine hearing a piece of music, reading a poem, or seeing a piece of artwork that helps you appreciate something in a whole new way. I had read an article (Ellis and Bochner, 2000) about a different approach to research which did exactly that. I can't ignore the sense of excitement I felt when reading it and the compelling nature of the narrative, whilst still feeling it incorporated some deep philosophical ideas about how we deepen our understanding and then communicate this with others. Was it dumbing down? Far from it! Apart from the extensive list of references, it addressed some critical issues. Hard concepts became approachable which invited participation in complexity rather than any struggle with it. The passion expressed was deeply

² For ease of identifying the sections that are written as a dialogue a different font has been used. Bold text is used for the teacher and normal for the researcher, with the relevant names added for the first two sections and the relevant fonts subsequently shown in the footer for each page.

absorbing and persuasive. And it wasn't just this paper! It came at the end of a block of reading and discussion which deeply challenged my thoughts about how research is best approached and reflected in practice. Some would say the approach was woolly (Murray, 1997) and I have been frustrated by the lack of transparency about method, analysis and interpretation in some examples (Wong, 1998), whilst others show its power through their own accounts (Hones, 1998; Burchell and Dyson, 2000; Burchell, 2010). I particularly like Progoff's suggestion (Janesick, 1999) that a dialogue with oneself can be helpful, as you can see. It seems to mirror the process that I have been through in my research: questioning, reflecting and then questioning further. What was good enough for Plato ought to be good enough for me. It's been exciting!

Researcher

Amazing! How on earth did it achieve that? I've never found approaches to research that fascinating before. All those long words put me off and they seem to make the obvious seem unduly complex. Maybe it's just my shallow approach or weakness in analytical skills. Maybe they just want to make the simple seem complex as a subtle means of exercising power (MacLure, 2004). Looking forward to hearing what changed your views.

It is complex, and deeply tied up with our view of ourselves in our world as we try to make sense of it (Hodkinson, 2004) but it's also very simple. It recognises the power of narrative, a concept I shouldn't find hard after researching children's views on story time (Dodd, 2004)! So many writers (for example Hardy, 1977; Bettelheim, 1978; Chambers, 1985; Watson, 1992; Andrews *et al.*, 2004) have argued for the primary role that narrative plays, especially as a vehicle for sharing human experience, so it seems sensible to use it as a vehicle for research. **Stories are important because they are 'how we hold our lives together' (Holly, 2009: 275) and** narratives lead us to new ways of exploring data, bringing new insights (Burchell and Dyson, 2000; Clough, 2002). The storyteller is 'immanent' in the research, analysis and the telling, making it a powerful way of communicating ideas (Bochner, 2001); in his contrasted sections of narrative and traditional academic writing, he discusses his feelings of discomfort in the latter.

I don't think it's as strong as that for me, but I am certainly struck by how involved I feel when reading many of these narratives (Clough, 2002; Beatty *et al.*, 2008; Holt, 2008).

There are different ways of using narrative, including encouraging participants to tell their story through narrative and the use of narrative to convey research (Chase, 2011). Many have had success with the former, **including Thomas *et al.* (2014) in their work with**

teachers, and it may be that I could find it useful, but at the moment I am talking about the latter. It seems that by acknowledging that the researcher is telling their story, based on their findings, the ideas are strengthened (Hones, 1998; Ellis and Bochner, 2000). On second thoughts, I should change that to *when I am telling our story*, because a core element is the personalisation and recognition of the people most involved, namely the participants and the researcher. The researcher's voice can come across strongly, 'making visible and audible taken-for-granted practices, processes and structural and cultural features of our everyday social worlds' (Chase, 2005: 664). Presenting this as a narrative is refreshing and engaging, very different from a heavyweight academic paper written in the third person, passive voice. Undoubtedly in the example that sparked my interest (Ellis and Bochner, 2000) the power was also increased by the skills of the writer and some say that researchers should stick to the academic style without wasting time trying to make a narrative style effective (Ellis and Bochner, 2000).

It certainly seems more direct and yet capable of conveying complexity. I think other teachers would respond well to that. It depends on who this is for. Don't they talk about 'fitness for purpose'? (Coffey, 1999; Furlong and Oancea, 2005)

Absolutely, which comes back to my reasons for approaching this in the first place. I want to improve my understanding of learning so that I can support the children I work with more effectively, but part of me also hopes that I will unpick something that might be useful for others, so I need to present it in a form that will inspire, as Dadds (2008) found. Many people have pointed out that teachers often feel distanced from the academic world and see little relevance in what is being produced (Hargreaves and Goodson, 1996; Hillage *et al.*, 1998; Drake and Heath, 2010). Although that is gradually changing with some encouragement for teachers to be involved in research for their professional development (DfES, 2004), maybe this style is not only more approachable but also, by using narrative, which is core to our existence, help people connect with it and learn. The reader relates to it as a more 'authentic' representation of what has happened. Some would argue that in this instance I am writing for an academic audience, who will not be put off by the academic style but Ellis and Bochner (2000) were writing for a similar audience.

I keep thinking about communicating with and understanding the children, and trying to explore their thinking as well. If this was so stimulating for me, similar approaches may work with them, including drama, art, poetry or of course stories.

It is not without its dangers. Hones (1998) reminds us that, as with all research, when writing narrative we have to be vigilant in what we select and interpret. He reminds us that a strong degree of empathy is required and we need to be clear about the impact on the researched and the researcher. Exploring narratives can be emotionally challenging (Kiesinger, 1998) and arouse strong emotions and connections (Ellingson, 1998). Despite and maybe partly because of these, it can 'expand the range of understanding, voice, and stored variations in human experience' (Lincoln *et al.*, 2011: 125) and present strong messages authentically (Kiesinger, 1998). Chase (2011) suggests that as well as the narratives that have focused on areas of deep injustice and difficulty, it is also important to have narratives from more everyday situations where things are working.

Hopefully this project won't be too traumatic, although I can see there is potential for addressing some concerns, problems and inequalities. I am interested in the idea of 'authenticity'. Are you sure this is not just new jargon? What are you trying to say here?

Research philosophy

I suppose I have been wrestling with the concept of research and searching for truth. Within the positivist paradigm people believe that they are collecting evidence to enable them to find out about objective reality. External researchers come into educational settings and carry out often relatively large-scale, so-called objective, quantitative studies and attempt to carefully control variables. This is based on the assumption that truth can be discovered through scientific investigation. Studies should be objective, replicable and generalisable and the researcher should remain value-neutral.

Like other teachers for many years I assumed this was how research was done (Clayton *et al.*, 2008; Bryant and Bates, 2010), even if it did not feel relevant or possible for me.

Somekh (1994) suggests that terms such as 'data' and 'research' have many interpretations which can be misleading when academics and teachers collaborate.

Only through embarking on Masters level work about fifteen years into my teaching career did I begin to explore other possibilities. Now I am realising there is much more to it than that.

Clayton *et al.* (2008) suggest this may be due to the use of the word 'data' in research, which in schools has become strongly linked with the analysis of National Curriculum levels used by Ofsted and others as an 'objective' measurement of standards. In

contrast, researchers such as Ellis and Bochner (2000) or Peshkin (1988) argue it is impossible for the researcher to be value-neutral; it is more rigorous to acknowledge and allow for the values they bring rather than attempt to avoid them. I can appreciate that teachers felt the positivist paradigm was largely irrelevant; it ignored much of the richness of personalities and social interaction in the classroom, which could not readily be understood by outsiders coming in. The diversity makes controlling variables hard. Hammersley (1993) identified that ideas from research were often misapplied in the classroom.

It links with wider shifts in some people's understanding of knowledge, truth and cognition described by Von Glasersfeld (1987). Popper thought that we were looking for true knowledge through 'scientific' enquiry. **Not only are there many types of scientific enquiry, but also many researchers** now believe that there is no absolute truth. Learning is a 'constructive' activity, based on our interactions with experiences, often involving other people, hence the term 'social constructivism'. It is embedded within our social and cultural contexts. Language is critical; words do not convey meaning in themselves, but we link them with our experiences and assimilate or accommodate our ideas as necessary. Language is subjective and we understand through language in context (Von Glasersfeld, 1989). There are multiple interpretations rather than one truth:

having constructed a viable path of action, a viable solution to an experiential problem, or a viable interpretation of a piece of language, there is never any reason to believe that this construction is the only one possible. (Von Glasersfeld, 1987: 42)

Helping people learn is based on facilitating this active construction of ideas rather than just telling them so-called facts.

That links with all we do in school to involve children and encourage active learning.

Freire (1970) discussed similar ideas when he contrasted the 'banking' and 'problem-solving' models of education. In the former, the teacher's role was to fill up the students with facts, resulting in a limited view and understanding, leading to oppression. Problem-posing, in contrast, is based on dialogue, with reflection, theory and action coming together in praxis. This is transformative learning that can enable people to live their life fully.

That all makes total sense, but how does it link with this research?

With this view of learning, knowledge is socially constructed and the social and cultural contexts are essential elements (Freire, 1970). These cannot be ignored, so, in education now, a widely held view is that the complexities of learning and educational research are more fully served by an interpretative, or relativistic, or post-modern stance (e.g. Walford, 1991; Coleman and Lumby, 1999; Whitehead and McNiff, 2006; Elliott, 2007). This is an approach that recognises the social aspects of research, and the vital relationship between the researcher, the researched and the context in which this takes place. However much I would like to feel that I had 'discovered' the way that children learn, the complexities are such that this is not possible. **Additionally**, the research should change those involved through the process (Lather, 1986).

So as a teacher, interested in improving my practice in a thorough and rigorous way, that is exactly what I would need to do. It sounds positive and relevant.

I can certainly see myself as working largely within the interpretative, qualitative approach as the small scale of the study, my direct involvement as a participant and the complex nature of children's learning lends itself more to the in-depth study of rich, contextual data. **I am researching within my naturalistic setting, a key element of qualitative research (Denzin and Lincoln, 2011).**

Denzin and Lincoln (2011) go on to describe a changing picture in this field in strong, warlike terms with the different paradigms and approaches within qualitative research battling for their particular points over the past forty years. They suggest that, rather than focus on distinguishing methodology and paradigms, it is more helpful to consider the range of perspectives. I can see the importance of upholding my underlying principles, especially as the positivist and interpretative approaches are based on different understandings about truth and knowledge. However, there are many researchers across a wide spectrum of approaches who make effective use of mixed methods, both qualitative and quantitative (Teddlie and Tashakkori, 2011). Cresswell (2011: 272) suggests that mixed methods can add 'breadth and depth of understanding'. However he also outlines the controversies related to mixing methods, including paradigmatic clashes, quantitative methods dominating at the expense of qualitative and the challenges of defining 'quantitative', 'qualitative' and 'mixed methods' research. He suggests that the binary divide implied by using the two terms can be unhelpful.

I can relate to that as I felt from the start of the project, as I explored different approaches, that I was in danger of being pigeonholed and being restricted by this. As

a teacher, I am used to observing and interpreting interactions and children's work on a daily basis. Increasingly, in my experience, I have to match that with a more quantitative analysis of numerical data, and I can see the value of both.

That may be the case but Denzin and Lincoln (2011) note that where qualitative researchers use quantitative techniques they are unlikely to present it with the statistical vocabulary used by quantitative researchers. Teddlie and Tashakkori (2011) discuss how finding the right methods to match the research question is important. For me, it is about drawing on a range of appropriate methods.

It may be useful at some points to examine some quantitative data, but it cannot be a positivist project. I have to work within the context that I have access to and I cannot set up (and nor would I want to) a control group and an experimental group within one classroom, which is the setting that I have available and have chosen to work in. Looking at the connections children make in their learning will mean that I have to observe and interact with them so as to listen to what they are saying and try to identify the factors that are leading to 'critical moments'. I am not looking for the 'truth', but exploring my practice with the children and interpreting what I find, and it is important to me that I remain true to my underlying principles. Ultimately, I hope to improve education at least for the children I teach and maybe for others as well. I believe that can be served principally by using qualitative methods, but some quantitative techniques can be used to support these.

I wonder whether I am denying my responsibility to analyse and draw out the truth in what I have observed, however limited or complicated. Perhaps trying an idea and presenting the story in rich detail, with my analysis of it, is a more honest way to do this. **I can state my findings from my experience and relate them to the wider literature. Others may find parallels with their own experience and thus develop the ideas further,** just as I have found thought-provoking ideas (and ones I would never contemplate) in what I have read. As a researcher, I must take care to plan, collect, analyse and present the data as authentically as I can to help with this.

Some have criticised this approach. Hargreaves and Goodson (1996), Tooley and Darby (1998) and Hillage et al. (1998) among others have raised issues of quality, objectivity and rigour. More recently Hodkinson (2004) and Hammersley (2005) have debated whether the current breadth of approaches and techniques should be allowed to continue. Hodkinson values the variety, whilst Hammersley expresses concern that this is likely to lead to more disparate views, which will weaken the

research community. Hammersley (2005) suggests it will make it more difficult for practitioners to select appropriate information and it would be more effective to impose some limits. He presents an alternative view of objectivity, where the researcher does not deny their values, but tries to ensure that these do not obscure 'the truth about some matter' (Hammersley, 2005: 149). He sees approaches that use more unorthodox forms of presentation, such as poetry, as dangerous if they pretend to be research, and draws a clear distinction between persuasion and presenting the truth. It comes back to our understanding of 'truth' again, and I see it as more complex and multifaceted than this.

Lincoln and Guba (in Schwandt *et al.*, 2007) set out a parallel set of criteria to achieve rigour, matching credibility, transferability, dependability and confirmability in naturalistic research respectively to internal validity, external validity, reliability and objectivity in the scientific approach. Later they suggested an alternative approach based on the values and needs of naturalistic research, rather than being guided by positivist concerns. This focuses on different types of authenticity, namely ontological (consciousness-raising leading to improvement), educative (understanding others), catalytic (ensuing action) and tactical (ensuring action is effective and empowering) as well as a clear procedure in relation to fairness (Schwandt *et al.*, 2007: 20-24).

I am wary when people claim to have found a simple answer to the complex learning in a classroom. In my experience, each class is different and teachers have to respond accordingly.

What researchers claim for their research is an important point. Gorard (2002) describes how he feels educational research should include 'warrants' for their conclusions, by which he means a clearly presented, well-reasoned logical argument. However, what seems logical to one person is an assumption for another. I understand his concern with researchers interpreting data carefully and ensuring that others can follow the path towards their conclusions. This is little different from those advocating a qualitative approach who ensure that by providing rich data the reader can draw parallels and conclusions that are appropriate to their own experience. As Pelias (2011: 660) phrases it, the writing 'becomes a location for the readers' concern' with the hope that readers can recognise the perspectives presented and maybe identify with some points. The significant difference in Gorard's work is that he believes that in research we are aiming towards finding out about what reality is, and that presents problems as we have already discussed. One suggestion is that researchers should look for possible alternative conclusions and debate the merit of each.

Smith (2004) pointed out that even if there was a truth it would be difficult to know if or when we have found and shown it. There is no independent arbiter who can state that we have arrived at that point. Hammersley (2004) takes a slightly different view, saying that we can make knowledge claims, with a high degree of probability based on the weight of evidence and the truth of which can be queried. He states that 'One cannot deny the possibility of universally valid knowledge without thereby claiming to have universally valid knowledge about its impossibility' (Hammersley, 2004: 73). I can see the sense in that but also recognise the complexity of research. What I feel happy to do is to present what I find with integrity and honesty. I can look for meaning and deeper understanding of my context. I can look for connections and weight of evidence within the scope of my study, but not state that I have found the truth about how children learn. I can present partial and fluid truths rather than absolute truths. It is less easy to investigate a representative sample and make a study more widely relevant; instead, researchers are each contributing to a wider understanding of the many dimensions of learning.

That fits comfortably in my context, which is where, practically, I have to undertake the research. I can contribute my viewpoint towards a bigger picture. I am interested in the fact that this debate is happening concurrently with teachers being encouraged to engage more fully in and with research (DfES, 2004), and the approaches discussed by Hodkinson are sometimes used to make research more accessible for those who are new to it. I know that I have responded most positively to research that is presented in such a way that I can quickly ascertain its relevance, before exploring the most promising pieces in greater depth. I accept my important role as the reader in evaluating it critically.

Others have acknowledged that critical role of the reader. Bochner (2001) calls on the reader to read with rather than about the story so that they can explore it more fully. Sparkes (2000) suggests that the reader and writer are creating meaning together; for this to happen there must be that 'authenticity' again. The greater the difference in experience between the writer and the reader the more difficult it is to make research intelligible (Hammersley, 2007b).

I like the emphasis on the relationship between the researcher and the reader. The researcher has a responsibility to make their thinking, methodology and analysis clear, but it is a process of communication in which the reader also has a part to play (Ellis and Bochner, 2000). Bochner (1997: 436) advocates using narrative so that the reader

can 'think with the story' and realise the parallels for themselves. Especially in the context of my interest in helping children make connections in their learning, I was interested in Stake's (2005) ideas that the reader will learn more from rich description and drawing their own parallels. Apart from the variations in context, time does not stand still, so different themes will be useful in different places and at different times. I hope the reader can 'think with' my story.

When I read some research I find it too far removed from my classroom experience and thus not relevant to me (e.g. Cobb *et al.*, 2003). I am equally sure that it is easy to adopt a blinkered position limited by my experience and it will not be relevant to others. I have found a wealth of fascinating articles and books and only wish for more time to explore them all (e.g. Groundwater-Smith *et al.*, 2012; Wyse *et al.*, 2013). Like other teachers I have met, I would love to have easily accessible sources to draw on to inform developments and choices. I want to know enough though about the contexts, approaches and methods to be sure that what I am reading is relevant and thorough.

Presentation and relevance are not the only factors; we also need to consider how research is linked to the political agenda since funding is often dependent on government approval. Hodkinson (2004) expressed concern that the 'new orthodoxy' emerging may lead to funding being limited by centralised views of quality in research. Gorard (2002) argues strongly that we should be looking for the truth and that policy-makers and funding bodies will be unimpressed by those who believe the picture is more complex than that. In practice, this does not always seem to be the case, although audiences for research are rightly inquisitive about the approaches used. In selecting a worthwhile research focus, aspects of the curriculum will be favoured and selecting worthwhile material is never a neutral act (Cohen *et al.*, 2000). However much teachers might like to remain apolitical (Cain, 2011), working with a National Curriculum, within the National Strategies and other government policies means that there is a political element (Alexander, 2008).

In recent years, I have been disappointed that there has been so little apparent basis in research for many government 'recommendations'. When I have looked for references in their publications they are minimal if there at all (e.g. DfES, 2003; DfES, 2004). There are sometimes summaries but the original sources are not listed. I find that unsatisfying and it makes me less inclined to trust them as I cannot follow up further. They have not included the level of transparency that I would find helpful so I do not trust its 'authenticity'.

Alexander (2008) was similarly concerned and even felt that at times they were selecting research to fit their predetermined ideas rather than turning to it as the first point of reference. They were limiting teachers by focusing on 'what works' and 'best practice'. A critical factor is the motivation behind improvements. Freire (1970) is strongly committed to dialogue in the interests of social justice, as are proponents of critical theory such as Habermas (Cohen *et al.*, 2000; Finlayson, 2005). The oppressed (in this instance, teachers) need to find their voice and act. Dictating ideas is more akin to Freire's 'banking' model, although in this instance applied to teachers.

Kincheloe *et al.* (2011) question the degree of democracy in many English-speaking Western countries. Whilst acknowledging that there are many varied viewpoints within the critical theory movement, they state:

Critical teachers are scholars who understand the power implications of various educational reforms. ... In the *critical* school culture, teachers are viewed as learners – not as functionaries who follow top-down orders without question. ... Critical teacher/researchers explore and attempt to interpret the learning processes that take place in their classrooms. (Kincheloe *et al.*, 2011: 166)

They welcome the breadth of methods used within critical theory, but underpinning all is the commitment to 'an attempt to confront ... injustice' (Kincheloe *et al.*, 2011: 164).

I am not sure I would put it as strongly as that, but I am concerned that everyone's voice should be heard and that developments should be based on the best evidence we can find. I appreciate that the government's guidance was all compiled with the best of intentions, to help teachers and improve outcomes for children, and in particular the disadvantaged, another group that could be seen as the 'oppressed'. I expect that many teachers would say they have valued the guidance and are grateful that we are not all having to work out the ideas for ourselves. There have been times when I have welcomed it. It is vital to improve practice as quickly as possible; a child only has one chance at childhood and the learning that happens then, but sometimes it feels as if the pace of change is so fast that we do not understand the thinking behind it and therefore find it hard to make a real change and difference. I would welcome dialogue and critical reflection between government and practitioners; if it has happened, I am unaware of the evidence.

In carrying out this research, part of my motivation is trying to redress that balance. Everyone has the same aim of improving teaching and learning to give all children a better chance in life, but it is a question of how that is approached and the values behind it. My aim has been for all the participants, in this study including the children, parents and staff at the school, to be involved in determining the direction of the

research. It is research *with* the participants rather than research *on* them (McNiff, 1988; Stringer, 1996) which links again to Freire's emancipatory philosophy (Freire, 1970).

In one sense, my view of the research differs slightly from Stringer's; he sees it as setting out to solve a problem identified by the participants and the researcher. I am not addressing an identified problem, but hoping to extend and improve my practice to help the children learn more effectively. I want to work out the best way of helping the children in my care. I am always looking to improve that and develop my practice (Dodd, 2004). What is the difference then between my everyday evaluation and reflection and this more grandly titled 'research'?

Deep down I'm not sure there is a huge difference, other than in the rigour of data collection, depth of analysis and exploration of possible reasons behind what is noticed (Kemmis, 1993; McNiff *et al.*, 2003). It is a constant process of reflection (Stake, 2005). Stenhouse (Stenhouse *et al.*, 1985: 120) defined research as 'systematic enquiry made public'. Teachers' reflections may need further development to be systematic, through deeper reflection and linking to other knowledge, and may need opportunities to be made public, but it incorporates the roots of such an approach. Of course there is much debate about quality in research. Gorard (2002: 136) describes research as 'quite easy' and gives examples of how we all do this more or less effectively in our everyday lives in order to make judgements. I am not sure I would agree with that – there seems to be plenty to consider. Others see research as a more academic pursuit with rigorous data collection, analysis and discussion of the implications (e.g. Bryant, 1996). I suppose it depends on your normal approach to teaching.

I like to think of myself as a reflective practitioner, evaluating teaching and learning carefully, but pressures of time and the immediate demands of the classroom do not always make it easy. However, I feel it is my responsibility to read critically and select the most appropriate aspects for my situation. Where I find links, I am drawn in and it is easier for me to make connections with my own experience. That is similar to what I am doing with the children! I have heard that many people are now engaged in action research and that has strong, emancipatory ideals behind it. I am looking at research within my classroom context, hoping to change learning for the better there, and possibly elsewhere as suggested by Middlewood *et al.* (1999). What is involved?

Action research

The action research paradigm was initially introduced by Lewin in social studies (Cohen *et al.*, 2000). Fundamentally, there seems to be a degree of consensus that it is centred on action and change for the better. For example, Somekh (2005), like many others, has been involved in a range of projects using the approach across several fields, including sociology, health and education and notes the power of action research for development. It encompasses a breadth of research (Somekh and Noffke, 2009), especially when looked at globally, both within education and beyond, and has developed alongside questioning the positivist notion of 'truth' (Reason and Bradbury, 2001). In Latin America and other countries such as India and Tanzania, it builds on the emancipatory ideals promoted by Freire (1970) and Fals-Borda (2001). Here the focus has been on participatory action research (PAR) and giving voice to the underprivileged (Fals-Borda, 2001). Fals-Borda goes on to explain the basis of PAR in mutual respect between the researcher and the researched as we work towards understanding our diverse world. However, Flores-Kastanis *et al* (2009) question the impact of PAR in Latin America, suggesting that those involved need to collaborate and embrace their differences.

It seems as though researchers are often shifting between identifying confluences and clarifying differences.

Other researchers also place a strong emphasis on its place in working for social justice, for example, Griffiths (2009) links this to the process, the outcome or shifts between them. With similar emancipatory ideals, Carr and Kemmis (2009), working in Australia, argue that all action research is inherently political, and state that in their critical approach it should be based on collaboration, participation, discussion and depth of exploration. Also working in Australia, Brennan (2009) warns of the dangers of action research becoming over-directed and thus constricted, and places a strong emphasis on collaboration and wider involvement.

In the UK it has been promoted in education by researchers such as Stenhouse (1986), McNiff (1988) and Elliott (1991). Educational action research helps schools improve (Stenhouse, 1986) and is often seen to have a strong ethical purpose. For example, Elliott (2007: 231) states that 'educational action research is an ethical inquiry into the ways educational aims and values can find practical expression in the activities of teaching and learning with a strong focus on exploring values in developing practice.' Similarly, Levin and Greenwood (2011), looking particularly from the viewpoint of

universities, present action research as a powerful bridge between theory and praxis, with the potential for more democratic engagement in the research process. They talk about the University world being under pressure from the focus on evidence-based political demands, which detract from a more holistic view of education, with action research providing a more positive way forward.

From my perspective, many of the same pressures are apparent in schools, and the academic world sometimes appears to be adding to this by placing less value on the practical knowledge that is important for me as a practitioner. Working on this project is a way for me to take more ownership of my development and work collaboratively with academics.

Brydon-Miller et al. (2011) describe how participatory action research involves working collaboratively for improvement and it is consciously part of the wider movement for social justice. Research shifts from more universal to more situated findings where 'the research subject becomes an actor, whose contexts and communities are woven into the research tapestry' (Brydon-Miller et al., 2011: 390).

The metaphor of the tapestry resonates with my situation; it acknowledges the complexities and interwoven nature of my teaching and the research. I like the focus on wider participation too as I seek to develop the ideas with the children and others involved. What about the process of action research?

I expected to follow the spiral pattern of planning, action and reflection suggested by Carr and Kemmis (1986), with the reflection at the end of one cycle guiding the planning for the next layer. Change is sometimes seen as a key element (Furlong and Oancea, 2005; Brydon-Miller et al., 2011), although it is worth remembering that change in itself is not necessarily good. There is a difference between change and progress (Fox et al., 2007) but the spiral of planning, action and reflection before further action should assist in ensuring progress, where it is pursued in depth.

I like the fact that it is a process for developing and improving practice. It builds on the reflective approach I already value as a teacher. Action research provides me with the possibility of investigating the interaction between teaching and learning, a core value that I bring to the research.

Brown and Macatangay (2002) describe how action research works well alongside practitioner research. Both have a strong democratic element and involve trying out

ideas, evaluating, questioning, enquiring and reflecting, thus linking theory and practice. It marks a shift in ownership of research from the academic world towards practitioners (Gewirtz *et al.*, 2009). Collaboration is often seen as a key element of the democratic dialogue and process of development (Cook, 2004; Cardno, 2006; Clayton *et al.*, 2008; Dadds, 2008; Kershner *et al.*, 2013) and through this there can be the possibility for multi-disciplinary research (Cook, 2004). **However**, within schools it can affect the relationships and micro-politics (Eilertsen *et al.*, 2008).

The process within school is valuable but I am certainly grateful for the inspiration, knowledge and skills I am learning through contact with academic research. For most of the project, collaboration with academic researchers has, in some ways, been easier than collaboration within school, as many colleagues still see it as something too hard and time-consuming.

Other teachers working on educational research have felt the same and have valued linking up with like-minded individuals from other schools, and colleagues in the academic world (Thomas *et al.*, 2014).

Being a teacher is so central to this project; it would be interesting to know more about 'practitioner research' in education as it seems to link closely with action research.

Practitioner research in education

The development and importance of practitioner research

Practitioner research is not new and is closely linked with the development of action research across the globe (Zeichner, 2001). John Dewey is often credited with playing a significant role in the development of practitioner research, as he encouraged reflection and learning from classroom practice (Anderson *et al.*, 2007). In America practitioner research developed briefly under Corey in the 1950s, but, in a largely positivist climate which attempted to judge it by the same standards, it did not continue to flourish (Anderson *et al.*, 2007). In Britain, Lawrence Stenhouse was at the forefront of considerable developments in the 1960s and 1970s, largely through the implementation of the Humanities Curriculum Project funded by the Schools Council and the Nuffield Foundation (Elliott, 1991). The significance of this project was that Stenhouse saw the value in working with the teachers involved to develop packs of materials and implement them in the classroom (Elliott, 1991). As Elliott goes on to explain, the Humanities Curriculum Project was not without its tensions, as teachers felt

their practice was being judged. As the project developed there was a shift towards developing the teachers' reflective skills so that they could generate hypotheses (Stenhouse, 1971). In 1970 Stenhouse, Elliott and their team, moved to the University of East Anglia and set up the Centre for Applied Research in Education (CARE), which continues to promote the same values to the present day (UEA, 2013). Subsequently Stenhouse set out the case for effective curriculum development (including how it is taught) being based in practitioner research (Stenhouse, 1975). Another founder member of CARE was Jean Rudduck, whose work using the same approach has had significant impact in the development of pupil voice (Rudduck and Flutter, 2000). While practitioners can of course be engaged in other forms of research, including positivist research, much of the practitioner research development has come through the action research approach espoused by CARE.

Following on from the Humanities Curriculum Project, John Elliott and Clem Adelman led the Ford Teaching Project from 1973 to 1975 (Elliott, 1991). Elliott (1991) explains how this involved over forty teachers in twelve schools, and how he was keen for them to contribute to the analysis of curriculum reform involved. They found that teachers involved felt that their self-esteem increased, that they became more open to student feedback and were more able to reflect on their own classroom practice, leading to fundamental changes. There were issues, significantly the conflict between accountability for the class teaching and for the research and once the project finished the focus was not maintained in schools. Elliott however set up the Classroom Action Research Network in 1976, later renamed the Collaborative Action Research Network. It now works internationally, across a range of disciplines including education, with one of its aims being to promote action research where practitioners are actively involved (CARN, no date). CARN conferences, bulletins and the journal 'Educational Action Research' produced by CARN have provided opportunities for practitioners as well as academics to present practitioner action research (Somekh, 2010). Writing in the late 1990s, Rudduck and McIntyre (1998) considered the debate between practitioner and academic research, noting that Primary education was under-represented in national funding schemes. They raise concerns over quality, especially given this comparative lack of money.

More would be helpful, but, as I know from my own experience, a small amount can make a huge difference to a teacher.

The development has also been seen abroad; for example, Kemmis describes how he came from Australia to study at the University of East Anglia in the 1970s and

subsequently returned to Deakin, from where he has continued to develop the approach in Australia (Kemmis, 2001). He goes on to explain how strong democratic principles have underpinned their approach, and how they are committed to improving educational practice through practitioners. He sees regulation as demotivating and mutually developed shared understanding as much more positive. The Action Research Planner developed by Kemmis and McTaggart (1982) has supported thousands of practitioner researchers with the principles and process (Kemmis, 2001), and will no doubt continue to do so as an updated version has recently been published (Kemmis *et al.*, 2014).

In the USA, since the 1980s, action research has regained credence, developed by teachers in collaboration with academics (Zeichner, 2001). One example (Caro-Bruce *et al.*, 2009) demonstrates how a systematic collaborative process, across a whole school district, can have a significant impact on staff development. Teachers talked about the importance of having space to reflect, but also acknowledged the challenges, such as finding that time when funding was cut. A similar transformative power was demonstrated in an Israeli project (Keiny and Orland-Barak, 2009), with the additional challenges of developing collaboration across deeply held historical divides.

There has been a dramatic increase in interest in practitioner research in education and other fields since Stenhouse first promoted it in the UK (Stenhouse, 1986; Kemmis, 1993; Dadds and Hart, 2001; McNiff *et al.*, 2003; Whitehead and McNiff, 2006; Fox *et al.*, 2007). Stenhouse saw classrooms as the teachers' laboratories and believed educational research would be enhanced by teachers' systematic enquiry, shared more widely (Stenhouse, 1975). By the practitioner taking a much more active role, the research comes from the teachers' viewpoints and their real concerns (Bartlett and Burton, 2006) and by creating a critical learning culture, teachers' voices are heard more strongly (Kincheloe *et al.*, 2011). Fox *et al.* (2007) maintain that there are cross-disciplinary possibilities arising from the contextual nature of practitioner research and Middlewood *et al.* (1999) suggest that the results are seen as relevant, having an impact on the school and individual teachers. New forms of research can be explored; in Dadds and Hart (2001) practitioners researching were encouraged to innovate and experiment with techniques and different forms of presentation. More recently, Thomas *et al.* (2014) have worked with practitioners on narrative interviews as a means of exploring developments in practice.

That's exactly what I am trying to do. It sounds perfect! It links strongly to the values we discussed above.

It is worth considering the extent of practitioner research in education. A theses search, carried out using Proquest, makes transparent the thousands of doctoral and masters research projects carried out in the field of "practitioner research", especially when looking additionally at related terminology including "teacher researcher", "action research", "participatory research" and "practitioner inquiry". The number reduces considerably when restricted to education and geographically to England, Wales, Scotland and Northern Ireland. There is another considerable drop when looking just at primary schools. I appreciate that such limits may have excluded some relevant theses. Checking through these individually indicates that 34 within these searches were clearly written by primary teachers working as practitioner researchers, with a further 28 where it is not clear. Many others, written by researchers working in university departments, include work with practitioner researchers, and a wider definition of 'practitioners', for example including educational psychologists, would change the picture. All the searches indicate a gradual increase from the 1950s and 1960s, through to the 1990s, and a dramatic increase (more than double in most instances) in the decade from 2000, possibly due to the development of professional doctorates in education.

It would be interesting to see what a dramatic difference including all the teacher researcher Masters dissertations would make as, in my personal experience, this would increase the numbers involved considerably. There may well be many more teacher researchers whose work is not accredited.

Looking more closely at the 34 primary school projects identified, twenty give their principal classification code as 'curriculum development' and a further four specify subjects, indicating that this is a key area for practitioner researchers to explore. The remaining ones are classified as 'Educational psychology', 'Special education', 'School administration' and 'Educational tests and measurement'. In some instances, despite the wealth of information available on the Internet, it was not easy to establish whether the writer was a practitioner, and for some, such as Guthrie (2005), it is only well into the thesis that they acknowledge this. I found five that claimed to provide specific guidance for primary practitioner researchers in the overall process of practitioner research (Bruce, 1987; Atkinson, 1995; Darke, 2002; Scanlan, 2008; Porthouse, 2010), one of which used teacher and researcher voices (Porthouse, 2010). This thesis had adopted a similar idea of a reflective journey, with a teacher (from a private rather than maintained school) voice and researcher voice, which came together over the course of the project, but without the full dialogue I have presented. Four additional

practitioner research theses also linked closely with the participatory approach I explored in my study (Woodward, 1997; Carolan, 2000; Attard, 2006; Haynes, 2007).

So although practitioner research is increasing, there are fewer theses from primary education and these mostly focus, as my study originally intended to, on a specific development in teaching and learning, rather than the practitioner research process. What about the impact of practitioner research?

Hillage *et al.* (1998), reviewing educational research for the Government back in 1998, argued that there were poor links between research, policy and practice, due possibly to the complexity of the development process, lack of relevance in the research completed and insufficient focus on evidence-based practice. Following on from Stenhouse (1986), Hargreaves, in his 1996 TTA lecture (Hargreaves, 2007) called for research that would build up cumulatively to help practitioners know what would work well and to involve them in the research process, in just the same way that you started out on this project. In the ensuing debate with Hammersley (2007a), it became clear that, although there might be broad agreement that there needed to be some stronger links between practitioners and research, there were still divergent opinions about how to achieve this and the relevance of other educational research.

There are tensions between the policy, practice, research and commercial worlds in education (Hillage *et al.*, 1998). Whitty (2006) suggests that the research world needs to meet the policy world half way, as was done in the EPPE project and Assessment for Learning work, in order to help policy makers (and we would hope as a consequence, practitioners) access and see the relevance of what is being produced.

It is not a question of substituting practitioner research for academic research. Hammersley (1993) made a strong case for continuing with the latter as well as teacher research; both have important and valid views. A teacher's role encompasses so many elements and an outsider can bring a fresh outlook and have more time to put into thorough analysis. Others such as Bartlett and Burton (2006) have seen the division between academic and practitioner research as unhelpful, arguing it is all contributing to the body of knowledge from different, valuable perspectives. Cain (2010) similarly talks about Little K and Big K knowledge with practitioners often developing the former through their research which when combined with the work of others builds up into the latter. In critiquing Furlong and Oancea's (2005) description of 'applied and practice-based research', Hammersley (2008) suggests three types of research: inquiry built into practice, practical research carried out separately from practice and academic

research. He also notes that the latter can be undertaken by teachers working on doctorates, so by practitioner researchers. His division is based on the purpose and outcomes rather than the person undertaking the research. Significantly practitioner research can contribute towards the development of regard and empathy between the research and academic worlds (Dadds, 2008).

By virtue of being a practising classroom teacher, I am a practitioner researcher; that will have a considerable influence on how I approach the research and my aspirations for the end result. At the same time, I am hoping to produce something academically worthwhile as Hammersley describes. I try to take the academic world seriously and hope academics will be interested in my voice.

Practitioner researchers, especially those involved in doctoral level work, have to pull together three different elements: professional practice, higher education practice and the needs of their individual project, sometimes resulting in tensions in responsibilities that can be hard to resolve (Drake and Heath, 2010). *Their motivation for undertaking the research will vary, including career development, exploring a point of particular interest and improving their practice (Sikes and Potts, 2008)* and within their setting they can find differences in views about the role of research within schools (Clayton *et al.*, 2008). Those involved in senior management roles perceive research as action research for school improvement, whilst practitioners see it as a tool for developing or explaining aspects of classroom practice.

From my perspective those views are strongly linked and need not be seen as divergent. Understandably, senior management have a whole school perspective as that is a key part of their role, but each practitioner developing their practice will assist in the whole school process. As a senior manager and classroom teacher, as is often the case in primary schools, I appreciate the connection between the two and the link to national priorities. As Furlong and Salisbury (2005) noted in their review of Best Practice Research Scholarships, these projects chosen by practitioners also linked to school and national priorities, partly driven by the funding criteria, but also reflecting practitioners' and schools' interests as they work to improve their practice.

Many researchers have talked about the process having value, including the development of a leadership team over time in New Zealand (Cardno, 2006), developing professionalism in a climate of government directives (Furlong and Salisbury, 2005) and learning through the process of challenge (Bryant and Bates, 2010). *The deep reflection involved* has helped some appreciate the children's views more

fully and develop empathy towards others (Dadds and Hart, 2001; Dadds, 2008), a valuable type of knowledge. Practitioners have described it as giving them insight and helping them connect with others through the process (Gewirtz *et al.*, 2009) and Brown and Macatangay (2002) report that practitioner research can build up momentum for development in schools. The possibilities for change are limited if practitioners do not explore pedagogy through critical reflection (Murphy, 1996).

Collaboration is often a key element of this. Shulman and Shulman (2004) present a model, based on a slightly problematic research project, where the individual teacher qualities of vision, motivation, understanding, practice and reflection need to be matched in the wider community for effective teacher learning to happen. Working together can build capacity for learning (Christie and Menter, 2009; Kershner *et al.*, 2013), one of Furlong and Oancea's (2005) quality criteria. Teachers responded positively to each other's work in Cain's (2010) project with music teachers, although some were surprised to find that others were interested in their findings (Cain, 2011). Researching together was critical to the development process within an institution (Leat and Lin, 2003; Cardno, 2006) and can play a valuable role in whole school development (Furlong and Salisbury, 2005). Listening closely to the individuals' voices within the collective process helped the participants explore ideas in depth in a Canadian project exploring the participatory action research process (Beatty *et al.*, 2008). Unfortunately the process of accreditation means that research is often done by individuals on their own (Cain, 2011) but mentors can play a significant collaborative and supportive role (Furlong and Salisbury, 2005; Clayton *et al.*, 2008). The focus on working together links with Freire's (1970) vision of dialogue between oppressor and oppressed leading to collaborative action to help all.

I feel well supported, and it is valuable to research my interests within my context. Although I am in many respects working as a sole researcher, I set the project up based on my interests and whole school development priorities, thus involving others as well. I initially discussed the ideas with the leadership team so that the study was relevant and could contribute towards our collective learning journey.

Relevance was one of the key areas that was critiqued in academic research, leading to further development of practitioner research, (e.g. Tooley and Darby, 1998; Whitty, 2006). As this began to progress, Campbell and Jacques (2004) found that teachers expected practical pedagogical outcomes from their research, rather than necessarily raising children's attainment. Practitioner research stems from teachers' needs and genuine concerns (Bartlett and Burton, 2006), but like much research, the need to meet

funding criteria will often have a critical influence on this (Furlong and Salisbury, 2005).

Cain's (2011) summary of teachers' views fits closely with my views on this:

what seemed to be important to them was the extent to which the research-generated knowledge emerged from, and was grounded in, the daily practices of teaching. Thus, there is a potential for teachers' action research to generate varied types of knowledge, including teaching approaches and resources that, while not being generalizable in the positivist sense, are applicable by teachers to new contexts, provided that they recognize those contexts as similar to their own. (Cain, 2011: 10)

In my own research there is direct relevance as I explore the processes and learning in my context. I am interested in changes and their impact, whilst accepting Gorard's (2002) warnings about being careful in establishing cause and effect. I wonder whether my views about the benefits will change as I progress.

Quality in practitioner research

There is plenty of discussion about the purpose and quality of practitioner research. Unsurprisingly, given the range of practitioners and contexts, there is a range of views. Many write positively about its emancipatory role as teachers find their voice and research relevant aspects; it is rooted in local problems, solutions and starting points but can move beyond simple utilitarian needs (Groundwater-Smith and Mockler, 2007). Costley and Armsby (2007) discuss the influence of different backgrounds, time demands and contexts on practitioner research, leading to different approaches. Dadds and Hart (2001) struck a chord with me in their discussion of high quality innovation suiting the needs of the researcher, with narrative aiding the process of deeper reflection.

Concerns have been raised over practitioner research. For example, Foster (1999), in his review of TTA projects nearly fifteen years ago, stated that, because of the different skills and knowledge involved in research and teaching, even highly motivated teachers will find it hard to produce good research. He criticised many of the teachers for their lack of rigour and clarity, for example in literature reviews and the process of data collection and analysis, despite the fact that most of the reports were limited in length to four pages. He found it hard to distinguish the teacher's voice from the findings and criticised them for reporting on improvement in teaching rather than the production of 'knowledge'.

Maybe they were writing about what was important to them and in a format that other teachers would be able to access readily to support their development. Improvement

in teaching could be seen as knowledge for them. Improving teaching and learning is certainly the driving force behind my research.

Foster (1999) raises concerns over the quality of data collected and over-descriptive approach. The pressure to find practical solutions means that the work is less thorough (Campbell and Jacques, 2004). Gorard (2002) argues that the 'warrants' for the external research were not clear enough in the Teaching and Learning Research Programme (TLRP) as practitioners valued different types of evidence. One measure of the academic world's views on practitioner research is that it is rarely cited by academics, and practitioners are infrequent keynote speakers at research conferences (Cain, 2011), albeit with some notable exceptions, such as CARN conferences and the journal 'Educational Action Research'. In some instances, the criticisms may well be valid. Cain (2011) describes a practitioner research project where action research methods were misunderstood, with positivist methods being misapplied. Especially as practitioners first become involved, like any researchers they need to develop the skills and understanding (Furlong and Salisbury, 2005).

It seems to depend on what is valued. Is the practitioner's own learning through the process important? If we are giving them more control and power we need to listen to all the different voices, albeit not uncritically.

Whilst some researchers suggest that practitioner research should be systematic and robust so that the evidence, purpose and outcome can be judged by the same high standards as external research (Groundwater-Smith and Mockler, 2007), others suggest that it should be assessed within its own definitions of quality. Its starting point, purpose and audience are different and the criteria should reflect this. Furlong and Oancea (2005) suggest four dimensions of quality: epistemic (or more traditional methodological concerns), technological (contribution to practice), capacity building (value for people) and economic (value for money), based on the broad reach and multidimensional aspects of practitioner research. Elliott (2007) links the first three of these to the criteria he developed after working with practitioner researchers. He suggests that as the contexts and purposes are so diverse, the criteria need to vary to reflect this and should be strongly linked to the practical nature of such research, or 'value-for-use' (Elliott, 2007: 241). Groundwater-Smith and Mockler (2007) propose a different although not unrelated four, namely the quality of the evidence, purpose, outcome and ethics. The diversity of qualitative research leads Hammersley (2007a; 2008) to question whether it is possible to find one set of criteria. The type of research is inextricably linked with the values behind it and these are so varied, and in some cases

so opposed, that finding a common set of criteria would be unrealistic. He is concerned that policy-makers, who have a key role as funders of research, are becoming too involved and limiting research.

It reminds me of the criteria suggested by Lincoln and Guba (Schwandt *et al.*, 2007). I can see the need for practitioners to put forward their criteria. When I am reading others' research I look for transparency and clarity about the process and the findings, so that I can understand and see where elements might be valuable. A thorough and ethical methodological approach is important, as is trustworthiness and honesty about all elements of the research, especially ensuring that claims are based on the evidence and that problems are acknowledged. I am looking for research that is relevant to my practice, but I appreciate that this will vary between people and across time.

It is worth thinking further about the question of knowledge as this is often raised in discussions about issues of quality. New knowledge is produced, often through working collaboratively (Christie and Menter, 2009). Practitioners have different needs from academic researchers, so the knowledge is contextually based and is not generalisable in the positivist sense of the word (Costley and Armsby, 2007). Cain (2010) suggests, the 'Little K' knowledge produced by individual practitioners can come together to develop wider, or 'Big K' knowledge. Whitehead and McNiff (2006) state that there is little doubt of its value in terms of professional development, but that practitioners need to show they can develop theory as well as practice through their research. However, practical understanding is important, as well as the development of theory (Heron and Reason, 1997). All inquiry should produce knowledge that is relevant to someone (Hammersley, 2008). It is not just the end product that is important; 'the process of constructing knowledge can be better than the knowledge produced' (Fox *et al.*, 2007: 87). *Simons et al. (2003), in their discussion of a government led teacher research programme, suggest 'situated generalisation'. This concept recognises that the knowledge produced by practitioners is contextually based. They found that other practitioners find what is valuable for them, especially when they perceive that there is a contextual connection, are working with others and have confidence in the source.*

That resonates with my experience, just as I noted earlier about the relationship between the writer and the reader; when reading others' research, like all researchers I am looking for elements that might be relevant to me, but I need to find a point of connection and trust the writer. It is the different value placed on the different kinds of knowledge in different contexts that seems to be at the crux of the debate. Partly it

comes back to consideration of the process and the product, and the value placed on practical and theoretical understanding.

Examining the values behind the research is often linked to quality and in any set of criteria certain values are implied. Groundwater-Smith and Mockler (2007) suggest ethics should be at the core of any criteria. Whitehead and McNiff (2006) discuss their concept of 'living theory' which stems from their strong underlying belief in the 'life-affirming energy' (Whitehead and McNiff, 2006: 86) or the constant process of growth and creation. This incorporates values such as freedom, co-self-creation, relationship and inclusiveness, which underpin their criteria for quality:

the capacity of practitioner researchers (1) to identify and articulate clearly what they are studying; (2) to explain the intellectual and practical processes involved in its study; (3) to generate evidence via those intellectual and practical processes; and (4) to articulate their claims to knowledge in terms of the standards they use to judge the validity of the evidence. (Whitehead and McNiff, 2006: 87)

This is similar to the transparency, clarity, thoroughness and trustworthiness that I mentioned above and regard as important. It connects with what you were saying about Freire (1970) and ensuring a wider range of voices is heard. Clearly there are many ways in which practitioner research can be successful and the quality judged.

Insider and outsider perspectives

Practitioner researchers need to consider the relative merits of the different perspective that they bring to the process. My role as a relative insider gives me benefits in terms of access and familiarity. It also means that I have to be careful to stand back and see the wider picture (Drake and Heath, 2010). 'Insiders' need to choose their methods with care because of their on-going involvement and responsibility (Gibbs and Costley, 2006).

As Floyd and Arthur (2012) state, I will have to live with the consequences of any mistakes whereas 'outsiders' could walk away. However, outsiders would still have to live with the results of their research and their conscience. From what I have read and seen, almost all researchers of all kinds take their ethical responsibilities seriously.

It is not as simple as an insider or outsider viewpoint. As we have seen, research is messy and does not fit within strict boundaries. We need to recognise our multiple selves, the different ways in which people perceive us and the impact this has on the research

(Thomson and Gunter, 2011). We move between different worlds in order to create new knowledge (Drake and Heath, 2010) and rather than being an impartial spectator, we need to acknowledge our involvement. In our reflection and analysis, we need to be open, transparent, questioning and thoughtful to understand the process as fully as possible.

Hammersley (1993) questions whether the insider's viewpoint is always better. All knowledge is constructed and it is rash to assume without critique that 'better' knowledge comes from being close to the situation. Close involvement can make it difficult to stand back and see the wider picture. In all instances, self-deception is possible, and being too closely involved can distort as well as enhance relationships. Bassey (2007) suggests insider researchers are emotionally and cognitively involved so need to be particularly open to challenge. **There are additional ethical considerations, especially in relation to anonymity and living with the consequences of the research (Floyd and Arthur, 2012).**

So it is important for 'insiders' to recognise and acknowledge their close involvement, although so-called 'outsider' researchers might argue that their involvement also needs careful consideration (Sikes, 2006). All contexts are complex; understanding them, ourselves and the interrelationship is not easy. It comes down to knowing myself and ensuring depth in the process of reflection and analysis. I need to be rigorous, thorough and acknowledge the impact of different viewpoints. What about other potential difficulties?

Difficulties in practitioner research

Numerous difficulties have been identified in this area. Brown and England (2005) found that there was a danger that problems are not raised in research narratives though some studies have identified factors that have made the process difficult. Time, especially for reflection and writing, is often mentioned (for example Clayton *et al.*, 2008; Gewirtz *et al.*, 2009; Bryant and Bates, 2010). Breaks between action and reflection can make it difficult to pick up the ideas (Cardno, 2006), although working over a longer time-span can be both a demand and a benefit since space for allowing ideas to develop happens automatically (Whitehead and McNiff, 2006). Hammersley (1993) reminds us that research takes time and money which could be directed elsewhere, making the judgement of quality more important.

Stenhouse and his team found in the early days that some teachers felt threatened by being so closely involved in the process (Elliott, 1991). The pace of change imposed on teachers as new policies are developed and implemented can have a significant negative impact (Hillage *et al.*, 1998). They can feel swamped by initiatives (Furlong and Salisbury, 2005; Cardno, 2006) and frustrated by the educational climate (Clayton *et al.*, 2008). Sometimes the constraints are school based, for example meetings, workload and school expectations (Sikes *et al.*, 1985; Leat and Lin, 2003) or lack of support from the senior management (Campbell and Jacques, 2004; Furlong and Salisbury, 2005).

The difficulties can come from within the research. Clayton *et al.* (2008) found that the lack of an audience for the research and lack of confidence about the findings were often significant. Additionally, methodological elements such as framing research questions, carrying out fieldwork and interpreting data were challenging for some of their practitioner researchers. Sometimes practical elements such as transcription hold up a project (Downs, 2010). However, struggles and challenges are not always negative; they can help in the learning process as well as hinder (Gallas, 2010). Teachers can find themselves facing a conflict of interests; their primary role is to teach and ethically that must come first, but standing back and observing is often a key part of a research project (Cain, 2010). Similarly, it can be problematic for an insider researcher when he or she uncovers issues in the organisation that could be difficult to present, but for the sake of the research needs to be open (Sikes and Potts, 2008).

So there are plenty of potential hazards. Nevertheless, I am excited about exploring my practice in greater depth and practitioner research seems to encompass a range of possibilities, within an over-arching belief in enabling new voices to be heard. There is another point to consider; it is not just my voice that I believe needs to contribute to this. I believe I have always tried to listen carefully to the children and observe their reactions so that I can respond and improve what I do to help them learn but I am sure there is more to participatory methods than that.

Involving pupils in research – making a start on participatory methods

In common with all researchers, I wish to collect data in as detailed a way as possible and it will be helpful to reflect on this through the process (Hill, 2006). As part of this I aim to do all I can to help the children contribute their ideas as fully and confidently as

possible. I hope to make it participatory action research with the ideas being generated collaboratively (Brydon-Miller *et al.*, 2011). As Fraser discusses (2004), researchers and children need to have a common vocabulary and understanding of concepts to help with the communication of ideas. Langston *et al.* (2004) demonstrated how even children from birth to five can contribute to research if the adults involved are attuned to them and their means of communication, but also rightly warn of the care needed in interpreting their contributions, especially where this is done non-verbally. Clark (2004a) found that nursery age children could use a camera to record places in their nursery that were important to them. Working in a health context with five- to eleven-year old children, Wetton (1996) found the 'draw and write' technique provided valuable insights into children's understanding about staying safe in the sun. There are clearly examples of where children's contributions to the research process are encouraged through choosing an appropriate and possibly more creative methodology, as I considered when first exploring the narrative approach (p.11).

In their collection of techniques called 'The Evaluator's Cookbook', McCabe and Horsley (2008: 1) suggest that 'all of us, whether adults or children, express and like to convey information about ourselves and our world in different ways; through song, photographs, painting, storytelling and other media.' I came to this through looking for techniques that I could try with children, but I have found that it is not just children who appreciate them; in the same way that I have found the narrative style helpful, so it is useful to explore different techniques with all ages. Several of the techniques could be described as analogies, including clouds, padlocks and keys, or target boards which link images with developmental ideas,

These types of techniques are not without their difficulties. In reviewing the 'draw and write' technique, Sewell (2011) noted possible difficulties with maintaining confidentiality and anonymity. Interpreting drawings is a complex business, and this can be made more so when areas are cropped. As with any data, the selection and organisation of ideas is critical in interpreting the messages. There could be the assumption that because it is pictorial rather than written, children will respond more readily, but children are as varied as adults and their communication in this format will be affected by experience, skills and preferences just as verbal communication is. Despite this, high response rates are usually noted; as Sewell points out, this may be partly because children see it as part of normal classroom practice and therefore do not realise it is part of the research, making withdrawal less likely. The techniques open up new possibilities but they must be treated cautiously. This applies throughout the

research; in gaining children's consent David *et al.* (2001) chose to make their leaflets appealing, through using pictures and appropriate language. On reflection they realised there were many other messages being conveyed through using an 'educational' format, which may have been making some participants feel less enabled from the start.

Negotiation is cited as an important way of making methods child-friendly, an approach that may be appreciated by adult participants as well as children (Fraser, 2004; McCabe and Horsley, 2008). Stalker and Connors (2003) helped disabled children communicate more effectively by offering a choice of methods for communicating their understanding. Adults and children have diverse preferences and as researchers committed to empowering others we need to find ways to help people communicate.

Researching with children brings special responsibilities as the children are in the process of moving from dependence towards independence. Depending on their age and stage of development, children may contribute in different ways. Indeed, in the past, people held the view that children did not have sufficient language skills and/or understanding to participate in many types of research (Fraser, 2004). At this stage of the process, I am keen to do all I can to foster the children's involvement and value their ideas.

For me, it is important for practitioners to make their voices heard and a key element is enabling the children's voices to come through. It sounds like an important starting point is to examine my own views carefully.

Unpicking my identity as a researcher and teacher

One of the criticisms of interpretivist research has always been that it fails to match up to the scientific standards of validity, reliability and generalisability of results (Cohen *et al.*, 2000) i.e. the degree to which the study is accurate, could be replicated elsewhere with the same results, and generate conclusions that can be applied elsewhere. Instead interpretivist researchers present alternative criteria including trustworthiness, ethical practice and deep interrogation and involvement with the data (Lather, 1986). Much can be done by acknowledging the contextual factors, presenting the data in rich detail and leaving the reader to draw their own conclusions as appropriate for them (Schofield, 1993; Hitchcock and Hughes, 1995), a process Stake (1978: 6) describes as 'naturalistic generalisation'.

For practical reasons I have to base my research in the context that I work, but I also value the opportunities this gives. What can we do to make the study as strong in this area as possible?

Choice of data collection and analysis techniques is important: using different types of data to give different viewpoints ('triangulation'), and presenting my data in as much detail as possible. We do not need to worry about the 'Hawthorne' effect, where participants perform differently because they realise they are part of a study (Goodwin and Goodwin, 1996), because we are not trying to prove causation and in this instance raising children's awareness of the importance of making connections will be an important element of the study. We do need to be aware of the 'halo' effect, where my existing understanding of a situation or individual could cause me to misinterpret data (Cohen *et al.*, 2000). Above all, given my central role in the research, I need to recognise and examine my own subjectivity and, hopefully, use the open style of narrative to make this clear.

I can see benefits in acknowledging the central role you are playing, rather than trying to distance yourself behind the passive voice, but I can also see dangers. What about those deep waters of subjectivity and bias?

Whether research is better conducted from within the situation or by someone coming in to collect data seems to be critical in education. Whereas an 'insider' will understand and be part of the on-going dynamics of the situation and probably have a stronger relationship with the participants, an 'outsider' will usually find it easier to step back and be objective (Hammersley, 1993). An insider will be closer to the situation, but it is not easy to reflect accurately on what you know well. **However, outsiders will also have some degree of bias; it is the capacity for critical thinking and understanding of research skills that are more important (Loxley and Seery, 2008).**

We all bring some degree of subjectivity to our research, based on the values we hold dear, or the multiple 'I's as some have phrased it (Peshkin, 1988; Coffey, 1999). I should acknowledge my subjectivities from the start and throughout, as I will be evolving and changing as the project develops (Lather, 1986; Peshkin, 1988). I, and others, can take these into account; it goes back to the reader having a role ...

So where do I stand at the start of the project? My values start with my commitment to learning - for myself and those I teach, which could draw me to grab at clues with no real depth of understanding. Watching the light bulbs shine is exhilarating, but it is

important to make sure the flow of electricity is constant. The same dangers could follow from my desire for success unless I am rigorous about looking at positive and negative examples in my findings. I know I always want to squeeze in more, and this can often be at the expense of probing further and extending understanding, which I need to avoid. I know I want to improve things, and could easily persuade myself that that is what I am seeing, whilst ignoring counter-evidence or alternative explanations. I enjoy playing devil's advocate, which should help me look at both sides of an argument, but I certainly talk too much, like to be organised and in control, and will need to cultivate a good listening approach so I can gather other people's viewpoints. I think I am prepared to take risks in order to try out ideas, but only when I feel they have a reasonable chance of success. I regard the quality of what I produce as very important, both for my own satisfaction and for its impact on others.

My level of commitment and willingness to work hard should help in making time to research alongside teaching. Bryant (1996) pointed out the importance of commitment in action research alongside a willingness to change. Given that substantial change never seems to be easy, this could be hard, but I have chosen to do this so motivation will help. My commitment has another hazard though: it leads me to over-stretch myself, thereby becoming over-tired and damaging both my teaching and reflective skills, which is neither good for the teaching nor the research. I value clear presentation which is seen as helpful and relevant by others. Achieving that requires real clarity of thought with time for analysis, and managing time has never been one of my strengths. I am committed to working with others, but do not always show this in my desire for progress, possibly something to do with the style of education I received in which it was predominantly the individual that mattered.

What about the impact of being a teacher and my relationship with the children? That seems central to what we are doing. I would like to think that I valued every child and their ideas, but does this always happen in practice? So much of what we are exploring is related to power relationships within school. I wonder about the extent to which I create a classroom ethos where all are valued equally, including me?

I will need to explore children's thinking in some depth, and the relationship between us will be critical to this (Thorne, 1993) but is equality important, or even possible? Given that I am an adult and they are children there are inevitable differences of experience. I can't make those differences disappear, but I can make every effort to foster discussion and the freedom to express different opinions in my questioning and classroom management.

There are other values that I hold dear as a teacher, which I think will influence what happens in the project. I have always appreciated children's experiences at home, and tried to make sufficient time in the school curriculum to value these. Similarly, I hope that parents will value and support what we are learning in school. One way in which this research will reflect school priorities is that I am looking to develop stronger links with parents.

I would like to involve parents in the research to help investigate the connections children make in their learning within school and between school and home. I aim to encourage them to be collaborative participants in the research.

Is there a difference between the researcher and teacher roles here? Is it a help or a hindrance that you are combining the two?

I perceive it as a strength. I am closely involved, which could make it difficult to take a step back, examine and analyse what I have found, but it also means that I already know the situation and the people. Coffey (1999) describes the difficulties of identifying whether I will learn more by already knowing the context, or whether this will lead me not to notice things; I need to adopt the stance of being 'involved yet distant' to overcome this. The process of building relationships has already started, but now I have to ensure that I acknowledge the ways in which this will affect my research, particularly my relationships with the children. I need to make sure that their responses are not unduly influenced by their perception of my role. I cannot remove that factor entirely as it is a feature of the context of the research. However, my involvement is also my motivation and the inspiration to embark on this project.

Just a minute, aren't you forgetting us? There is much more to you than just the teacher and the researcher.

Wife, Daughter, Aunt, Friend, Woman, Musician, Reader

Reply all

There is of course much more, principally the competing demands for my time and the need to manage that! More seriously, all the different identities I hold contribute to the person I am when teaching and researching in the classroom. My upbringing and schooling in some sense were comparatively restricted, disciplined and focused on the individual, which can make it difficult for me to work with others collaboratively, and that is an important part of this project. Counteracting this, my musical interests

demand cooperation with others and this is something that I put into practice in the classroom, therefore I can build on this to help me develop the collaborative climate for the research. I need to work with the appreciation that others have said I have for children and their ideas, which often **emerges** when I am with my family and friends. My interest in reading has the potential to help me explore new ideas from a range of sources, as long as I reflect on these critically.

Unpicking all those different elements of oneself is not easy, but continued reflection will provide a key element of my learning journey through the project. It will be interesting to see how the process impacts on my practice as my core motivation is still to improve that.

Summary: Crystallising my approach to research

In selecting the heading for this section I have borrowed the metaphor of a crystal used by Richardson (1997) in relation to validity, as I examine and recognise the value of different viewpoints and collate them into a coherent, but still multi-faceted whole for my own research. **As Lincoln et al. (2011: 97) explain**, qualitative methods in the social sciences have seen an 'explosion' in recent years and much writing has focused on the differences between approaches. **They** suggest it is more helpful to look at points of 'confluence' as well as examining the differences and contradictions. Looking across their tables which compare different research approaches and linking this to my reading, I could see many elements of critical theory, constructivism and participatory research connecting in my study, 'confluences' that they also acknowledge. **Ellingson (2011) suggests a continuum rather than a polarisation of quantitative and qualitative approaches and, although a largely qualitative study, I recognise some of the complexity of her middle ground in what I am doing, and that this study is not at the extreme qualitative end of her spectrum. Somekh and Zeichner (2009), in their review of 46 educational action research studies from across the globe, perceive that the value of action research comes from its 'boundary-crossing nature' (Somekh and Zeichner, 2009: 6), something that I see across the range of approaches I have explored.**

Rather than situating my research in one area, it takes elements from several. At the start of the project I knew some of the terms; my understanding improved as I read and undertook my own research. I became aware of links and differences between approaches, and what I could learn from each. As Preissle (2011) suggests for the future of qualitative research, I appreciate the benefits of working in a more mixed way.

My view of the overlapping relationships is best summarised by the diagram in Figure 2-1:

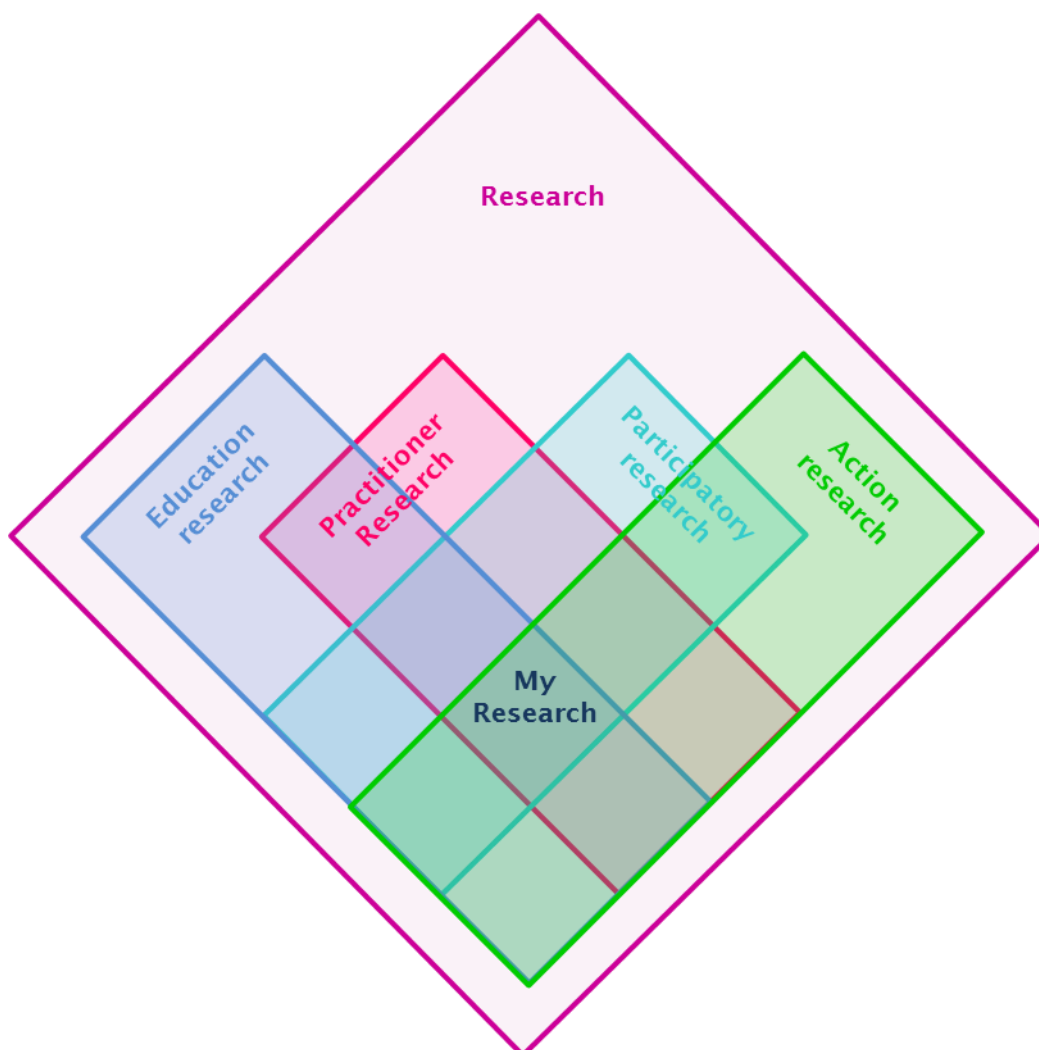


Figure 2-1: Locating this study within research approaches

All the intersections of the rectangles could include research projects and the relative size of the rectangles is not significant. It shows how these four approaches linked together. It could be thought of as 'Connecting Research' as it draws on elements from different approaches, linked into a coherent whole from the practitioner's perspective. I recognise that my work also **draws on narrative approaches (Bochner, 2001; Andrews et al., 2004; Chase, 2005; Chase, 2011) and additionally, grounded theory 'strategies' based on Charmaz (2011: 365), as will be discussed in the next chapter;** the diagram shows the most significant influences.

I suspect that other teachers would be in a similar position, combining the participatory and action research elements within their educational practitioner research.

It is essential to acknowledge what I bring to the process. I am researching principally to improve my practice, driven by a belief in the importance of working with children, parents and other teachers to encourage their contributions to the process. The research is strongly located in the context where it takes place, and is planned to be relevant to development there. I am keen to present my work honestly such that it engages other teachers as well as the academic world. I acknowledge that my values and role in school, my involvement, the context and the participants will all have an impact on the research.

The research is not just based in the school context; the academic world has an important part to play through my reading and discussions. I am keen to explore the use of narrative, written as dialogue, to record and present my story as I believe it communicates more directly and gives possibilities for reflection and learning. Given the limitations, complexity and contextual factors, I need to be particularly cautious in my claims, but it is important to me that my research should make a difference for myself and hopefully for others.

In reviewing the literature in this area, I found that I was mostly reading articles about practitioner research written by university based researchers. This area of research may have seen a significant increase but it left me wondering how often practitioners had told their own story. In my research, the academic world has rightly encouraged me to reflect on my influences and to develop the voice of the child. Now I need to look at the evidence fully and allow my practitioner voice to be heard: 'what is needed is the creation of new academic spaces – that is, new kinds of peer support and review communities – in which genuine partnerships, characterised by respectful and critical dialogue, between university staff and teacher researchers are possible.' (Gerwitz *et al* (2009: 581).

Certainly I welcome the trust and cooperation implied by this statement and recognise it in my experience, especially at the conference on participatory research that I attended (Dodd, 2009). I am interested that so much of what I have read is produced by the academic world and wonder how strongly the practitioner voice comes through without this filter. Maybe this is something I can contribute.

Cain (2011: 14) states that practitioner research can 'generate rigorously researched and inspiring narratives of change, showing teachers' and students' struggles to achieve their educational ideals – not simply reporting strategies which work, but rich and detailed accounts of the interactions which lead to realising educational ideals.' This is what I aspire to within this study.

I am therefore presenting a self-reflexive, in depth account of my research journey, exploring my perspective as a practitioner researcher. Whilst I am connecting ideas from a range of approaches to inform my research, it draws on the style of Ellis and Bochner's article (2000) which first inspired me to try a narrative approach. Like Fox and Allan (2014), I use this to draw out themes from across the research process. This seems a good time to leave the dialogue and consider the data collection and analysis.

Chapter 3 Data collection and analysis

This chapter outlines the broader elements of data collection and analysis that applied across this practitioner research project, **incorporating elements from a range of research approaches including action research and participatory methods**. Here I discuss the techniques used, including interviews, stimulated recall, observational notes, documentary evidence, and the journal I kept reflecting on my teaching and research. I explore how I based the data analysis principally on grounded theory techniques (Charmaz, 2006), and used a suitable computer assisted qualitative data analysis software (CAQDAS) package. In the final section, I examine the key ethical considerations underpinning the study. Fuller detail relating more specifically to Parts 1 and 2, and the ensuing analysis of the dialogue is included in the relevant later chapters.

Data collection

In any research project, the methods of data collection selected are critical to its success. Researchers have a responsibility to choose the most appropriate methods for their study, based on factors such as the research approach, aims and research question, age of the participants, and time and resources available. I was aware of the need to look at the ideas using different methods and from different viewpoints to 'triangulate' my findings (Cohen *et al.*, 2000) and collect rich data. To achieve this and follow through my belief in creating a rich description of the project, I used a range of qualitative techniques including interviews, observational notes, video, dictaphone diaries and documentary evidence. Denzin (1997) broadens the view of triangulation including space, societal and investigator dimensions. This project extended over several academic years and two schools, with one main investigator and many collaborators.

Interviews

Interviews are a much-used form of data collection in action research, including those across the continuum from highly structured to relatively free, allowing the interviewer to explore issues that arise. This gives them a distinct advantage over questionnaires if the interviewer has the skills to probe without making the interviewee feel uncomfortable. A more structured approach is generally used when more comparable data is needed or the primary purpose is fact-finding (Cohen *et al.*, 2000; Robson, 2011). In this study, I interviewed the children to explore their ideas and thoughts about the research so I adopted a position in the middle of this continuum, with some

questions requiring closed answers, providing quantitative data, and others requiring more open-ended answers. Especially given the age of the children, it was helpful to be able to probe where answers would benefit from expansion and to be able to rephrase questions when it was necessary.

Interpersonal skills play an important part in interviewing, especially those of being an active listener, and, in a freer interview, a good questioner (McNiff *et al.*, 2003; Robson, 2011). The relationship between the interviewer and the interviewee is important; where they know each other well and a positive relationship exists already, as I felt was the case in this study, this should aid communication. Young children, particularly pupils, might have sought to please the adult rather than represent their own views, reflecting their perception of the relative authority of the interviewer (Hill *et al.*, 2004; Drake and Heath, 2010). I needed to make a conscious effort to welcome each child, give positive verbal feedback and use positive non-verbal signs such as smiling to encourage them. I needed to ensure that the children were physically comfortable, had enough time (without taking too much curriculum time) and were without interruptions as far as possible. The interviews took place in a separate room, with child-height chairs and good lighting.

The success of interviews is strongly linked to the quality of the questions. Well-planned questions, which encourage debate and discussion, can help children to explore issues more fully (Clarke, 2003). This was especially important as I interviewed the children in groups rather than individually, partly to minimise my time out of the classroom and partly to promote discussion and ownership, making it a collaborative project, which I felt would be more difficult to establish in individual interviews. **Watts and Ebbutt (1987), Hopkins (2002) and Robson (2011) among others**, suggest that group interviews can foster a better level of response and more wide-ranging discussion within a shorter time-span. Piloting the questions was important to ensure that they were clear and the responses useful (McNiff *et al.*, 2003).

Silverman (2013) has critiqued the use of interviews, suggesting that they are over-used in qualitative research and the process distorts contributions. Whilst I can understand his concerns, I was equally aware that, as he also recognises, there are times when interviews are more time efficient and, in my case, practicable, alongside the demands of teaching. In any research, the situation and people in it will affect the data gathered, and this applies to observation as well as interviews.

In Part 1, as well as interviewing the children, I interviewed some of the parents, also in groups, to try to establish whether the children ever had 'critical moments' at home, if

so when, and what was happening at those times. I discussed with them what we can do to encourage children to link experiences between home and school. The questions in this instance were starting points for a group discussion, rather than closed questions as I felt this would provide the most fruitful ideas.

For recording purposes notes made after interviews are less intrusive, but it is difficult to remember everything in a balanced way (Robson, 2011). Given that I was conducting group interviews I decided it was easier and relatively unobtrusive to use a digital dictaphone. Audio recordings are time-consuming to transcribe and the presence of audio equipment can put people off, but they provide a good record of all verbal communication which can be replayed as many times as necessary. I chose not to use video for the interviews as this would be more intrusive and time-consuming to set up and analyse, albeit giving greater information about non-verbal cues.

Video

I used video initially in other ways as an important source of evidence. In Part 1, whole class and small group sessions were recorded with the intention of exploring the times when children made connections. As shown by Jacobs *et al.* (1999), Bourne and Jewitt (2003) and Hargreaves *et al.* (2003) the use of video can provide a powerful analytic tool because it can be rerun, viewed in slow motion and paused to examine the full range of verbal and non-verbal cues captured on camera. Jewitt and Kress (2003) show the multimodal analysis possible by examining the interweaving of different modes in the process of understanding classroom interactions. It enabled them to demonstrate the importance of visual elements and gesture in teaching and learning. Jewitt and Kress (2003) used two cameras, alongside observation, as they were examining all the factors involved. I planned to use the video frequently so that it became a normal part of the classroom furniture, and had a relatively small and unobtrusive camera. It was not possible in this study to use another camera or another adult to observe. I completed the analysis alone, without the benefit of comparing ideas with a fellow researcher, but with the benefit of on-going reflection.

I also planned to use stimulated recall to explore the children's thoughts about connections. Those who are filmed are asked to look back at a video and describe what they remember about their thought processes and actions at the time. Pirie (1996), Moyles *et al* (2002) and Powell (2005) all describe how the method has been used with adults in education, helping teachers to reflect on their practice. Working with younger participants, Kane and Maw (2005) describe an Australian project where video and other techniques were used to build up a picture of how children learn in

school. Edwards-Leis (2006) thought that there might be a lower age limit where children would not have sufficient metacognition to reflect effectively, without specifying what age this might be. **Two studies show that primary age children can use versions of this technique.** McCallum *et al.* (2000) found that Year 2 and Year 6 children had useful comments to make in interviews when given stimulus cards to put in order and add to. **Similarly,** Pratt (2006) found that year 3 and 4 children could provide valuable insights into their learning. I have not found any research using a video-stimulated recall technique with children younger than this. Lyle (2003), when working with adults, found that it was important to conduct the video-stimulated interview as soon as possible after the event to facilitate recall. Even with adults, they often found this hard and I needed to bear this in mind when working with younger children. Stimulated recall is not without its critics. Gass and Mackey (2000) raise the issue of whether the process reflects what the participants were thinking at the time. They discuss the need to avoid tiredness for the participants and how some people could find it obtrusive or culturally difficult to discuss difficulties that arose.

Observational notes

Notes based on classroom observation are often quoted as a useful source of evidence in action research (Goodwin and Goodwin, 1996; Hopkins, 2002; McNiff *et al.*, 2003). Additionally, Delamont (2002), discussing ethnographic research, gives them a high priority. Unlike a visiting researcher, I could not usually write them during teaching, but I could sometimes write them quickly after the event, thus having the advantage of immediacy and reflecting normal classroom practice. I needed to be careful to step back and reflect on what was familiar rather than making assumptions; as is often said, to 'make the strange, familiar and the familiar, strange' (Clough, 2002: 8).

McNiff *et al.* (2003) discuss the value of making notes as on-going tools for reflection by including what was noticed and what was learned. **In terms of timing,** Delamont (2002) suggests that adding some analysis and reflection as soon as possible after the observation is useful to capture the researcher's immediate views. Some would say subjective selectivity could be problematic since I was selecting what I noted, but researchers are always making choices about what is recorded and I recognised it was helpful to collect examples that both supported and refuted my thinking. In Part 1, I planned to involve the children in collecting field notes as well, not in written form, but by making available digital dictaphones.

Documentary evidence

Documents are often cited as a useful source of evidence (Duffy, 2005). In Part 1, there were only a few examples where it was useful to collect examples of the children's work. I had wondered whether the children might show 'critical moments' in different forms, for example writing, pictures, mind maps, models or drama, and I was ready to collect these when needed. For the pupil research group in Part 2, I collected their survey sheets and journals as documentary evidence. As with the field notes, I was aware that I needed to collect evidence and counter-evidence for any hunches I was exploring.

Journal writing

I was interested in the idea of using on-going writing to reflect on my understanding and develop my thoughts **as a teacher and a researcher**. Janesick (1999) advocates the power of using a journal which can be an important tool to encourage reflexivity (Drake and Heath, 2010). Brown and Jones (2001) suggest that the writing process is an important part of developing thought and understanding. **Similarly**, Ellis (Ellis and Bochner, 2000) sent her new student away to write a journal about her experiences to provide the core, powerful data for her work. What I have often found is that in the process of writing I am forced to think through ideas and clarify my understanding; by putting them into words it helps me explore my understanding and discover the gaps. That is certainly useful, even if not always comfortable, just as Hart *et al* (2004) found. Having found the process useful myself, I introduced the idea of journals to the pupil research group in Part 2. Experiments with an old dictaphone made me realise that verbalising those thoughts is not always easy, something I needed to remember when I asked the children to explain their understanding. The process is helpful, but probably only reflects a fraction of the thoughts and ideas that are there.

Charmaz (2006: 10) discusses how research develops an '*interpretive* portrayal of the studied world, not an exact picture of it'. There is no one right way to see things; all research implies a viewpoint and an interpretation, with writing providing a useful tool to explore this. It was interesting to see what emerged. I reviewed the evidence and my reading closely many times, writing my journal regularly to capture my thoughts and tease out the themes and ideas that were emerging. It was both a form of data analysis and a new, significant collection of data in its own right, which in turn was worth analysing to elicit the underlying messages.

Data analysis

Grounded Theory

I needed to ensure that my data analysis, as with the rest of the project, was true to my values and beliefs (Gorard, 2002). I wondered whether to come to the process with a preconceived hypothesis, which I would then investigate, or whether to follow the principles of grounded theory (Glaser and Holton, 2004) to allow the theory to emerge, through coding and frequent reflection in the form of 'memos' from the data, gradually refining the process (Glaser and Strauss, 1968). I could see the value in allowing common themes to emerge and the refining of the theory fits with the cyclical approach of action research. I was already approaching the project with a strong idea of my values, beliefs and what I wanted to investigate (Peshkin, 1988) so it was going to be hard to follow Glaser's strictures that I should come with no preconceived ideas. Charmaz (2006: 10) states '... we are part of the world we study and the data we collect. We construct our grounded theories through our past and present involvements and interactions with people, perspectives and research practices.' She recognises the interaction between the data and the researcher and the part this plays in the research. I liked this approach as it fitted with my role as class teacher and my close involvement with what I was studying. For me, the strength of grounded theory lies in its detailed and focused analysis based on frequent and thorough engagement with the data. The data can and should be multifaceted, enabling the researcher to 'enter their settings and situations to the extent possible' (Charmaz, 2006: 14). This presented some interesting possibilities and dilemmas in my dual role as teacher and researcher. A critical element of the interrogation process is the close attention to the language used, both in its interpretation and in selecting codes. The researcher looks beyond simple actions to explore in depth, or as Charmaz (2006: 14) phrases it, to 'think about what lurks in the background of your analysis'.

Not all qualitative researchers welcome the coding process; St Pierre (2011) states categorically that she would never advise her students to do this as it reduces qualitative research to a more positivist approach. In my case, I would say that I intended to use coding as a tool to examine the data in depth and reflect on the learning from it, akin to the thinking, analysis and writing that she discusses.

Computer aided qualitative data analysis

I investigated CAQDAS as a means of making the analysis, coding and interrogation of data easier. As stated by Lewins and Silver (2006), Barry (1998) and Davidson and di

Gregorio (2011), it is important to recognise that such software does not take over the role of reflecting on and creating theories based on data. The package is there to act as a tool to aid the researcher in examining the data closely, in particular helping with sorting and searching based on the coding applied and the creation of network maps to illustrate emerging themes. It can help make the data analysis more transparent, avoiding criticisms such as that by Gorard (2002) where the 'warrant' between evidence and conclusions is not explicit or justified.

I felt it was important that any potential software should be able to handle text, audio and video files. Initially all three forms of data were part of the project and the benefit of using software is partly in being able to look at common themes across the different types of data. The software also had to be reasonably easy to handle. Lewins and Silver (2006) provided a helpful checklist of pointers to help identify an appropriate package. Only four packages, from their webpages³, could handle multimedia files, and one of these, Transana 2, could not handle text as well (at the time of selection) so was ruled out. Of the remaining three, I ruled out Qualrus on grounds of manageability, leaving HyperRESEARCH and Atlas.ti. After investigating the introductory tours of both, I felt Atlas.ti had more flexibility and ease of use, especially as a tool to reflect my thinking. I built samples of material from the trial into a hermeneutic unit to experiment with coding and some initial analysis.

Some technical problems arose with this, mainly when entering video data. Either the quality of the clip was poor, losing much of the non-verbal data, or the clip used a huge amount of memory, leaving the prospect of not being able to manage the volume of material over the course of the study. Another solution I considered was that video data should be transcribed using a program such as EXMARaLDA which I had used previously (Dodd, 2004) and then entered as a text file which could be coded along with the rest of the data. This removes one of the advantages of a program such as Atlas.ti, the possible avoidance of the time-consuming need to transcribe. In the end, I made close and detailed notes from the videos, which could then be incorporated into the Atlas.ti analysis.

I used Atlas.ti at two stages. Initially I coded the accessible data from Part 1 and then Part 2 of the study to assist in identifying relevant themes and ideas from across the data in order to create the initial dialogue between myself as a teacher and myself as a researcher. To investigate the underlying messages about my learning journey (Chapter 11), I subsequently coded the dialogue. Initially at this stage I did not refer

³ At the time of choosing – August 2007

back to the initial analysis (over a year had passed since completing it) in order to look at it freshly as I felt this might give new insights; I used the need to take a break from the research to help.

Ethical considerations

Complex ethical issues are involved in educational research (e.g. Cohen *et al.*, 2000; Sheehy *et al.*, 2005; Zeni, 2005; Groundwater-Smith and Mockler, 2007); these relate to the need to protect the individuals concerned and the need to maintain academic rigour and they are well summarised in the BERA (2004) Guidelines which were used as the basis for this research. The researcher needs to show respect for the person, knowledge, democratic values, the quality of educational research and academic freedom. As the researcher, I have responsibilities towards the participants, the sponsor and educational research. In relation to working with children the BERA code (2004) particularly identifies the need to facilitate fully informed consent, to comply with legal requirements, avoid distress, and desist immediately if it appears that harm is being done or children are being overloaded. I developed an ethics protocol to reflect these matters and the University of Southampton School of Education Ethics Committee granted ethics approval.

Aubrey *et al.* (2000: 160) suggest that three 'frameworks' should underpin research: duties, rights and harm/benefit. Hill (2005) discusses particular responsibilities for those working with children, related to their welfare, protection, provision, and choice and participation i.e. the researcher should endeavour to ensure their welfare and satisfactory development, to ensure that they are protected from harm, to help them feel good about contributing to research as a service and to encourage their choice and participation. Within this last element, there are four parts, taking part, opting out, ensuring the boundaries of confidentiality are clear and contributing ideas. McNiff *et al.* (2003) also identify the importance of considering how one influences participants; it should be open and without coercion. It is not just about following ethical guidelines; Simons and Usher (2008) describe how the best ethical practice is also about being aware of the people and relationships in the particular situation that is being researched.

I saw the key areas therefore as:

- In relation to the participants (the school, children, parents and any adults who become involved):
 - Seeking informed consent

- Privacy, confidentiality and anonymity
 - Use of time
 - Working together
- In relation to the research community and the public:
 - Honesty and integrity
 - Clarity
 - Validity

Finally, there is little mention in ethical guidelines of the researcher's need to consider their own welfare. Lee-Trewerk (2000) discussed how issues arising from research affect the researcher who may possibly need support. Mosley (1993) draws teachers' attention to the importance of looking after their well-being so they do their job effectively. Both issues could affect all the ethical points above, especially in a project facilitated by one researcher. I would therefore add a third section to the ethical issues:

- In relation to myself:
 - Use of time
 - Support

Informed consent

Seeking consent is vital to ensure that the rights of each individual involved are respected, whatever their age. Historically children were regarded as unable to give consent for themselves, but in recent years there has been a welcome change in this attitude (Hill, 2005). For some studies, respecting the rights of the individual is more complex because they involve more intensely personal data or possible danger (e.g. Ellingson, 1998; Kiesinger, 1998). Wong (1998) discusses using data for which consent has not been specifically sought, and offering rewards, but I felt unhappy with both of these.

In accordance with Articles 10, 11 and 13 of the BERA (2004) guidelines I sought permission for the pilot study and the research from the school, the children's parents (due to the age of the children), and the children, leading to 'voluntary informed consent', and including the right to withdraw at any time. Initially at each of the two schools involved, I approached the headteacher and chair of governors with a letter outlining the aims of the project, to gain the school's consent (Appendix A, Appendix D, Appendix N). Following this, consent was sought from the parents (Appendix B,

Appendix E, Appendix O) and lastly the children (Appendix C, Appendix F, Appendix P).

Establishing informed consent was a particular challenge with children of this age as the implications of giving consent are far from their experience. As Hill (2005) describes, researchers have found that children as young as nine have a reasonable understanding of the implications, but extra time may be needed to explain this. There are significant considerations regarding the children's attitudes towards an adult asking for permission, and particularly with regard to me as their teacher, due to the relationships and their perceptions of adult power (Hill, 2005). This can be mitigated to some extent by cultivating a positive relationship with the children; I needed to show that I valued their ideas and honest thoughts and not just what they thought I wanted to hear. I aimed to achieve this by listening and responding to their suggestions, taking seriously any concerns that they raised, and by reminding them that I was specifically interested in their honest opinions. The parents would also have views on my role as a teacher, which would affect their approach to my teaching and research (Wolfendale, 2005), and I needed to show that I also valued their honesty for the project to be useful.

Given the age of the children (five, six and seven years at the first school, nine and ten at the second) I explained the ideas verbally as well as giving them the letter on which to indicate their agreement. I aimed to present it in informal language, whilst making clear that it was valued and important. I tried to use positive body language to make them feel comfortable and at ease, without using this to encourage them to agree. Additionally I continued to check with them verbally when using the video, tape recorder or camera and asked if they were still happy to be part of the study. If they expressed any concerns, I endeavoured to answer their queries and if they expressed a wish to withdraw, I knew it was important to respect this.

An important consideration when video is used is making sure that everyone is clear whether and why this may need to be shown to others, and what this means for any confidentiality promised; it is impossible to maintain anonymity if it is necessary to show the material to others without blurring of faces (Prosser, 2005). In view of this, I asked separately for permission to video sessions, from the school, parents, other adults in the room and children. As they had given this, I also felt able to use photographs **when it became apparent they would be valuable.**

Privacy, Confidentiality and Anonymity

Where the research becomes more personal in a smaller-scale, in-depth project, the researcher's duty to maintain confidentiality becomes even more essential (Goodwin and Goodwin, 1996). However, with modern technology, it is now possible to identify the researcher's context via the Internet and to identify people from unnamed photographs (PhotoFinder, 2014) and the people involved will recognise each other. Similarly, where participants have worked closely together, it is possible that they will remember what other participants said (Floyd and Arthur, 2012). Total anonymity is not possible, but it was important to me to do all that I could to make identifying participants difficult. In the written text I have changed all the names of adults and children involved in the study, other than my own. McNiff *et al.* (2003) suggest that initials, numbers or symbols should be used instead, but this is less clear and fits less well with the qualitative approach and description of rich data being used. Contextual details about the school are included, but without key features which might identify it. Video and audio files are stored securely on DVDs and only my journal, the original narrative created, and the data included in this thesis are stored on computer. Paper-based data are stored by pseudonym (BERA, 2004: Articles 24-26). The thesis will be made available at each school and if any parent or child wished to see the data relating to them this would be made available. I have taken care to ensure that the details revealed about children, apart from the visual images, do not make them identifiable. I have included the photographs, despite the possibility of identification as I believe they show more clearly than any description how one element of the project worked. As Simons (2009) describes, researchers often have to balance priorities when making choices about methodology.

Ellis and Bochner (2000) state that when dealing with complex and potentially tricky data, they use the core ideas and draw them into a fictionalised account, whilst retaining the underlying authenticity of the data and analysis. It is still important to check back with the participants and get their permission to present the data in this form (Ellis and Bochner, 2000). While not particularly controversial or private data, I realised that situations might arise where I needed to be sensitive. In the classroom the underlying ethic of 'Do no harm' prevailed, and the intention behind all my actions was to make improvements.

Use of time

There are significant ethical considerations concerning the use of people's time and ensuring it is not wasted. For the children and parents I needed to be aware that I was using either their personal time or curriculum time; I therefore ensured that disruption

was kept to a minimum and that I thanked them fully for their time (BERA, 2004; Hill, 2005). I did not use rewards as I felt this would detract from the feeling of value in the research and focus attention on the reward instead; it could present difficulties of equal treatment in the class if some children and parents would prefer not to take part. It was vital that at all times the action within the research was promoting the children's learning; if at any time it appeared detrimental, I would stop, review, and sort out any problems before continuing.

Working together

As part of my approach, I aimed to work collaboratively, with all the participants feeling that they could make a useful contribution to its progress. As has been discussed above, from the time that I started to ask for informed consent, it was necessary to set the tone of collaboration, and keep reiterating this to develop the participants' confidence to contribute. Throughout I endeavoured to reflect my democratic values, ensuring that all participants were valued equally, regardless of ethnicity, gender, cultural and academic attainment differences.

To support this collaboration it was important to keep people informed of the progress of the study. At various stages, I updated the headteacher, governors, parents and children with a brief summary of the progress, in appropriate language and taking the opportunity to show that I welcomed any further ideas that they might wish to contribute.

Honesty and integrity

I fully appreciate the importance of my responsibility to the participants, school, research and education communities to do all I can to report what I have done and my findings as honestly as I can (BERA, 2004: Article 43). It is a quality I aim to adhere to throughout life and I appreciate I have particular responsibilities to people who have put their trust in me (Elliott, 2007).

Clarity

In line with the BERA (2004) guidelines and University of Southampton (2012) guidelines, and influenced by my experience of Ellis and Bochner's (2000) writing, I aimed to report the project and issues arising from it in clear, straightforward and appropriate language.

Validity

In qualitative studies, validity is often seen as an ethical issue (Lincoln *et al.*, 2011). It connects to the idea of 'authenticity' with the participants and readers being able to trust and use the findings. Hence it was important for me to be as thorough, transparent and detailed as possible. This kind of believability comes from so much more than following a code; it is about the relationships with the participants, the process of the research and its subsequent use (Simons and Usher, 2000; Schwandt *et al.*, 2007). Lather (1986) states that research must be rigorous and relevant, with validity coming from triangulation and thorough exploration and questioning of the data and emerging theories. Finally she suggests there should be catalytic validity, where the research is transformative for the participants.

My responsibilities to myself

I was aware of the need to ensure that I could do justice to the research and my teaching by not overloading myself, and by allocating sufficient time to keep up-to-date with analysis and reflection on the fieldwork (Delamont, 2002). This is particularly important in an action research project where the next phase of the action is dependent on the findings and reflection from the previous phase. In terms of support with difficult issues, I did not anticipate huge personal challenges as found by Lee-Treweek (2000) but I monitored this, knowing I could seek support from home or colleagues at school or the university if necessary. After Part 1 of the project, I became aware that I needed more space and time to think through the issues. Alongside this, I had extra demands from school. In consultation with my supervisor, I suspended the project for a year, enabling me to see the way forward more clearly.

Trialling approaches

As suggested by Bell (2005) I trialled the main techniques before Part 1 of the project to assess their effectiveness and improve them where necessary, including gaining informed consent from the school, parents and children, videoing of classroom sessions, showing the children videoed lessons to probe their thinking, using the dictaphones, and keeping on-going notes. Following the data collection I trialled some data analysis techniques. At the time I felt it was not possible to introduce the main idea of 'making connections', as due to school organisational issues, four of the children involved in the trial would still be in my class and invited to be part of the main study. I felt that introducing the idea at this stage might weaken its use later. In retrospect, I can see that this need not have been an issue.

Following the trial, I made some changes:

- Rather than communicating by telephone and e-mail with the headteacher and chair of governors I arranged a brief meeting.
- I amended the letter to parents so that they had an option to show that they did not give consent. I offered a meeting time to discuss any aspects of the project and ask for volunteers to be more fully involved.
- For gaining the children's consent, I used a letter with five faces rather than three enabling the children to show slight concern where appropriate. The use of 'smiley faces' had arisen from my 'insider' knowledge of the class as we were using a three-face system for the children to reflect on their learning in school. In the trials some children had expressed some concerns such as not knowing what equipment was going to be used, and wondering what would happen if a pencil pot was knocked over. We were able to discuss and resolve these by showing them the equipment and by reassuring them that if there was a part that they were not happy with we could delete it. In all cases, the children then immediately responded that they were completely happy, without prompting.
- Initially I discussed giving consent with each of the children individually, rather than in a small group. It took longer, but ensured that they had the opportunity to give their own opinion. I had to reverse this decision later as it was taking too much time away from the classroom.
- My Masters dissertation was available to show them what the finished thesis might look like as they had asked about this.
- I used a tripod with the video camera to give more flexibility with positioning, especially given that there was no one available to operate it.
- I reviewed the technical aspects of showing the children video to support stimulated recall. There had to be a day's delay as there was no equipment to download the video onto DVD at school, thereby not giving the immediacy advocated by Lyle (2003).
- I selected short extracts from the videos so they could watch them twice, rather than once, as this had prompted fuller responses from the children.
- I realised some of the limitations of video in a busy classroom where children were working in groups and recognised that observational notes could also play a key role. I took care not to compromise my primary role as their teacher; ethically the research should be adding value rather than detracting from it.

Summary: the way ahead

I chose a range of methods to facilitate gathering a variety of viewpoints and types of data, including interviews, videoed sessions, observational notes, children's work and my reflective journal. To encourage the participants' engagement and involvement, and to gain the best data possible, I thought carefully about where and how the different elements could be used, including planning questions and choosing recording techniques. One specific technique planned was the use of stimulated recall, based on video or the children's work. The analysis was based on grounded theory techniques, recognising that my close involvement and previous experience would have a significant impact. The process was to clarify my interpretation of the data, rather than to present a universal truth.

I intended that the project should have a strong ethical underpinning. I followed procedures to ensure that elements such as informed consent, privacy, confidentiality and anonymity, were in place to protect the participants where it was possible and wise to do so. It was also important to me that the project was a beneficial and inclusive experience for all those involved, with time used effectively. The data collection and analysis techniques were trialled as far as possible so that I could refine the techniques used before the main study to maximise its benefits. I wanted strong relationships, honesty and integrity to underpin every element.

Chapter 4 Making connections literature review

Advocates of ‘brain-friendly’ learning frequently refer to the importance of children making connections in their learning and seeing how it fits in with the ‘big picture’ of their understanding. The **quotations** below are indicative of the types of assertions made in some texts aimed principally at a practitioner audience:

Teachers and children need to develop connections within their own learning and to bridge this learning to other aspects of their personal or professional experience. (Eagle et al., 2005: 6)

Good learners get pleasure from seeing how things fit together. They are interested in the big picture and how new learning expands it. Good learners can make all kinds of different links. (Claxton, 2002: 27)

Connecting to what the learner already knows and understands is an essential prerequisite for accelerating learning. The brain constantly seeks patterns of meaning based on those patterns which are already known and understood and its capacity to recognise and learn new patterns. (Smith, 1998: 133)

The brain tries to give new information significance by connecting it with existing knowledge and skills. (Johnson, 2002: 4)

I was interested to find that rarely is there any detailed description of *how* these connections should be made. This chapter examines some of the issues in this area and how they relate to this study. It leads to a definition of the key ideas underpinning Part 1, and suggests how making connections fits into a wider understanding of the learning process which applies to the full study.

Education for life in the 21st century

Many commentators have written about the different skills required for life in the 21st century. In a fast-changing world, it is not so much what you know that matters, but being able to adapt and respond to new circumstances and demands (Greany and Rodd, 2003). New technologies are constantly changing the way we work, communicate, live and learn and we need to be able to respond to the increasing pace of change (Fisher, 2005). We need to look for the underlying skills for lifelong learning which cross subject boundaries. Fisher (2005) suggests that the foundations of such an approach are laid early on in a child’s life and are linked to a child’s developing sense of identity. As well as good basic skills, employers are looking for teamwork, flexibility and a willingness to embrace new ideas (CBI, 2007). Making connections is one of the ways in which this flexibility is demonstrated, helping us to take on new ideas by linking them to what is familiar.

How do we learn?

Bartlett (1932) was one of the first researchers, along with Piaget, to describe how we gradually adapt our understanding of the world in response to new experiences: we actively construct and develop schemata which are then memorised and further adapted in the light of experiences. He stated that his experiments, requiring successive recalls of material such as newspaper articles, showed that our recall of ideas is an imperfect reconstruction, with our attitude towards the task playing a key part. In their consideration of how to teach secondary physics, Posner *et al.* (1982) describe how we assimilate and accommodate new ideas based on the degree of match with our current understanding.

Von Glasersfeld (1987) described how children are constantly seeking to understand and make sense of their world, in other words constructing their learning. It links to Freire's (1970) vision of problem-posing rather than banking education. Teaching is about ensuring children are facilitated and guided into learning which they construct for themselves, rather than being filled up with knowledge. The development of post-modern, relativistic research approaches is based on the same underlying principles; the concept of 'truth' is replaced with a belief in different interpretations of the world.

Vygotsky (1962: 59) suggests that when forming concepts there are three phases of development. Younger children in the first phase put together objects in 'unorganised congeries' or 'heaps' in a relatively disorganised way to try and make sense of a word or idea. In the second phase, children begin 'thinking in complexes' (Vygotsky, 1962: 61); objects are linked by bonds that actually exist between them, based on the child's practical experience. Finally, to develop concepts they continue to connect ideas, but also begin to abstract elements, based on experience and perceptual thought. It is in adolescence that he believed children move towards pure concepts, looked at only in abstract terms. Language and interaction with others is vital for learning, with the teacher needing to support the child's learning in their 'zone of proximal development' (Vygotsky, 1962: 103), just beyond what they can manage independently. New concepts can be spontaneous or taught in school age children, but in the latter case, children need to develop a wide understanding in order to be able to apply what they have learnt. It appears that a child's developing understanding stems from linking ideas in various ways and with varying degrees of abstraction and support. Making connections helps us make sense of the world and move forward in our understanding (Myhill and Brackley, 2004).

Cognitive neuroscientists believe that learning happens as the result of connections or 'synapses' made between the approximately 100 billion neurons in the brain (Geake

and Cooper, 2003); it is estimated that the average adult brain has approximately 100,000 billion synapses. What helps the synapses to form is open to debate, but Smith (1998) suggests that stimulation and challenge are important. The understanding of synapses, first suggested by Hebb (1949, cited by Geake and Cooper, 2003), is on an infinitesimally smaller scale than the connections between ideas shown by children in 'critical moments' but is often used by proponents of so-called 'brain-friendly learning' as part of the reason for encouraging children to make connections between ideas (Smith, 1998; Johnson, 2002). Speed of connections in a child's brain is generally greater than that of adults (Smith, 1998; Claxton, 2002; Johnson, 2002). **This may seem too technical, but** Geake and Cooper (2003) suggest that teachers should take some note of the developments in cognitive neuroscience and consider their implications for the classroom; the process is complex and we need to be aware of the dangers of misconceptions and over-simplification.

Whilst acknowledging an increasing amount of scientific knowledge is now available about the workings of the brain, for a teacher researcher it is only possible to explore evidence from observing and listening to children and to consider the implications of what they are communicating (p.9). In 'critical moments' children verbalise connections they have made, raising the question about the extent to which children may make these connections subconsciously, without verbalising them. Vygotsky (1962:149) describes how we explore thoughts through 'inner speech' and verbally with others, and goes on to say: 'thought has its own structure, and the transition from it to speech is no easy matter'. We need to be careful about relying on what children say when investigating their thought processes.

In her paper for the DfEE about the development of thinking skills in school, McGuinness (1999: 2) stated 'Developing thinking skills is supported by theories of cognition which see learners as active creators of their knowledge and frameworks of interpretation. Learning is about searching out meaning and imposing structure.' Part of this seems to be encouraging the children to discuss connections. Stake (2005: 443), in discussing the relationship between the researcher and the reader of **his/her** research, acknowledges that:

The researcher recognises a need to accommodate the readers' pre-existing knowledge. Although everyone deals with this need every day and draws upon a lifetime of experience, we know precious little about how new experience merges with old. ... most personal experience is ill-structured, neither pedagogically nor epistemologically neat. It follows that a well-structured, propositional presentation will often not be the better way to transfer experiential knowledge. The reader has a certain cognitive flexibility, the readiness to assemble a situation-relative schema from the knowledge fragments of a new encounter.

Throughout our lives, we will continue to make different connections helping to make sense of new experiences, but whether this is best achieved through someone providing a structure, or whether it is better to let the learner find their own structure is less clear.

Several writers have suggested that, as my initial observations found, it is 'gifted' (Forster, 1996: 1) and 'highly competent' learners (Alexander and Murphy, 1999: 562) who make connections most readily. We are generally reliant on those who verbalise the ideas **and higher attaining learners may do this more readily**. Others may have these thoughts without verbalising them or without realising how useful they could be in developing their understanding. **However** Deshler *et al.* (2001), when working with adolescents with disabilities on a structured programme helping them make connections with prior learning, found that the process helped them grasp complex concepts which they would have previously found demanding. **In contrast** Alexander and Murphy (1999), working with even older students, noted that 'more able' learners appeared to process ideas in greater depth, using higher order skills such as synthesis and summarising.

Many writers, **such as Claxton (2002) and Jeffrey and Keynes (2004)**, have linked making connections with creativity, another skill seen as critical for us in the 21st century as it helps us to deal with new situations in a positive way.

Prior knowledge, relevance and motivation

Pardoe (2004) discusses the effect on children's motivation if what they are learning in school is linked with their prior knowledge and future learning so that they can understand why they are tackling a particular task. Similarly in the Accelerated Learning approach, an important part of each lesson is giving children the 'big picture' (Smith, 1998). Jeffrey and Keynes (2004) found that Year 5 and 6 children (aged nine to eleven) became absorbed in creative dance and history projects, showing this in their level of engagement, focus and debate. They attributed their commitment to their feeling of control as they understood the relevance of the project and connected to their interests or prior knowledge. Additionally, they enjoyed the challenge as they were encouraged to move from the familiar to the unfamiliar. Forster (1996) argues that we can actively encourage the children to compare and link experiences to enhance their learning, especially through analogies (see p.66). By comparing concepts, the learner understands them better and is more likely to perceive their relevance.

Helping children use and adapt their prior knowledge is not easy, particularly if they have misconceptions. **For example**, Lesgold (2004) discusses the importance of connecting not just with the learner's previous knowledge but with the learner's view of it. Simons (1999) describes how it is difficult for learners to change their ideas in the light of new evidence from their experiences. Part of the difficulty for the learner is in working out which parts of their existing understanding are relevant and the degree to which they have grasped a concept correctly. This prompted my interest in examples where the children make unexpected connections, connections with misconceptions or connections indicating they are revising their ideas.

Von Glasersfeld (1987) explains that more abstract concepts require more reflection and therefore stronger motivation, but once the learner constructs an understanding that they are satisfied with, it is very rewarding. In a later article (Von Glasersfeld, 1989), he describes how teachers need to see misunderstandings from the child's perspective, rather than saying they are wrong, to avoid undermining the child's effort and demotivating them. Making connections could therefore be motivating for children. **Similarly**, Greenfield (2004), writing about her own experience in *The Guardian*, says:

There is a big difference between information and knowledge. We all know from the low premium we put on pub quizzes, or Trivial Pursuit, that facts on their own are not particularly interesting – it is only when one fact relates to another and we have an idea, that human beings come into their own. And the more disparate the two disciplines connected by the idea, the more exciting.

She conveys some of the excitement that I had seen in the episodes that inspired me to undertake this study. Jeffrey and Keynes (2004) support this with their finding that children were excited and satisfied when they made connections; it appeared to be part of what gave them a sense of achievement.

Moss (2001), basing her work on Bernstein, discusses how the different nature of literacy within and outside school can make linking the two difficult. At home, children exercise greater choice, and move freely in a horizontal fashion between different experiences. In school, literacy is presented in a more hierarchical way, with a 'vertical' structure and sense of progression. In her study, experiences at home were often following transient current fashions and were strongly embedded within the cultural and social context, whilst she sees the school literacy curriculum as following a pedagogic structure. As she points out, this may partly be due to the different conceptual understanding required when learning to read compared to dealing with multimedia texts. There were also some differences between children from different backgrounds. This research alerted me to questions about the extent to which learning in home and school contexts affects children's ability to make connections.

My initial observations had included examples from school and home, especially in science.

‘Connections’, ‘analogy’ and ‘metaphor’

Definitions

This study started with the idea of ‘critical moments’ where children appear to link ideas together and through this develop their understanding further. Several writers have linked similar ideas with analogy and metaphor **as will be explored below**.

Analogy involves the identification of similarities and differences, ‘connection’ involves the linking of similar ideas and ‘metaphor’ involves one idea being applied to another. The three concepts are closely linked, not least in that they all involve some degree of similarity. The critical point for this study is the role that they play in learning, and how teachers can promote this.

Metaphor and analogy

I was introduced to the use of metaphor in a literary context where one idea is substituted for another to add impact. Metaphor can play a part in this as it bridges the gap between old and new knowledge (Petrie and Oshlag, 1993). It has a greater role to play in learning than just a figurative use of language in literature and there are other examples of more widespread use of metaphor. Jakobson and Wickman (2007) show that in Science many researchers have identified uses of metaphorical vocabulary such as ‘red giant’ and ‘magnetic field’. The choice of words affects how people understand the concepts through the aspects that are given more or less prominence. Emotional effects are also created by the use of different metaphors, as for example with ‘computer virus’. Metaphors are a core element of our language, culture and understanding, conveying many subtleties (Lakoff and Johnson, 1980).

Black (1993) talks about the ‘flash of insight’ which can come from the use of a good metaphor, similar to a ‘critical moment’, where the link made provides a new perspective on what is being learned. Metaphors could be seen as overly complex, creating misconceptions, but as he states, the boundaries between concepts are not fixed and rigid. When they are effective, metaphors are ‘cognitive instruments’ (Black, 1993: 37), helping people work out connections that, once noticed, bring greater clarity and understanding. A critical element is the ‘interaction’ between ideas for the producer and the receiver within a given context; conceptual links emerge, beyond a

simple comparison or substitution. Using metaphors can improve motivation (Petrie and Oshlag, 1993). **Similarly**, Jakobson and Wickman (2007), investigating children's metaphors in Science, found that the positive feelings invoked by the use of some metaphors encouraged learners to remain involved. Significantly in this study and in examples given by Petrie and Oshlag, they were exploring children's spontaneous metaphors; possibly this self-determination is an important aspect of improving motivation or it may be that the excitement of understanding something from a new perspective motivates people.

The context in which metaphors are experienced is important (Black, 1993; Rumelhart, 1993). Petrie and Oshlag (1993) identify the importance of a person's interpretation arising from the conjunction of metaphor and activity, albeit a thinking activity rather than a more obviously active one. If children are to make effective use of metaphors for learning they need to be actively involved in interpreting them and teachers need to think about the best means of encouraging and enabling this to happen. Mayer (1993), in his examination of the use of metaphors in 'analogical transfer theory', found that in three cases when scientific analogies were presented by the teacher, the students showed improved recall and application of the concepts to problem-solving situations. It was important for the stages of correspondence to be made explicit.

Several researchers have suggested that helping children understand analogies is a helpful way of building on their prior knowledge, transferring ideas and making connections. **Two studies exploring this process discuss how a** new relationship is compared to one that is already within the learner's experience to help the unfamiliar material seem more familiar (Mendelsohn *et al.*, 1980; Posner *et al.*, 1982). Deshler *et al.* (2001) used this in a structured way to support older children with disabilities make sense of their learning. **It can work elsewhere**; Alexander and Murphy (1999) and Forster (1996) **also** suggest it as a strategy for developing understanding. This has clear implications for ensuring that the learner understands the new and the old material and why they have been linked in this way. With younger children there is potential for confusion but it is also worthwhile to explore their independent use of analogy. Root-Bernstein and Root-Bernstein (1999) suggest that it is a strategy used automatically by more creative learners, linking to some of the observations I had made prior to this study.

Is this universally applicable? Age and areas of learning

Mendelsohn *et al.* (1980) set out to prove that analogical thinking was a development from early metaphorical use of language, and that it would develop further as children grew older. They tried to encourage children's spontaneous use of analogy whilst

explaining ideas to a puppet, finding that the relatively low number of analogies increased with age and that children's performance could be improved with focused questioning and scaffolding. Within a study such as this, it is difficult to take account of the other factors that may have affected the children's responses, such as the presentation of the task and their prior experience.

The question emerges of whether using metaphor and analogy influence learning in all subject areas. Many of the studies undertaken have focused principally on Science (Mayer, 1993; Blake, 2004), early reading and spelling (Goswami, 1986; Goswami, 1988; Goswami, 1995), and Mathematics (Bills, 2001). It is possible that this has happened because certain groups of researchers have fostered and led research in this area and they have a subject bias. Alternatively, it may be that certain areas of learning lend themselves more readily to this approach. For example, Posner *et al.* (1982) suggest that analogies and metaphors are helpful in relation to secondary physics but may well be applicable more widely. One focus for the study, therefore, was trying to unpick this further.

Potential hazards with these approaches

The use of metaphors and analogies is not without problems. Blake (2004) identifies possible difficulties including the range of prior knowledge within a group or class of children, the dangers of a child over-applying or misapplying analogies, the child's level of interest and willingness to change their thinking, and the possibility that some children may find analogical thinking difficult. Humphrey and Hanley (2004) found that children with dyslexia were less good at reading analogous words (i.e. words with similar letter patterns such as 'beak' and 'peak'), indicating one way in which differences in analogical thinking can affect children's progress in an area. Having the original word there appeared to help children make the analogy. This has implications for other uses of analogy and metaphor; children with difficulties may find it easier with an extra visual or other trigger to aid comparison.

Analogy does not always lead children smoothly in conceptual development. Jakobson and Wickman (2007) describe a moment in their study where a child becomes interested in a shark's tooth amongst some gravel which distracted them from the teacher's intended learning. It is not clear whether in fact this led them in other directions that helped them develop in other ways. Mostly the examples in this study are very powerful. At other times, the children produce a range of metaphors for the same objects which deepen their observations and, it appears, understanding.

Research indicates that part of the successful use of metaphor and analogy in teaching is that the conceptual gap between what is being compared should be large enough for the idea to be interesting and useful (Mendelsohn *et al.*, 1980), but not so large that the ideas become incomprehensible (Rumelhart, 1993). Mayer (1993) additionally suggests that there needs to be careful exposition of the correspondences between what is being compared, suggesting that the teacher has an important role to play.

Memory and the transfer of skills

Memory and connections

Both Claxton (2002) and Johnson (2002) suggest that making connections helps learners remember ideas. When school learning is linked to previous understanding, it assists with the retention process. Greany and Rodd (2003) present the new five Rs of effective learning to learn, with 'remembering' being one of the five. The skills and knowledge they list in this area focus predominantly on making connections and applying learning in different contexts. Fisher (2005) states that long-term memory depends on how effectively new ideas are linked to the existing framework. It is difficult to demonstrate this; it is impossible to compare each individual's retention of the same concept in two different circumstances, as we cannot put the clock back, but I was interested to see from how far back the children recall ideas.

Overload

Several researchers raise the question of overload and the ways in which the brain deals with this. **For example**, Fisher (2005) suggests that ideas which cannot be related to an existing pattern are rejected. Lesgold (2004) raises the important issue of the learner having sufficient time to learn ideas in depth and take ownership of them so that they can apply them to new situations. This has implications for the load placed on learners. Similarly Myhill and Brackley (2004) raise the issue of not overloading the short-term memory until the learner has had time and sufficient understanding to transfer schemata to long-term memory. This is clearly a complex issue but the implications for teachers in allowing time and developing strategies which appear to help children remember ideas over longer periods of time are clear. When they show us that they have retained learning we should look carefully to see if we can learn lessons from the context and practice leading up to this.

Transferring learning

Teachers and researchers have expressed concern over children's difficulties in transferring learning from one task to another (Alexander and Murphy, 1999; Simons, 1999). Alexander and Murphy (1999: 562) define transfer as 'the process of applying one's prior knowledge or experience to some new situation' and state that this can be tricky for children. It could be thought to be a step further than the 'critical moments' being examined in this study. The example observed at the start of the study, where the children were exploring shadows through three different tasks, indicated that they were transferring ideas between different tasks, in this case within a very short time span. Alexander and Murphy (1999) found that this 'near' transfer is more common than 'far' transfer where the distance in terms of concepts, time or support is greater.

Alexander and Murphy (1999) also suggest that the piecemeal nature of the curriculum may be partly responsible for children's difficulties in transferring ideas. Moves encouraging schools to explore links between different areas at the start of this study (DfES, 2003) encouraged me to observe the extent to which children make links within and across different subjects. Blain and Eady (2002) found that Year 2 (six to seven-year-old) children made several connections between scientific and religious phenomena and appeared to do this independently. This was possibly due to the phrasing of the questions, a perceived need on the part of the child to match their response to what they feel their audience expects, or what 'makes the most sense to the child at that point in time' (Blain and Eady, 2002: 134).

Clarke (2003) argues that transfer is tricky partly because teachers fail to separate key learning from the context in which it is being addressed, making it more difficult to transfer the same objectives to another context. Simons (1999) identifies some of the 'paradoxes' that make transfer difficult, including the difficulty of finding out what children already know, children's own awareness of what they do and do not know, the difficulty for children in assessing the relevance of prior knowledge, and the gaps that sometimes have to be crossed in order to transfer ideas. He experimented with a five-step strategy involving the identification of relevant previous knowledge and application and evaluation of the concept in a new problem. Working with eleven to thirteen-year-old students, he showed that they could be helped to address these issues. When considering whether thinking skills should be taught across the curriculum or discreetly, McGuinness (1999: 1) states 'Whatever approach is adopted, the methodology must ensure that the learning transfers beyond the context in which it occurs.' There is clearly greater value when children can transfer what they have learned to new contexts.

The role of the teacher

Myhill and Brackley (2004) suggest that the teacher has a critical role to play, making sure that all children are involved and accessing their prior knowledge even within whole class teaching. Others suggest more generally discussing ideas (Claxton, 2002), brainstorming ideas (Greany and Rodd, 2003) and making children aware of connections (Smith, 1998). Alexander and Murphy (1999) suggest several strategies to facilitate the transfer of ideas which could be applied to making connections. These include the importance of the teacher modelling and rewarding good responses regularly, and allowing time to explore fewer issues in greater depth. **Another approach is suggested by** Fisher (2005) who states that children could be helped to make connections by being taught to look for the underlying patterns and principles of organisation. In mathematical development, Anghilieri (2006) states that including games is helpful as they motivate children and encourage them to look for relationships.

Caviglioli and Harris (2000) suggest a specific strategy that teachers can use; we make sense of new experiences by organising and categorising them in relation to our previous understanding. They state that clever people do this in more complex ways, either by seeing more connections or by rearranging ideas. This 'model mapping' gives an insight into the existing structure of understanding and the connections we are making. Understanding is deeper when there are more connections; the mind map stimulates children to discuss and verbalise connections.

Several researchers have drawn attention to the critical role that the teacher has in helping children use metaphor and analogy effectively for learning. **Nearly thirty years ago, Shulman (1986) stated the importance of teachers having 'pedagogical content knowledge' as well as subject knowledge, so that they have a repertoire of techniques for helping children learn. He particularly suggested that this involves understanding and knowing about appropriate analogies and metaphors. It is interesting to consider the extent to which this point has been attended to in the intervening years, given that part of the rationale behind this study was to explore possibilities in this area.** Bills (2001) found that children often picked up on the metaphors that had been modelled by their teacher when demonstrating aspects of Mathematics. He identified the important role that teachers can have in helping children generalise their understanding from a more specific example.

Questioning is a key skill in developing children's understanding; Jakobson and Wickman (2007) argue that appropriate questions could play an important role in helping children explore and develop their use of analogies appropriately. **However**

Myhill and Brackley (2004) found that a comparatively low percentage of questions were directed at exploring children's prior knowledge and suggest this should be higher, or at least more consciously planned for, as this is a key element of helping children make connections. The teachers tended to take their own view of what the prior knowledge was, and tell the children, rather than eliciting their understanding. There was little recognition of the different types of prior knowledge that might be useful, including facts, social and cultural understanding, conceptual connections and learning outside school. Without establishing this at the start, it seems hard to help the children make connections.

A number of writers discuss linking ideas beyond school learning. **For example**, Wragg and Brown (1993) mention a teacher who found that her class surprised her with the level of understanding they already had about volcanoes. **In contrast**, Barnes *et al.* (1986) (admittedly some time ago) felt that children never linked their knowledge from school with their experiences in life as they saw them as separate entities. **On a more positive note**, Jeffrey and Keynes (2004) felt that the children's high level of involvement in their study, shown by frequent observational notes, was partly due to their perception of it linking with their wider interests and knowledge from outside school. **Similarly**, Benjamin *et al.* (2003) noted how children's varied experience from life outside school allowed the children to become 'experts' in situations within school where the context enabled this to happen. The implication of these studies is that the teacher has a role to encourage this wider linking of learning beyond what is studied in the classroom.

Rumelhart (1993) points out that much of the process of understanding happens subconsciously. One question for teachers therefore is whether it is helpful to make this process more explicit. In his theory of analogical transfer in science, Mayer (1993) argues the importance of the teacher making the correspondences clear, exploring the similarities and differences, and those areas which could be misleading.

Conclusion

Several key ideas emerged from reviewing the literature for examination in the classroom in Part 1. The main focus was on developing 'critical moments' in children's learning – times when they indicate a connection between ideas. An important part of this was inviting them to investigate and use relevant aspects of their previous knowledge, encouraging them to draw on experiences from any area of their life. I arranged lessons with different tasks based on a similar idea to encourage the development of links. Curriculum planning at the school was already based on strong

cross-curricular links; I was interested to see within and between which areas the children made connections. I hoped my study would enrich the body of research by giving some indications about times when children transfer knowledge and understanding and their response to this approach. The literature reviewed shows how metaphor and analogy involve identifying similarities and making connections, apparently helping to change children's understanding in the light of the comparison made. Whether children's 'critical moments' encompass metaphor, analogy or some other form of connection was important to explore. Similarly, I felt it would be important to note whether a preferred style for expressing their ideas emerged and whether this varied according to subject matter, child, teacher input or any other identified factors.

I identified mind mapping as a useful tool to initiate the investigation, asking the children to make connections between current learning and any other experiences, within and outside school. I wondered about the contexts, visual models and questioning techniques that would encourage and support the understanding and production of metaphors and analogies. I was keen to ensure that all children were actively involved in the process and had a positive attitude towards adapting their thinking in the light of new connections. Part of this was ensuring that the conceptual gap between ideas was appropriate for all; I was aware that there was the potential for misunderstandings to occur as well as learning. I appreciated that undertaking the study would focus the participants' attention on the issue, but I hoped to show that making connections was valued and valuable. I recognised that it would be hard to see whether it improved the children's learning, but thought that other measures such as their progress and involvement with tasks could be indicators.

Although the focus was initially on the children and their connections in learning, I became increasingly aware as the study progressed of how the same ideas were equally applicable to my own learning. My research approach was beginning to connect ideas and I often realised that in both my reading and my classroom practice I was comparing points and noticing links, some of which I captured in my journal. Part of this no doubt arose because of the study, but connecting ideas seemed to be important to my learning. Metaphors and analogies often occurred spontaneously in my thinking, often helping to clarify my ideas. In my data analysis I was often looking across a range of evidence to see how they linked or not and what could be surmised from this. The dialogue between myself as a teacher and myself as a researcher was in some senses a metaphor for the debates going on in my mind and discussions with other teachers. Connecting ideas was having wider implications beyond exploring it with the children.

Chapter 5 Research on making connections 2006-9 (Part 1)

Part 1 of my doctoral research journey encompassed two and a half years of fieldwork, with the time span being dictated principally by the different developments I was exploring, within the other demands of the school year. I explored, in three cycles of an action research approach, the ways in which I could help the children make connections in their learning. Principally this focused on using various versions of mind mapping (Caviglioli and Harris, 2000). I developed the techniques used through my own reading, as outlined in the previous chapter, and through discussion with the children, as I felt it was important to involve them in the development of the ideas (see p.35). The data collected included video recordings, audio recordings, observational notes, photos, work produced by the children and paper copies of the 'webs' discussed. I used stimulated recall to explore the children's thinking and, in cycle 2 and 3, added semi-structured interviews. An important data source became my detailed journal entries, reflecting on the research and teaching.

The key findings in relation to making connections were that there was some development in the children's verbalisation of connections, following the use of different forms of the web. Giving the children opportunities to discuss possibilities, and engaging them more actively in the web appeared to develop their understanding of this. Within the interviews and activities, presenting the material in an appealing way through, for example, using a game appeared to help the children contribute ideas more readily. I found there were particular challenges with collecting incidental classroom data, which had an impact on capturing 'critical moments'. Significantly, across the three years, many issues emerged, related to the research process within the complexities of life in school, ethics and relationships, and change and these are explored in Chapter 6. In Riessman's (1993) words, it is time to tell the story.

Permissions

Initially there was the important element of gaining permission (Appendix D, Appendix E). The headteacher and chair of governors immediately agreed, as did all the parents with each of the classes that I worked with over the next two and half years. The

process was not without challenges. I noted, for example, in my journal⁴ with the class from 2006-7 that:

This was a long, drawn-out task because some parents took a long time to respond and there is a balance to be struck between chasing them and ensuring I had permission. Is chasing them putting a pressure on them which does not fit with giving permission? (17.2.07/04)

We were chasing the same people that we always had to remind about any replies and their delay did not seem to be due to anything related to the research as far as I could tell. They appeared to have confidence in me and to transfer this confidence to the research; I realised it was essential to respect that. It is difficult to assess their level of understanding and the degree to which they gave genuine, informed consent because there were few discussions about this. In most cases, it appeared they were happy, as they perceived I was not harming their children and some discussed the benefits. It was hard to assess the extent to which this was partly due to my longer-term involvement at the school and their knowledge of me as a teacher (Hill, 2005; Wolfendale, 2005).

Three parents came to a session I ran about the research. One talked about a time she remembered when their child at a much younger age had been exploring different meanings of the word 'bark'. In their own learning, they talked about practising skills, having a patient instructor and remembering times when someone had explained something so that it made sense. They raised the idea that there might be gender differences in making connections and this I later built into the study. All these points, I felt, showed their interest, support, engagement and understanding of the main ideas.

I had intended to follow through more fully with parents (see pp.40,46) and they all went away planning to keep a note of any instances that might be interesting; unfortunately this was one of the things that fell by the wayside amidst other elements of school life. I wrote a letter to the children that also went to the parents at the end of 2006-7 (Appendix G), but did not manage a follow-up meeting or discussion with the parents who had come along initially. In my journal, I noted that one of them mentioned a connection their child had made at home. The same child had often made connections in school. In our original discussion the parents had mentioned that their children did not often talk about learning at school when they were at home. In retrospect, this was a wider focus than I could realistically investigate.

⁴ All journal entries are referenced as DD.MM.YY/paragraph number (taken from Atlas.ti) or MM.YY/paragraph number depending on how the original journal entries were titled. For clarity they are indented.

The children seemed to understand and respond carefully when I discussed the permission letter with them (Appendix F). I noted that all of them chose from the more positive faces and that colouring gave a good time to discuss with the child why they had chosen that face. Having the letter in front of them gave them something to focus on and I could note their comments. They were all happy at this stage to take part, with few needing any discussion. Indeed the majority were positive and over half expressed a wish to help others (Appendix G). Some children were hesitant at the start. In my journal I noted:

Some children responded immediately, others appeared more thoughtful. Where they looked hesitant I asked them what they thought was going to happen and their feelings about it. It is difficult to do this in a neutral way, but I felt it was important to use phrases such as 'How do you feel about that?' rather than 'Are you happy about that?' (17.2.07/06)

My research was helpful in my role as a teacher; **much as Thorne (1993) and Clarke (2003) found**, I was becoming more aware of the language I use to help understand the children's views and feelings.

Some children **whom** I asked were unsure about what was going to happen after reading the letter. In these cases, I went through it again, using different language until I felt they had a reasonable grasp. However, as I noted in my journal at one point (7.06/03), even then I felt that what I was asking was so far outside their experience that it was hard to judge how 'informed' they were. I did what I could to help them to understand it as far as possible at the time. Asking a child or even an adult to look ahead into the future and imagine the implications of what they are agreeing to could be said to be difficult for all researchers. Robson (2009) raised the same issue when using video with early years children; her solution was to give each family a copy of the material involving their child. It is hard to see how something similar could have been achieved in this instance with so much group work. Some of the children's comments clearly showed an awareness of other teachers and children being able to learn from this study.

I was concerned that the children were only giving consent because this was what they thought I wanted to hear; the power relationships between class teacher and the children are complex (Kellett and Ding, 2004; Langston *et al.*, 2004). I was keen to make clear that I valued their honest opinions. Whilst going through the permissions process with them I was pleased to see that some of them felt able to comment on concerns, such as Matthew⁵ asking whether it would mean extra work for him. The children avoided using the sad faces, perhaps because we use them rarely at school,

⁵ All children's names have been changed.

they did not want to show me they felt concerned or they genuinely felt positive about the experience. Very few of the children said they were agreeing because they wanted to help me; their responses usually focused on others or themselves, especially in the second year. Using the five face scale seemed to give them opportunity to show their concern within a positive band, using the second or middle face to raise an issue and then, after discussion, saying they were happy to proceed. Clark (2004a) suggested that smiley faces were **limiting responses** as the children **in her study (as in mine)** did not have control over the questions, but here I was using a familiar process and needed answers to specific questions. It is similar to the issue with parental permission; ultimately they were expressing their confidence in me and therefore the research.

In the second class of children involved in the project (2007-8), unlike the previous group, none of the children had been in my class the previous year. In the first term, I found I had to spend more time getting to know them, establishing our classroom ethos and expectations, before I felt ready to ask them for permission and undertake the research. As their teacher, I needed to prioritise their overall learning before my research.

One of the key elements I have learned about people giving permission is that they also feel they have the right to withdraw at any point. **As noted by Bourke and Loveridge (2014), it is possible that children find it hard to express dissent, but the children were at times throughout the study** happy to voice some concerns, which gives me some confidence that they felt able to express both positive and negative ideas. In the 2007-8 cohort, at the start of one session, Tom was concerned about the video being on. When I asked him to explain further he said that he was worried about something going wrong. He agreed to participate as long as the recording could be destroyed if things went wrong and was happy for it to be kept on that occasion; in subsequent sessions he and then other children started saying that they were unhappy with the video, to the extent that I felt unhappy about continuing to use it. Because I was videoing whole class sessions I could not switch to other participants as Robson (2009) did. I wanted to respect their right to withdraw but the video was also a key part of the data collection. I found that in questioning Tom I had to be careful with the words and tone of voice I used to avoid conveying my disappointment. I did not want to persuade him through his wanting to please me. As class teacher, I saw my relationship as essential most importantly to their learning but also to the research, and in this instance the former had to take priority. I had to respect his views, but as an alternative to video the children were happy with the use of a voice recorder.

I considered handing over ownership of the video to the children, but practically, it seemed hard to avoid the children who were concerned about it. They were all happy with a voice recorder so it provided a more realistic solution. Others have found children could use video to capture their learning (Leitch *et al.*, 2007) but within the context of this study I chose a different option. A key part of this learning journey has been exploring my relationship with the children, reflecting on how we listen and value their views, but also bring our own professional expertise to the situation.

Whole class sessions

Having gained the children's permission we began to explore making connections in their learning together. The actions and data collected are summarised in Table 5-1.

The three shades of green represent the three action research cycles. Further detail is given subsequently in this chapter.

Action research phase	When	Who with	Actions	Data collected
Cycle 1	2006-7	Whole class	Input sessions including some time spent helping the children to make connections in their learning by developing a web of connections	Video using one video camera
	2006-7	Pairs and small groups of children	Stimulated recall sessions looking at 3 coins problem, letter they had written, cars and ramps, timelines, sharing and pushes and pulls in science	Video data of original session or copy of written work for writing, audio recording of stimulated recall session
	2006-7	Whole class	Circle time to discuss the project	Audio recording
	2006-7	Whole class	Charting the development of the web of connections built up over the Spring term but with no details of the connections made by individual children	Photos
	2006-7	Whole class	Paper copies of the webs from the summer term with brief details of the connections made	Paper copies
Cycle 2	2007-8	Pairs and small groups of children	Stimulated recall sessions on colour poetry (x2) and shiny/dull (x2)	Audio recording*
	2007-8	Groups of children	Shadows work exploring shadows with different resources	Video
	2007-8	Pairs of children	Stimulated recall exploring shadows	Audio recording **

Action research phase	When	Who with	Actions	Data collected
	2007-8	Groups of children	Stimulated recall exploring 2go work and Polar bears books	Notes made at the time Audio recording **
	2007-8	Focus group of children	Interviews in the Autumn, Spring and Summer terms	Notes Photos (showing responses to sorting) Audio recording (lost for Autumn term, poor quality in Spring – see note below)
	2007-8	Whole class	Development of the web of connections	Daily photos for two weeks of the Autumn term
Cycle 3	2008-9	Whole class	Using the 'Woolly Web' to explore making connections – September and February	Audio recordings, copies of notes made on paper by the children and photos
	2008-9	Whole class	Several different input sessions from across the curriculum September to December	Audio recordings, interactive whiteboard notebook files
	2008-9	Focus group of children	Interviews in July, October and December	Audio recordings and photos showing sorting tasks
On-going	Through-out	All	All	Journal entries incorporating observations and my reflection on these and emerging themes and ideas.

*Due to a technical problem a large group of audio recordings were damaged before they were backed up. Some are partially available but in very poor quality, following retrieval by an IT specialist. Some were not retrievable (marked **).

Table 5-1: Summary of actions and data collected in Part 1

Just after half term in the Autumn term 2006 I introduced the children to the idea of a mind map or 'web' which we would use to show the connections they had made in their learning (Caviglioli and Harris, 2000). I wrote up the new learning on cards, using yellow for tasks that were predominantly based on the English curriculum, blue for Mathematics, red for Science and orange for the rest of the curriculum. In arranging new cards on the web the four colours were arranged in four quadrants around the centre label saying 'Making connections in your learning ...'. This was done so that connections both within and between subjects would be visually clear. I was keen to go beyond the subject boundaries of other studies and encourage links across the curriculum as well as within subjects. **Claxton (2002) and Greany and Rodd (2003) suggest that it is important to link learning beyond the classroom, so additionally I prepared blank green cards for the occasions when children made connections with**

other learning at home or with learning before the web started. This was to encourage the children and provide an instant visual picture of where they were making the links. The links were shown with sparkly silver or gold thread. I chose this to make it appealing to the children, which appeared to be successful as there were cries of 'Wow!' when I first produced it. I picked up the idea from the initial meeting with parents when they said they would be interested to know whether there was a gender difference when making links, so silver was used for boys and gold for girls. We worked on it as a class partly so that all the children were involved and partly because I hoped to avoid and address any misconceptions that arose (Rumelhart, 1993). It quickly became clear that it would be helpful to record on the web who had made each link, so I put initials at one end of the piece of thread. Using photos had implications for anonymity (Prosser, 2005; Coad, 2007), but with judicious use of a graphics program it was possible to obscure the initials (Figure 5-1).

The web was a visual analogy for what I hoped was happening in their mind. It was a strong visual presentation of the connections but I could also identify difficulties with it; in particular, there was no indication of the actual connection made, and I realised that these would provide the most valuable evidence. It highlighted an on-going theme for me as a teacher researcher. I had to balance the children's learning needs with my desire to collect vivid descriptions of what was happening so that I had a rich source of data to explore. Given that these were whole class sessions with the children sitting on the carpet, I needed to ensure that the time was well used and not too long as they also needed time on more active tasks (Dowling and Dauncey, 1984). Notating the links would take extra time.

I collected some video, then audio recordings of the sessions so that I could look back, although not without difficulties. I needed to set up the video so that it could record whilst I was teaching. Positioning the video camera so that it captured the children's faces, picked up the sound effectively and captured the links, was always a challenge. For example in my journal I noted that 'positioning for safety and discreteness didn't fit well with positioning for sound - background noise made two focus children difficult to pick up' (18.2.07/03). During this phase of the project, due to building works, I was in three very different classrooms, one of which was extremely small (38 square metres). Balancing the research requirements with good safe practice proved difficult. Ensuring that the video camera had sufficient power when I was using it several times over the course of a day, and sometimes needing to leave it for longer than I had anticipated, meant that some sessions were lost. As mentioned previously, some of the children began to find its presence obtrusive and I had to stop using it as a result. Using a voice recorder gave less rich data but was much easier technically



Figure 5-1: Web of connections - example of the first version

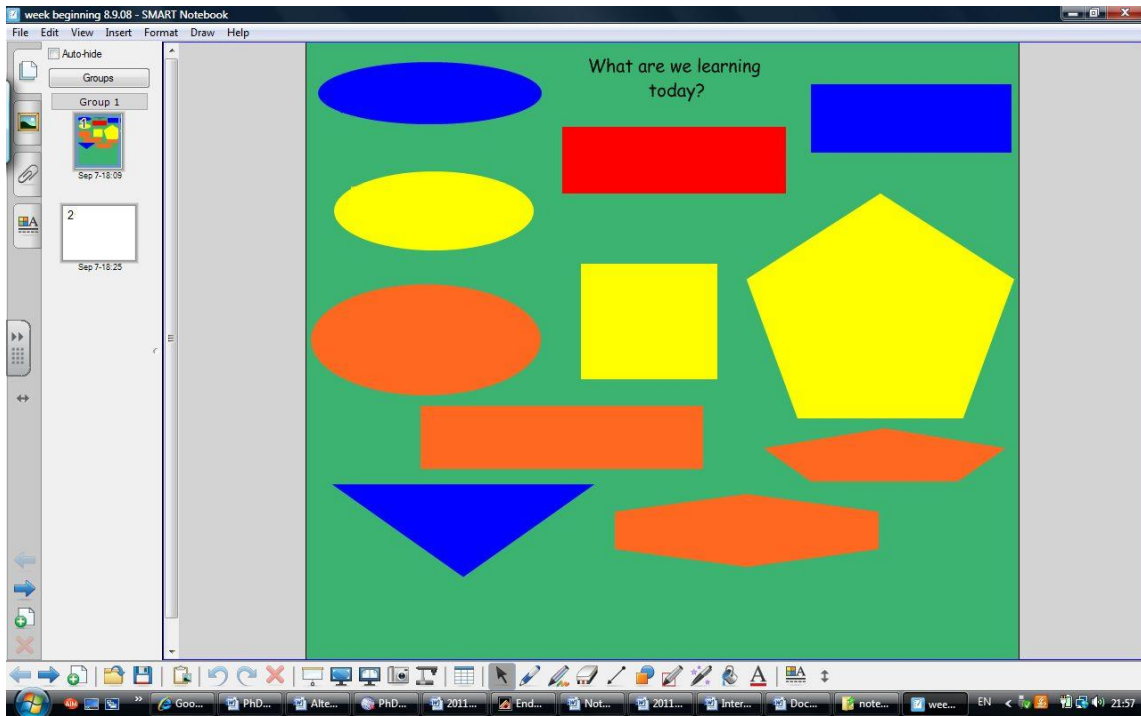
and the children were happier to have it around frequently. It used less power so it was easier to ensure there was sufficient for the session. I still had problems with my first model, when an accidental press of a button meant I erased large amounts of data before it had been transferred and backed up, leaving me only with the notes I had made when I first listened through and, for a few sessions, with no data. It was not a good moment and I learnt an important lesson about backing up; as a teacher I had

prioritised other tasks that I needed to complete such as marking, preparation and tasks related to my management role,

I was keen to involve the children in the development of the project. They were used to having Circle Time to discuss issues so I felt this would be a useful way of exploring their views about the project at the end of the Spring term within a familiar format, helping them contribute ideas more readily, just as Coppock (2007) had done. Following my ethical guidelines about the use of time, I could talk with all the children without needing to be released from class. I recorded it using a video camera (the children were happy with this) and voice recorder as backup. During this session, the children independently raised the question of the time the web was taking and proposed writing it on paper rather than separate cards to speed up the process (Figure 5-2). Some of them seemed focused on what it looked like, but others thought of it as a useful tool for mapping out their learning. One referred to showing it to her parents when they came in. In the first half of term, this was rather small and therefore difficult to read from a distance, although it could cover the whole half term on one sheet. In the second half of term, we had another discussion, and this time they asked for it to be larger. There was a lot of discussion about the appearance rather than the purpose of it. For some children this seemed to be the critical point. It felt as though they were over-concerned with this aspect but where the appearance makes it less effective, then clearly it is worth exploring. I thought notating their ideas would have taken too long, but from my notes (26.3.07) I can see that the children suggested including some brief annotation about the link made, given that the process was going to be made quicker by writing on paper. The children had some useful ideas here to develop the practice, but also some limitations in their views. Those could have come from my presentation of it, their preferences and priorities, or other factors.

The following year in the Autumn term we had returned to using the cards, but annotating the links (Figure 5-3); I felt the children were motivated by finding the key learning objective in a shiny bag. Later, the children suggested using ICT, although without any suggestions of how to achieve this. I chose to use the interactive whiteboard as it had proved to be popular from my on-going work with the children. I prepared notebook files before each week's work, outlining the objectives, and the children took it in turns to come and uncover the objectives for the session. We then had a short time discussing links with other learning, both that shown on the board and anything else at home or school, but without notating the detail as this class generally needed to move onto practical tasks more quickly (Figure 5-4).

Start of the week



Later in the week

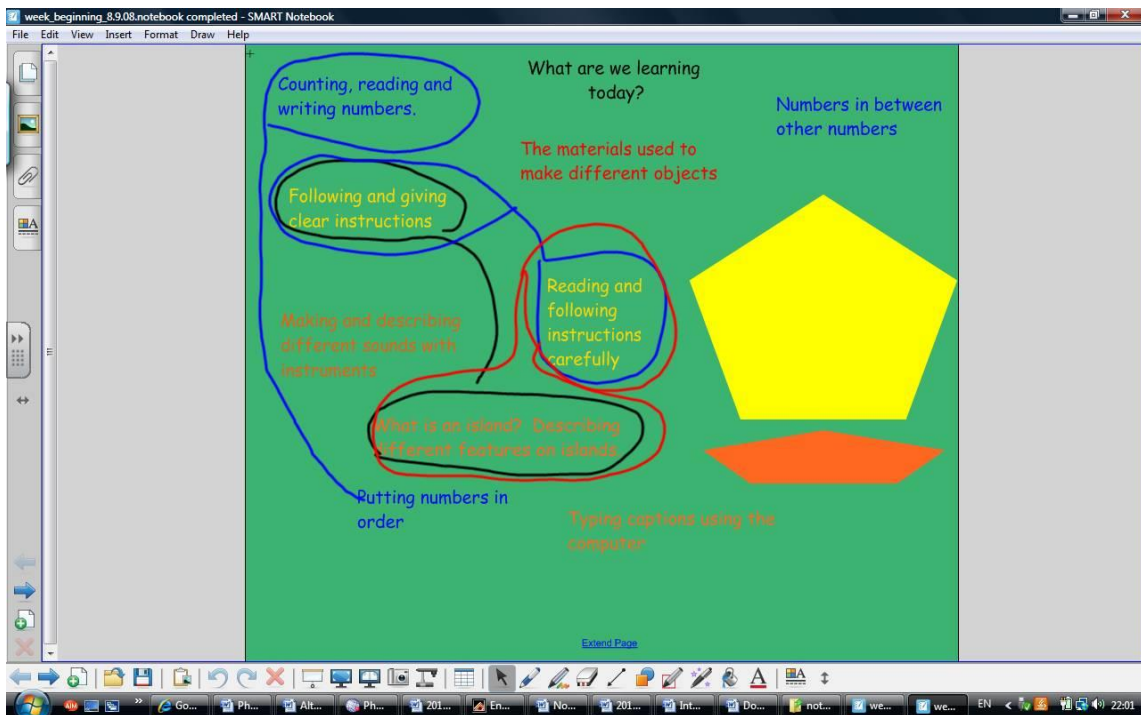


Figure 5-4: Web of connections – an example of the fourth version

The use of the interactive whiteboard was helpful for recording connections relatively easily, but had other implications for classroom management. I noted that 'In compiling the notebook file for the week I realised how it was not easy to be concise, clear and understandable in the describing of learning objectives' (9.08/19) and 'not

helped by the fact that I changed one session since I put the notebook together' (9.08/15). As in other situations, practical issues were an important part of making my ideas work well.

As an action researcher I found it hard to find the time and space to reflect and think of new ideas. I was trying to think of new ways of developing the web so it could be more helpful based on what I had observed and noted, but there were also many other elements of teaching to prepare and reflect on. Furlong and Salisbury (2005) found that the Best Practice Research Scholarship money was often used for this and I can see why. At one point I noted in my journal, 'Why can't I think of more ideas to develop connections and explore their thinking?' (8.07/25) and wondered whether this was something to do with being a lone researcher. Several people have written about the importance of collaboration in teacher research (Cordingley, 2008a).

I was exploring how I could make the process more active and less carpet-based. I was also keen to explore the idea of analogy and wondered if being part of a whole class analogy would help. In 2008-9 the children were positive about using a technique called 'woolly thinking' based on an idea in Pike and Selby (1988). We created a web of connections on their first day together as a class. They made links in pairs based on 'things they liked' and connected themselves in a web of wool. Several children mentioned this as the best part of the day, and later on as one of the highlights of their term. They were keen to do it again and I decided it could provide a useful vehicle for exploring the connections they were making (Figure 5-5 to Figure 5-8). We completed it twice in the year, in September and February. The children's response was positive: 'Judging by the initial cheer when the 'something special' on the visual timetable turned out to be woolly web again, they were pleased to have another go' (9.08/02).

Recording the reasoning behind the children's connections was the greatest challenge; they were only able to make simple notes, especially at the start of the year, to help them remember their ideas. We discussed them at the end, but this did not give any useful description of what they had said. Recording what each child said, against the background noise of all the children talking, would have been far beyond the technology I had available. From being around and listening to them, I know that there were some good connections emerging. Noting all these at the time would also have been impossible for one person. There is an audio recording from the plenary at the end of the session when we all sat down in the woolly web format. The distances involved meant that it was hard to capture the children's voices and my transcription often relies on my repetition of the children's contributions. My journal entry provides



Figure 5-5: Preparing ideas for the Woolly Web

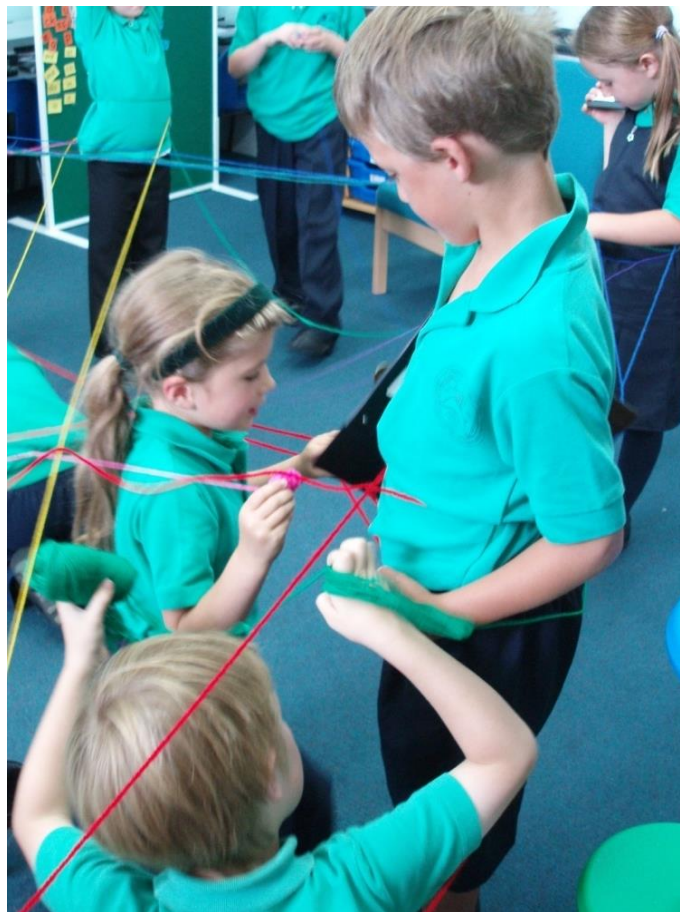


Figure 5-6: Beginning to make connections

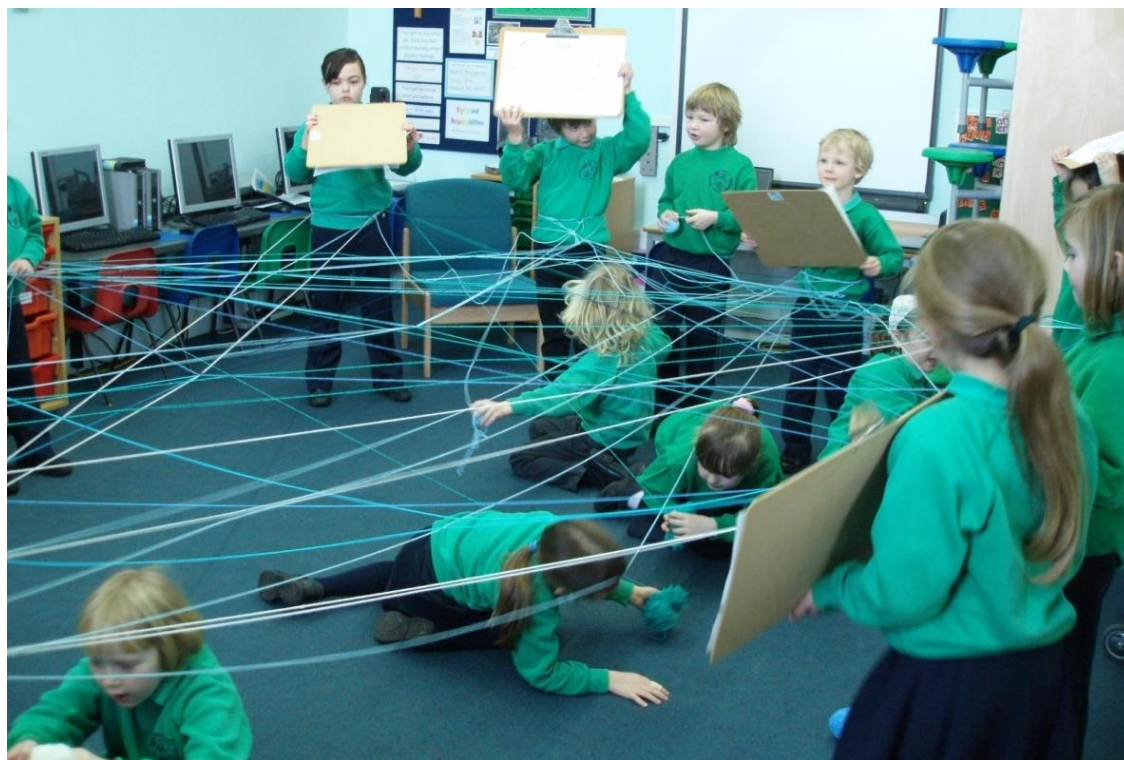


Figure 5-7: Developing connections in the Woolly Web

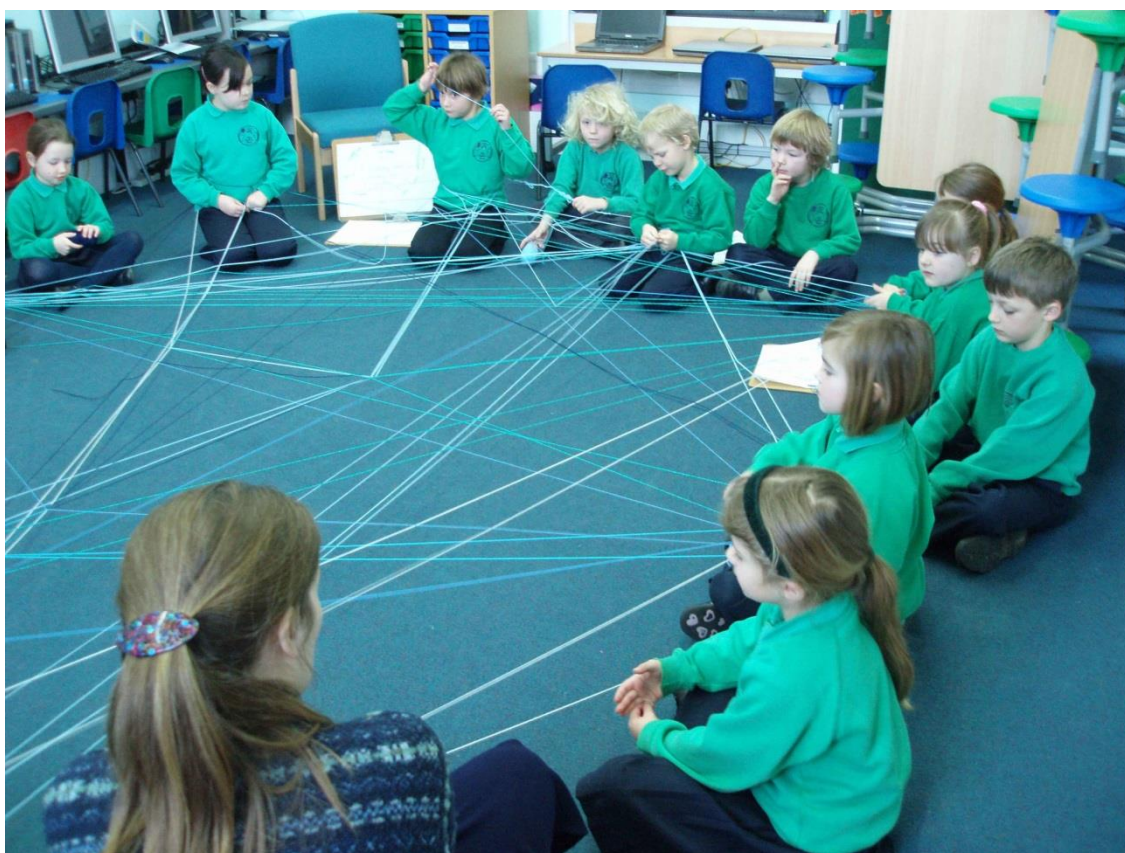


Figure 5-8: Reflecting on the Woolly Web

another source of evidence (9.08/02-10). The dominant themes here were how they had approached the task, the connections they had made, and that they had found it hard to explain what the web showed.

The analogy possibly seemed to confuse some; when I listened to the recording, I noted Colin's initial explanation as 'it showed our learning was sticky' and linked it to things sticking on a spider's web. 'We might stick on them and think more about what we learn and remember them' (9.08/06). He wanted more time to think about what he meant by this and then reframed his ideas, 'it helps us remember every time we play the woolly web, it helps us remember what we have learned.' Julie said, 'the fly sticks to the web and is wrapped up by the spider' (9.08/06). Whilst she is absolutely right, it is hard to see how this links to the idea we were exploring. Colin's idea of sticky learning was exactly what I was aiming for, but the idea had been misunderstood by Julie. Maybe the physical presence of the web and the idea of it being like a spider's web or just the physical process of moving between each other and making the links had helped some, but not others, as Blake (2004) found.

Later in the year the children again approached the activity positively; there were similar issues with recording and I noted that they still found it hard to explain what the web showed, despite having regularly used the interactive whiteboard. A limitation of this activity is that when I chose the areas of learning at the start then they were only making links within the planned curriculum and not looking more widely, but we were able to explore this through discussion. Initially I had hoped to encourage links with learning at home and elsewhere, and this made little contribution to that. It was undoubtedly popular, shown by the children's faces, involvement and contributions, but this may have been because we completed it less frequently.

Alongside the web of connections, I was keen to think of different ways of using analogies and metaphors in my teaching, similar to Blake (2004), but in practice, these proved much harder to think of than I had expected. I started to notice other occasions where they were occurring:

Today I did an assembly about friendship which used water, lemon and sugar (from Assemblies to teach Golden Rules) to talk about friendship. We talked about things that we did which were like lemon and turned the water sour – they listed lots of ideas. Then we talked about things they could do to make it sweet and we added sugar. The same child tasted the water and she said it now tasted nice. Sadly not recorded as there were some good comments, but certainly some of the children had got the idea as later on they remarked that something was like adding sugar, or adding lemon (I had modelled once in class). Did they all understand? Probably not – if they hadn't tasted lemon before and were not prepared to take Jessica's word for it then they would not have understood the image, but I think most understood the idea of saying

positive and negative things. Did the metaphor help? It certainly helped to keep their attention for many of them (but not all). Will it change their behaviour? Difficult to say, but it does give us another vocabulary to talk about the issues – a sort of shorthand to help the children realise what they are doing. (9.08/32)

The analogy seemed to be providing a useful support to understanding and applying ideas at least to some children, where the 'shorthand' could then be referred back to on other occasions. My comment 'but not all' (in brackets above) indicates that I judged that some children were not fully appreciating the metaphor. Some of the children involved in this assembly were 4 years old; this could be an example where they did not have the life experience yet to understand what we were referring to. My research was helping me reflect on the children's responses to tasks, and I was watching for analogies and metaphors. I would have liked to have explored this more fully but practical issues of noting and recording responses were making it difficult.

Stimulated recall

As well as the web, I explored what they might have been thinking whilst they were working on tasks, partly through my on-going observations and partly through stimulated recall. Almost all the research I found focused on video for stimulating recall, although many researchers have used photographs and pictures to encourage participants' discussion (Clark, 2004a; Hedges, 2004; Coad, 2007). Whilst video was useful for practical tasks, I felt it was unsuitable for other, less visual tasks, for example writing a letter, so here I asked the children to recall their thinking, using the letters they had written rather than a video. The purpose of this was to see whether after making connections more explicitly during whole class discussions they were also using this approach at other times.

In 2006-7 I carried out stimulated recall sessions with between two and four children, looking at a 'three coins' problem, a letter they had written, investigating cars and ramps, creating timelines, sharing in Mathematics and pushes and pulls in science. In 2007-8 I carried out sessions on colour poetry, shiny and dull materials, shadows, using an ICT program called 2go and writing a book about polar bears. The choice of these sessions was usually linked to timetabling, as I needed an available slot to follow up with the group. The work chosen was already part of their curriculum but I selected sessions selected to cover a range of curriculum areas.

In the stimulated recall sessions, I showed the children the selected section of video from the lesson. Initially I allowed them to watch it uninterrupted and noted their responses. One point I had noted from the trials was that most of the children enjoyed seeing themselves on video but, when they first watched it, their focus was mainly on

finding the times when they could see themselves. To get better contributions about what they had been thinking and doing they had to watch the video a second time. This meant the process took longer, taking both the children and myself away from the classroom for longer. I intervened minimally, just asking the children to tell me what they had been thinking about when they were working so as not to lead them unduly towards describing connections.

When they observed themselves doing practical tasks, most of the children described what they were doing. For example, Luke talked about cars that did and did not work when watching the 'cars and ramps' session. Even when looking back at their writing, they mostly talked about the stimulus and how they had used that; Cathy talked about writing about all the things she had seen when the toy shop had been destroyed which had prompted them to write a letter in the first place. Only three children explained clear connections they had made whilst undertaking the task and, in all three instances, they were children who contributed more regularly to the web and whom I had observed talking about connections at other times (Sophie, Rachel and Tom). Their explanations in the stimulated recall sessions linked what they were doing to other tasks we had done at school. All three children were attaining at above the average level, similar to the initial observations that had inspired the project.

I tried some alternative methods, as my journal shows:

Using a photograph of their model did stimulate them to talk – and they told me what they had done, but it did not give me the detailed review and response to the video that previous sessions had done. Asking them to 'tell me the story' about their learning just produced baffled looks so this phrase was not a great success. I had to rephrase it as telling me what they were thinking and doing. (7.07/14)

The video produced the most helpful responses. The children seemed keen to see themselves on video and I was careful to ensure that the sessions were not too long. If any child had seemed worried or concerned I would have stopped the process with them. Some children talked about points that were difficult for them, suggesting that in this situation they were reasonably happy to be relatively open, although, **as suggested by Gass and Mackey (2000)**, I appreciate this may not have been the full picture. It is possible that this was a point at which I was at an advantage as a well-known adult; we had worked hard on establishing a strong classroom ethos where making mistakes was seen as an opportunity to learn, rather than a problem. Whether they reflected their thought processes exactly as they did the task is impossible to tell. How aware are any of us about our thought processes as we tackle challenges in everyday life? Possibly they were too young to reflect in this way (Edwards-Leis, 2006). In retrospect, it was interesting to see how they described what they were doing and

thinking, although no significant positive or negative examples in relation to making connections were obtained.

Carrying out the sessions was not easy. In 7.07/14 I noted that 'Trying to do stimulated recall session on the hoof has proved very difficult to organise.' There were several technical and manageability difficulties:

- Setting up the video camera in the first place so that it captured the group effectively without too much background noise within a busy classroom whilst I continued teaching. I had to use a tripod and then had to be careful that no one tripped over the legs. As I was not by the camera, the children sometimes moved out of shot.
- Ensuring that the video did not run out of memory and/or power during the session.
- Arranging a time to meet with the children within a reasonable timescale but without disrupting the class or taking away the children's playtime, which I was not happy to do. The sessions I achieved all required careful planning for the task and the stimulated recall session.
- Selecting appropriate sections: there were often relatively long sections of video which were not particularly helpful and, given that I wanted to disrupt the children's normal learning as little as possible, I had to watch the video through before carrying out the stimulated recall to select a short section that the children could profitably watch twice.
- Making the video clear for them: the video screen was too small for more than one child to see at a time and the available computers did not have sufficient capacity for the data to be transferred. This meant the video had to be transferred onto DVD which could not be done at school and which was extremely difficult to achieve at home. I spent many hours battling with the technology, taking me away from other important tasks.
- My technical skills were stretched to the limit as I tried various techniques for transferring the data and connecting the video camera to a TV when transferring was impossible.

Ideally I should have mastered the technical elements before I started on the project. I planned to use the video camera having had little experience of using it and then found that it was considerably less manageable than I had anticipated. This could be one instance where an outside researcher coming in would have had an advantage. Without the on-going need to teach the class, they could focus more closely on what was being videoed, then prepare the video and finally carry out the stimulated recall session without taking time from the class, much as the studies mentioned previously had done.

Critical moments

When I originally embarked on the project, I was keen to capture the ‘critical moments’ and explore what had contributed towards these in the hope of enabling this to happen more frequently; they seemed such powerful examples of learning. I had hoped technology would help me but, in practice, it rarely did. I used the video camera and a dictaphone frequently, at some points for most sessions in a day, but I never captured a critical moment. That is not to say they did not happen; there were a few occasions, but the technology was never at hand or working when they did. The other way I had planned to capture these moments was through writing my own observational notes. I managed this a few times, but usually had to do this after the end of the lesson when I often found that the rich detail was difficult to remember. Ellis and Bochner (2000) suggest connecting with the emotions at the time, but even this was hard. Sometimes, due to other demands such as playground duty, seeing parents at the end of the day and running clubs, it had to be considerably later if indeed I found time to do it at all.

In the summer term 2007 I particularly tried to focus on these moments but as I noted in my journal:

I had aimed this term to capture more of the incidental moments and talk to the children about these immediately afterwards rather than having planned times which did not always respond to the situations that arose. In practice this has proved nearly impossible. Inevitably the interesting moments occur just when there is no opportunity to follow them up e.g. building Church models just before half term produced wonderful links with what we had done which I was able to explore with one group, but a visit and then other demands meant there was no other slot before half term and after half term I felt it was too distant for children to recall in any detail. I think next year I need to plan in times to address this but am concerned that this will just take me back to where I was in the Spring term. Maybe I need to use the knowledge I have gained this year to help me anticipate these times to make them more productive and just accept that they may not be the best examples but will give me some useful data to examine. (7.07/06)

Following on the next year, my frustration comes through:

Yesterday William when talking about what comparing meant in relation to polar and Caribbean thought about two places and then said ‘it’s like ...’ with the excited tone of voice – can’t remember more detail (12.3.08/05)

Capturing the rich data soon enough and before other distractions intervened was hard.

I managed to record one spontaneous use of analogical thinking in my observational notes, which were then transferred to my journal, later on in the project ‘Daniel asked if the lagoon at Brownsea Island was like a bowl filling up as I had described it as

having an edge' (22.9.08/57). I was delighted to spot and note something, but there was limited detail. The next sentence shows one benefit for me as a teacher; the process has helped me reflect on how I interact with the class and respond to what they say:

The thing about it being spontaneous was that I didn't have time to think about whether that was a reasonable analogy or not and the possible misconceptions that could follow on, so we agreed it was similar in that the water was relatively contained, but I realise now that I could have said more to him about the shape. (22.9.08/57 contd.)

As a teacher researcher I found I had the benefit of immediate, on-going access and being able to notice those incidental moments, but, in practice, to capture and follow them up was tricky; a balance had to be struck between needing to plan and teach the class, and wanting to follow up the research thread. Foster (1999) might criticise me for not collecting rigorous data; others such as Furlong and Salisbury (2005) have recognised the many activities that classroom teachers have to combine with their research but that what can be collected and examined has value.

Since this fieldwork was completed there has been an increasing focus on observation in the classroom by teachers and teaching assistants as part of good assessment practice (Black and Wiliam, 2006). Working on this project certainly highlighted the importance of trying to capture those observations as immediately as I could and I would now share the job more fully with the teaching assistant. Even with that help, there are so many points that we are looking for just to cover the assessment that is needed to support the children's on-going learning, that it can be difficult to take time for the research points to be noted. An outside researcher could easily have come in and never seen one of these critical moments, but if they had then I feel they would have found it easier to capture the detail at the time and would have been able to focus on this without other concerns.

Interviews

After the first year (2006-7) I felt I needed to carry out interviews to gain a clearer picture of the children's views and to involve them more fully in the project. This was partly because I found gathering data alongside everyday life in the classroom so challenging. I decided to interview children in groups once each term throughout the project; a group of five in 2007-8 and six (different) children in 2008-9. In 2007-8 the children were chosen to reflect a range of attainment level and a mix of boys and girls: I was looking for balance and breadth and felt these criteria would help. One child left during the year so his data was discounted. In 2008-9 the children were the six children who had been in the class with me the previous year and were continuing in

the class. This was partly because I felt they already knew me so we could progress more quickly into the interviews. They were already familiar with the idea of making connections and it was relatively easy to do an introductory interview with them at the end of the previous year.

I was keen to explore what they thought about when they were learning, particularly in relation to making connections. These were semi-structured interviews (Appendix I) with some questions where the children responded using faces (Appendix J) as I felt this would be a familiar format for them. We discussed the main questions and finished with an activity where they sorted cards to show what they thought about different ideas when they were learning which I was then able to photograph as a quick record of their responses (Appendix J). I chose this as it was a practical activity that they could work on relatively independently, allowing me to observe and discuss some of their responses with them. In reality, although I could discuss their answers at the time, it was difficult to pick up the detail on the recording as other children were talking at the same time.

Looking at the summary (Appendix K), with both groups there appeared to be a small shift towards thinking about other things they had been doing, described on the summary as 'positive changes'. They appeared to be connecting ideas more readily, although I appreciate the complexity of the picture and this may be over-simplifying it. Some children showed considerably more changes than others, which may reflect a shift in their approach towards connecting ideas. Other factors could have influenced their responses; Kate for example did not ask for reading help, even when it was offered, and this may have influenced her decision to put almost all of the statements under 'Never'. Relatively few responses showed that the children did think about other things they had been doing, especially in the first group (2007-8), although those that did were generally higher attaining children. The second group (2008-9) had already experienced the work on linking ideas whilst they were in the class in 2007-8, which may have affected their responses. In simplifying the questions I may have made it less clear and on reflection using the word 'learned' rather than 'done' might have been more helpful.

The children appeared happy to participate and my notes show that although, especially in the first term, some of them needed a little help with reading some cards, they stayed focused on the task. I was keen to explore how I could make these interviews more appealing to the children to encourage more extended contributions. In 2007-8 I gave them the choice of drawing or talking to show their thinking, inspired by Wetton (1996), as I recognised that much of our work on connections was relying

on what the children verbalised. When I suggested this, the children looked at me rather blankly. I noted that the children did not seem to find it easy to generalise their experiences and many of their ideas did not relate to the work we were doing on connections:

The interviews were an interesting and sobering experience. I asked the children about what they thought about learning at school and what they thought about as they were working as a class, as a group and on their own. I found very quickly that although I could ask generally about how they felt about learning at school, they needed more specific examples and times mentioned to help them talk about the other questions. They often talked about thinking about something completely separate from what we were learning about. (3.08/19)

There could be several reasons for the need for support with these questions; there may have been insufficient discussion to unpick their thinking fully, or the method chosen had not inspired them, or they did not yet have the skills and understanding to reflect in this way.

To help with this in 2008-9 I tried turning the questions into a game (Appendix L) where the children rolled a die, moved along a board, picked a question based on the colour that they had landed on and then answered it. I could no longer guarantee that all the children had answered every question, but to overcome this and hopefully generate richer discussion rather than just a simple response (McCabe and Horsley, 2008) we discussed their answers to the questions more generally.

The children responded positively to the game, asking excitedly whether we were going to play the game again when I interviewed them for the second time and describing it as 'cool'. The responses seemed to flow more readily and linked more closely to the question. There are frequent references to the need to listen, but this is where being closely involved 'insider' helps with the interpretation of the data; their newly refurbished classroom had significant acoustic issues, which were only solved over the October half term. As a class, we had needed to work on listening carefully and working quietly to overcome this. Working as a group made it easier to manage in terms of time out of class, but I noticed times where children picked up each other's ideas, for example about missing their mother, or distracting each other. I felt that working as a group both stimulated and, at times, limited the children's ideas. The random outcomes of throwing dice in the game meant that in December 2008 one question did not come up at all (what do you think about when you are working by yourself?) whereas others came up several times. A different game design, avoiding the random element, would have helped.

Connections

In relation to the children making connections, the photos, observational notes and audio and video data in May 2007 show a clear picture emerging of the widening pool of children who were contributing to the connections. In the first few days, there were only four children who were prepared to contribute. Three of these had been observed making connections in their learning before the web, two of them on many occasions. The connections they made were brief and they were unsure about explaining their ideas.

In my journal, I noted that I had a key role to play in encouraging and valuing the connections made, given that this is something that I believed would help them learn. I also noted early on that from the video and audio recordings there was a danger that I closed down ideas by jumping in too quickly. I was trying to keep the pace moving but in doing so had curtailed their thinking. Looking back at one's practice can be a useful and salutary experience.

Later in the first week one child, who normally found explaining ideas quite demanding, looked pleased when she linked the science we were doing on the materials used to make toys with a sorting task we had done earlier in the year, based on the properties of materials (observational notes). As the term proceeded, more children began to contribute, for example Robert showed he was pleased when he described a link between interesting letters and interesting poems; in letters interesting words help people enjoy them and in poems interesting words will make people think (observational notes). He was sitting upright and smiling as he did this. All the children had made at least one connection and some had made several, with them developing in complexity and time span over which they recalled useful ideas. For example, Matthew compared the fixed and moving pivots as we looked at levers with the fixed and moving axles we had worked on nearly a year ago. This was more positive than the hesitancy and comparatively few ideas shown in the first few days.

One feature which appeared to help in this development was the use of talking partners. These were a regular feature of classroom practice across the school, where children turn and discuss an idea with their talking partner before being asked to contribute to a class discussion, giving them the chance to formulate and practise their ideas (Clarke, 2005). Initially I did not use this with the web, but soon realised that it could help the children as it was doing at other times. I remember that there was an immediate and significant increase in the number of connections made and their relevance, but interestingly I could not find any record of this in my journal. Possibly,

it felt too obvious or I was too busy. The improvement in making connections following the use of talking partners fits with the belief that learning is often a socially and culturally constructed activity; focused, purposeful discussions are key in the learning process (Vygotsky, 1962; Freire, 1970; Driver *et al.*, 1994; Palincsar, 1998).

As the project proceeded in 2007-8, I found there was a less clear pattern of the children's connections developing. Building work and changes of classroom significantly interrupted this year and I felt the class needed more time to help them settle and focus; these factors may well have contributed. The children may well, or indeed probably, have made many more connections as these are the only ones that they felt brave enough to verbalise and share with the others. Increasingly, more children were prepared to verbalise these in a tentative tone of voice and with pauses, suggesting that they were developing the confidence to try out ideas in front of their peers. Possibly, they were supported by class discussions about mistakes being opportunities to learn.

In 2008-9, the interviews showed that at least some of the children were talking about the Smartboard chart of links positively and using this to help them remember and connect ideas, especially in the October 2008 responses, where three children describe links in what helps them learn at school (Appendix K). Their comments on the use of the board mostly refer to practical elements such as ensuring that everyone has a fair turn at revealing the learning and that the text is clear.

In the final year in our Woolly Web sessions some children made some positive comments about how making connections was helpful.

We might stick on ... on the things we have learned more and remember them.
(Ben)

If you link with another person that means .. um .. that means that you can get ideas for that and then you can just write it down. (Sarah)

They were more positive in the interviews:

Some things you think might (link), then you realise it has and you have learned. (Simon)

If you like learn something doing this like later on, like later on in two years you won't have to think hard and you will know it. (Megan)

Although their comments were not always buzzing with the enthusiasm and excitement I longed for, they show at least some of the children recognising that making connections was helping them with their learning. The question still was how to help them achieve this most effectively.

Conclusion

Overall, there had been an increase in connections made within most groups and some children had commented on the value of making connections but there was not a dramatic change across the project. The children appeared to be more engaged where there was an element of 'fun', as in the interview game and the Woolly Web. There were some indications that it was still the higher attaining children who were more likely to make these connections. Thinking of analogies was not easy, but I had noted responses to a few; in the examples recorded, some children had understood them but this was not necessarily universal. Having the opportunity to talk with another child before discussing ideas more openly appeared to be helpful. The children made several contributions to the development of the webs, often focusing on the appearance and management of it. There were significant difficulties with the data collection which I explore more fully in the next chapter.

Chapter 6 Teacher/Researcher Dialogue: Examining the issues (Part 1)

At this stage, it is useful to stand back and consider the overall emerging issues from Part 1, **focusing on the process of data collection and analysis, the contextual issues that affected the study, the process of changing my practice and the development of my ideas in relation to participatory research.** The material from this chapter came from reading through the results and content of the previous chapter, looking back at the data and my journal entries, and completing further reflective writing. I return to the teacher/researcher dialogue as this matched my thought processes.

Time to look further; 'Problems, progress and priorities' as part of the title sounds as though you were finding things challenging, but not without some positive elements.

Data collection and analysis

Starting with the more practical points, I cannot help noticing that in the account above **difficulties with data collection were often being described.** The on-going demands of teaching alongside management responsibilities often made it hard to put into practice what I had planned. Looking back through my journal there are innumerable references to the need to make time for accomplishing the fieldwork and for reflection. It is a constantly recurring theme, and although this tells my story, I have also heard the same cry from others I have encountered who are treading this path, for example those in the research support group⁶. Furlong and Salisbury (2005) found the same in their review of teachers who had undertaken research under the government-funded Best Practice Research Scholarships (BPRS) scheme. Maybe, in the situations they were reviewing, teachers felt they had to excuse inadequacies in their research, and maybe the same is true in my case, but there are many activities competing for a teacher's attention. **It occurs elsewhere; Caro-Bruce *et al.* (2009) found the same in America and more recently in the UK** it has emerged as the most significant barrier in a survey of teachers by the National Teacher Research Panel (NTRP, 2011). My journal refers frequently to meeting the day-to-day needs in the classroom such as teaching, supporting children and assessing their learning, and to demands from elsewhere such as planning, preparation and meetings.

⁶ This was a local teachers' research support group that I was involved with.

I also found it hard when I wanted to get on with reading and data analysis. Fitting this into the working week seemed impossible, especially for someone like me who over this time span was not prepared to give up my other interests. For six months that might have been possible, but for seven years it felt far too long; as a keen amateur musician it was not an option as I need to keep playing and practising regularly. Sometimes it was possible to complete tasks at weekends but mostly these were left until holiday time. I did not feel this set a good example to colleagues who might be interested in research as giving up large sections of holiday on a regular basis seems odd, if not impossible, to many.

When I managed to make the time there had always been a gap; I had to spend considerable time re-immersing myself in the issues, approaches and tasks, through re-examining the data and reading others' work, similar to Cardno (2006). Once involved, I would notice my motivation, interest, questioning and development of new ideas improving rapidly, only to have the process interrupted by the start of the next term.

It was worrying because it made me feel that I was not internalising the ideas sufficiently and the study was not becoming an integral part of my teaching.

Technology was another significant factor. I can see so many ways in which technology is helping me. Finding and reading references no longer necessitates regular trips to the library as I can access many texts online. References can be stored, searched and incorporated much more readily. Searching my journal and notes for key words is relatively speedy and there is the possibility of storing large amounts of data. Technology has also caused me considerable heartache and headaches in the process of data collection and analysis. It links with the time factor as part of the problem was that I was trying to extend my use of technology and see how it could be used effectively for research purposes. I have no doubt that in many hands it can, but the video element especially became very time-consuming and demoralising. I mustn't forget the dangers of losing the data before it has been adequately backed up – technology brings benefits and new responsibilities for researchers. I have noticed over the course of the project that I am more aware of what to look for in tools that I am using. When the first voice recorder broke, I made sure the new one had an erase lock function, was easy to download to the computer and had readily replaceable batteries. Possibly the worst pitfall has been that awful moment when I realised that in a split second I had deleted the bulk of a term's data before it had been backed up.

Maybe that happened partly because I had prioritised other aspects of teaching, research and my life instead of backing up the data. It was certainly a critical moment. There have been other ways of collecting data, and I have appreciated the skills I have developed when using interviews and questionnaires with children. In an educational climate where we are increasingly encouraged to seek the views of children (Rudduck and Flutter, 2000; Hill, 2006; McLaughlin, 2006), these have been important. I have enjoyed experimenting to find ways that appealed to the children and encouraged them to contribute more fully as I have developed the process.

It's worth reflecting here on one of my journal entries:

I am still heavily reliant on verbal data, and for some children this may not be a way that they can or would prefer to express their ideas. I have had to work to find ways of encouraging the children to discuss their ideas in greater depth and detail. (8.08/70)

I was aware that it would be good to try and find alternative means of demonstrating connections which do not require verbal skills, for example using the 'draw and write' technique (Wetton, 1996). This technique seemed admirable for exploring children's understanding of words and actions. Applying it to this project, I had hoped that it might be possible for children to draw something they were learning about and then draw something it links to, using arrows or lines to show the links.

This was an idea that has worked in some situations (Wetton, 1996; Punch, 2002b; Coad, 2007). In class, I have seen the power of visual images to help many children respond and learn. On the one occasion I tried the 'draw and write' technique for this study the children looked at me rather blankly and it did not seem to help. Maybe, as several have suggested (Punch, 2002b; Coad, 2007; Sewell, 2011), this group were less happy with it as an approach or I should have persisted so they became more used to the process.

Looking at another element of the data collection, I mentioned earlier the challenges of capturing observational notes within the classroom, but often find myself referring to the notes I made in my journal. Writing a journal has been an important point of development. I have realised that it is easy to have a range of ideas flowing around, but writing them down has been a good way of exploring my teacher and researcher thoughts; the process turns my ideas into something more concrete which I can share with others and implement in my practice.

St Pierre (2011) suggests the same; writing is a tool for thinking as the researcher works on ideas. Here, the process is valuable but it is also producing a new form of data. I am interested in its role for collecting more immediate observations and for reflecting over different time spans. As I read and reread the entries, further themes and ideas emerge. I use my journal to explore my conflicting and changing views; it 'writing to inquire' as suggested by Holly (2009: 269). It might not work for everyone, but for me this has been a key research tool.

Contextual issues

Many researchers have noticed the difference that effective support from within and beyond the school can make to teacher researchers (for example Furlong and Salisbury, 2005; Caro-Bruce et al., 2009). When I first planned the project, I was delighted that the headteacher and chair of governors welcomed it so positively and it linked with the current School Development Plan. However, as time went on some factors made it more difficult to maintain progress. As a longer term project these had more impact than I have encountered with previous shorter term projects (Dodd, 2004).

Other influences interrupted it such as the Rose Review (Rose, 2006) and the revised frameworks for literacy and numeracy. Incorporating these dominated the school development at Key Stage 1 and took considerable amounts of time, for all of us in the school. Quite apart from the time factor, adding further new developments made it more difficult to try out ideas for the research.

So, planning for longer-term projects is challenging; possibly it would have been more effective if broken down into smaller steps or with the fieldwork condensed into a shorter time-frame that matched more closely with the school's development. The frequent national initiatives also seem to have taken energy and time from what the school and I had originally identified as a point for development. One example of this is:

It was demoralising therefore just after half term ... to go along to another meeting and find that there is a new assessment procedure (assessing pupil progress) which I will also have to take on and lead at school. It is similar although not the same as our current practice and will require time and thought to tweak the curriculum and assessment to accommodate it. (3.08/24)

I found myself reflecting on which of these changes had improved learning for the children and comparing that with the project described here.

That wasn't all. During the fieldwork there was a change of headteacher. Although the new headteacher was supportive in principle, she quickly identified several areas for development in the school and understandably we worked on those, prompted partly by an Ofsted inspection shortly after she started. It came back to the same problems of time and capacity. I think the fact that I was working on the project by myself didn't help.

From all the research **noted by Cordingley** (2008a) it seems you are absolutely right about that; having others in the school involved might have helped maintain the focus, priority and energy in the project.

I would have appreciated that, but there was another consideration. I did not want to involve colleagues unless I felt there was a reasonable chance of the ideas being successful as the time and development pressures applied just as much to them as to me. I suppose a better solution would have been to discuss and plan the strategies for the research together, so that everyone felt more involved, with the collaboration producing the ideas to try.

There seems an important balance to be struck between wanting to work on my research leading ultimately to completing my PhD and knowing that studies and reviews of studies (Cordingley, 2008a) have demonstrated the effectiveness of working more collaboratively. Much teacher research to develop practice works effectively in groups, but a PhD currently has to be individual. If I am involving colleagues, I have to ensure there are strong positives for them too, in terms of development of practice and/or exploring the research process. There are other considerations; just as my on-going relationship with the parents and children will affect my research, so the same is applicable with colleagues. It is important to maintain their trust and confidence for the research and our on-going working relationships.

A final issue that I noted on several occasions in my journal was my on-going assessment of the needs of each particular class. Early on I noted, 'children generally slow to pick up ideas and respond to all discussions and inputs, but improving with talking partners' (5.11.07/03). Later in the same entry I stated, 'I felt I had to spend time developing their confidence and enthusiasm, as well as my knowledge of them in order to be able to target questions and ideas, select children for the interviews etc.' Subsequently I reflected 'could I justify extra time sitting on the carpet, when the group generally moved slowly' (8.08/25). It was interesting to compare how different classes prompted me to use different strategies.

In traditional research researchers might be expected to produce 'knowledge' as their prime focus (Foster, 1999) but here, as a practitioner researcher, other factors were also influencing your actions as a researcher; you were changing your strategy to suit your changing situation and developing understanding. The action research spiral contributed to this but other factors were also changing.

It was not just that I was working with different classes. The contextual issues extended further. Additional problems arose when major building works happened at the school, including two major moves to different sites, all of which had to be planned and implemented. As I changed classrooms I had to rethink the placement of the video and audio cameras and in one room the acoustics were very resonant (six months later the architect agreed that acoustic boards were essential) making any audio recording significantly more difficult. The location of the connections board had to be reconsidered and in the last, very small, room (38 square metres) this significantly affected its use. It did prompt further developments; this was the stage at which I decided to try out using the interactive whiteboard. A problem became an advantage as I worked to find a solution.

The lesson to learn is to plan the timing of a longer-term piece of research carefully, but it is not always easy to know what lies ahead, especially when the local authority, Ofsted and government have agendas for school improvement and will set expectations. If it were just up to the school, it might be easier to plan ahead, although I appreciate the fact that as a publicly funded institution we have responsibilities.

Putting all the time factors, contextual issues and technological factors together certainly affected my motivation. No one expects a project like this to be easy but it often felt extremely hard. It was a long process and I found therefore that with that investment of time I wanted clear positives to emerge. My initial investigation of the data involved reflecting on my classroom observations, watching all the video material and making notes, doing the same for the audio material, collating responses from the interviews and reading and writing in my journal, but did not give me this evidence of positive developments. This made me reluctant to spend significant amounts of time on further analysis and writing. Perhaps other teacher researchers have found the same. I have not read reports where the results were largely negative. In his reviews of the TTA research reports, Foster (1999) suggested that the format and timescale, with its focus on improving learning for children, limited practitioners' ability to use the research process effectively. When you are receiving funding support as I was, I felt that it only added to my wish to produce something positive at the end. Maybe there is a danger

that I, and possibly others, always look for something positive? Would I feel differently if the research and analysis had been carried out within the working day rather than many weekends and holidays being devoted to it?

The process of change

Taking time out of the PhD has enabled me to sort through all my teaching materials from the last 20 odd years. I was struck as I did this – with 5 black bin bags heading to the recycling bin, how much of that material has really made a difference to my teaching and importantly to that of others as well? I have been on several courses, and which have really changed things? There is often so much material given that I have not managed to read it all – some packs were real surprises and I barely remember even being given them. Some were things that I know I intended to look at but never quite did in the business of day-to-day teaching, and yet no doubt at the time there were useful things there. (8.09/03)

I was also struck by how many of them seemed to be concerned with technical matters e.g. changes of curriculum, changes of assessment arrangements – have these really changed the way we teach or are they just tinkering at the edges? What really helps us change our pedagogical approach to make a real difference to the children in our care? At one level there are practical tasks that can be used in the classroom, but do these really change our approach and way of working? What can do this? (8.09/05)

I had a plethora of materials that were designed with the intention of improving teaching and learning.

Returning to all those national and school initiatives that you felt interrupted the project, to what extent were those other demands important in the improvement of your teaching, what difference was the project making to your practice and how important was it for your children's learning? From my perspective the project is an important element of reflecting on and developing your practice which all practitioners should be engaging in as so much research has shown it to be a vital element in school improvement (Cordingley, 2008a). It has the potential to be transformative (Lather, 1986).

Some of the imposed directives have undoubtedly improved my practice; for example I am more aware of lesson structure, subject knowledge and progression in learning than I remember being at the start of my career (although I appreciate it may be my memory at fault as I have no clear data). I am more formative in my use of assessment (Clarke, 2005) and take more conscious account of the children's views, partly as a result of input at school and partly through this project.

I also know that the developments that have excited me are those where I have become involved in the research process myself, or those that I have identified and implemented with colleagues. You could ask whether my excitement is important. My answer would be that it has led me to spend time exploring the issues more fully, and to have greater confidence implementing ideas.

There is still the question of improving children's learning, but in my experience, and in some cases this is backed up with evidence, the effects have generally been positive (Dodd, 2004). There is undoubtedly more we could probably do to evaluate these developments, especially where there is no formal research involved.

Looking at my current project, even at the most challenging moments I have been aware of some positive aspects. Doing the research is encouraging me to take risks, try out and evaluate new ideas. I might do that anyway in my practice, but researching them more thoroughly is encouraging me to investigate more fully and to analyse in significantly greater depth, something that Cordingley (2008a) identified as key to improving practice. I plan the research more thoroughly and then look at the evidence in more detail. The process of accreditation may sometimes feel burdensome, but I doubt whether I would have the motivation to accomplish that analysis without some form of recognition. I have seen many elements of teaching change rapidly over the course of my career, often with externally imposed directives that have to be assimilated and incorporated into daily practice, but, for me at least, that process of reading, experimentation and enquiry is important.

Looking at the work on connections, I can see in retrospect, that what I was asking them to do may have been a step too far in terms of abstraction. They would have benefited from more time and careful scaffolding to help them progress. I have understood that after reading Vygotsky (1962) more thoroughly, rather than the brief summaries I was introduced to in training. My understanding has come from my reading, enquiry and reflection. So why is that so important? Are the findings or the process more critical?

I have undoubtedly used elements of my research in my practice and encouraged others to do the same, albeit at a very small scale (Dodd, 2004). There are stories of practitioners whose research has caused much wider change (Cordingley, 2008b), but I certainly can't claim that. Foster (1999) **might argue that what I am doing is not proper research, but, writing a few years later about a subsequent government scheme,**

Furlong and Salisbury (2005) acknowledge that there are other benefits and a different set of criteria should be used to judge practitioner research.

I am, like Foster, Furlong and Salisbury concerned to maintain the highest standards but I also have to reconcile that with the on-going expectations in the classroom and my high aspirations in my teaching. I think the process of investigation in one area encourages me to read and reflect on other areas. Looking at my journal, I note:

So – a new resolution – read and reflect on what comes in – that journalising is one of the important steps. And hopefully now that I have organised what I have in sections that relate to what I am doing, I will check what is there more readily and USE it, both at a practical and deeper level. (8.09/07)

I feel more connection with the research world than I would otherwise. I often follow research trails that are not directly connected with my current project, because they are relevant to another area of my practice, and I am aware of the benefit of gathering and assimilating information from a range of sources. I approach new initiatives more critically (in the most positive sense of the word) because I have more ready access to other evidence than I had before undertaking research. Indeed one of the frustrations of many new initiatives was that I could not explore any of them thoroughly enough to understand the underlying principles fully. Engagement with research has made me more questioning as well as more confident in the areas that I have explored, just as **Furlong and Salisbury (2005) found with the Best Practice Research Scholarship scheme.**

You raise an interesting point there about access. We **are** able to get much more from the Internet, but I wonder how other teachers feel about that? For you that access contributes to the process of change. How easy is it to change your practice?

As the project has progressed, I think I have increasingly realised how some areas of practice are easier to change than others. Where there are new practical resources or a change in the timetable that has helped; for example, using talking partners, which are changed regularly but are randomly chosen, fairly quickly became part of my practice, partly because of having the pegs and face (Appendix M) and the Monday morning slot to change them. I could also quickly see the value of children having the chance to explore their thinking by talking with another child before contributing to a class discussion. Adopting the new approach to phonics following the Rose Review (Rose, 2006) was relatively manageable at the start as there were new resources, a specified daily slot and a handbook of tasks. Understanding the approach has only come with a mixture of reading and practice, which I am still working on. Exploring more challenging concepts about how children learn takes time, especially when it

means that I have to read books that I find less immediately accessible, such as Vygotsky (1962). It takes further time and thought to connect these more abstract ideas back to the classroom.

Shulman and Shulman (2004) suggested six teacher qualities needed for teachers to learn: vision, motivation, understanding, practice, reflection and community. While the vision, motivation and reflection were there, and developments in practice concerned with children making connections, it was the sense of community that was more challenging it seems.

I can identify some practical changes to my teaching but I am now more aware of how hard it is to change my attitudes, deeper understanding and related practice. A key area, and one that has developed over the course of the study so far, has been how to involve the children effectively as participants in the project and in all their learning in school.

Research on or learning with the children

Right from the start of the project I had begun looking at this when I considered 'informed consent' and thought about how to present the project to the children and help them understand, as described above in the section on Permissions (p.75). Following on from this it is interesting to chart the development of my thoughts chronologically through my journal, for example:

One issue I realise I need to address is my own relationship with the class. This year they have been a very demanding group who often have arguments with each other and with some individuals testing boundaries on a regular basis. I feel I have had to be very clear with them about what is and is not acceptable and I am not sure how this fits with the cooperative stance I am hoping to develop with the children. Most have been very happy to discuss ideas (e.g. most contributing to circle time discussions related to this) but not all. Maybe they have been able to accept that this is a different task where I am genuinely interested in their viewpoint? ... I also feel I still need to do considerable research about the different ways of exploring ideas with children. (7.07/12)

At this stage I was finding a difference between what I perceived as the need to be clear and firm, and my wish to try and work with the children on the research and accommodate their views. I used the word 'cooperative' rather than 'participatory' and the project still feels firmly led by me as I am interested in their 'viewpoint'.

Later I wrote:

Reflecting on Learning without Limits, my classroom practice and the design of the study leaves me with some questions and thoughts. I can see the power of trusting the children and have found the descriptions of studies in the Ethics ... Values into Practice book very powerful reading. Clearly there are examples where children have achieved amazing things and both gathered and presented their views and ideas very competently. This seems to demand exceptional leadership and 'in touchness' from the adult researchers involved and I am worried about my ability to achieve this. (8.07/12)

In the texts read (Hart *et al.*, 2004; Sheehy *et al.*, 2005) I had seen what was possible, but I was acknowledging that what I felt at the time might mean fairly substantial and difficult changes to my teaching.

Look at how the journal continues:

I have an additional concern about my responsibility towards the children as a trained adult who has agreed professionally to undertake both teaching and research. I clearly have more years of experience in the general field than they do. This is not to say that I am better in any way, but I bring that experience to the melting-pot. They bring the immediate knowledge of themselves and their lives, to the extent that they are aware of and can express this. When I consider the difficulty I often have reflecting and developing my practice, coming up with ideas etc. am I being fair in asking this of 6 year olds? Do I have a duty as an adult to try and use the experience I have to help develop ideas for the project, make suggestions and take the lead, or is my role purely that of reflective listener. I think I feel that I have to encompass both in order to fulfil my responsibilities as a teacher and a researcher – it's a question of balance between my responsibility as an adult to think of creative ways of developing the study versus trusting them to lead the way forwards. (8.07/13)

You had concerns about the extent to which you should change your practice. It seems you were examining some deeply entrenched attitudes towards the children and your role.

I had always felt that I tried to observe, listen and respond to the children as much as I could. But other factors alongside this project were also highlighting how important this is and made me realise I needed to re-evaluate and explore further possibilities in this area. On 13.8.07 I noted, 'Participation comes from awareness of children's rights and ECM agenda, citizenship, belief that encouraging participation develops motivation, power relationship, 'voice', of greater use to people being researched, ownership issues' (8.07/62). I can see other threads coming through such as the work we were beginning to explore at school relating to Rights and Responsibilities, the national focus on Every Child Matters (Treasury, 2003) the concept of 'pupil voice' and citizenship. I could see the principles behind it and link this to my experience; when I felt involved in developments at school and was able to contribute, I found it more motivating.

That does not seem surprising. Involvement is often linked with motivation (Clark, 2004b; Bucknall, 2010; Kershner *et al.*, 2013). What about the next steps in your development within this project?

The development of the web and interviewing techniques (such as using a game to encourage their contributions) show that I was trying to incorporate ideas which would appeal to the children, but I see that as different from incorporating the 'voice' of the child and engaging in participatory research. In the Circle Times, I was encouraging the children to contribute ideas and ensuring that I incorporated all that I could, but I was still in the driving seat making the final decisions. Handing over to them seems to be something I find hard.

Maybe it comes down to defining what you mean by 'participatory' research and the 'voice' of the child? I notice you said:

I have thought more carefully about the balance in power in my classroom between myself as the teacher and the children. Is it, and can it ever really be, a place where everyone is valued equally, given our different roles and responsibilities within a particular social setting, is still a question that challenges me. I have certainly made greater efforts to tip the balance more in favour of the children, even though at times I have found this a tricky process. I can see the benefits of involving them more fully; it is their education and their learning that is important, but I am still stuck with the dilemma that I have considerably more life experience than them and am supposed to be a trained professional, so as well as listening I also have a responsibility to open up new aspects of the world for them. (11.08/43)

Looking at what you were undertaking at this stage with the children, you were clearly listening to the children and trying to incorporate their ideas such as the use of ICT. With the Woolly Web you were responding to an activity you had introduced and which had been enjoyed and appreciated. This may not have been formally involving the children in the research, but their ideas were being valued and contributing to some degree.

Yes, but I still felt I was a long way from the examples I had read about in Alderson (2005) and Hart *et al.* (2004) where the children appeared to take a more active leading role in their learning and the research. In February 2009, I recorded similar questions: 'Have I missed the point about the voice of the child, or is there really something in balancing out the child's view with the adult's view? Is it just about listening?' (2.09/02). It comes back to what you said about clarifying my understanding of participatory research and the voice of the child. I had always tried to listen, but the ideas I was exploring were encouraging me to look beyond this at political elements, such as the rights of every child.

At that time I was also considering my position as a practitioner researcher:

Is this easier or harder for a practitioner rather than a visiting researcher? In some senses someone visiting might be able to step outside the normal relationship and approach children in a different way, whereas a practitioner has to remember that outside the research the relationship will need to continue. But maybe developing a different, learning relationship with the children will help the on-going classroom learning and change the relationship for the better? (2.09/02)

Certainly I felt that I was re-examining my role as a result of my research, although to what degree I was managing to change my attitudes and practice is another question. The research has certainly helped me think about how we involve children and ascertain their views in school. Considering how to present this and then how to question children effectively has introduced me to different techniques and ideas. I have thought more carefully about the balance of power in my classroom between the teacher and the children. I am still considering whether it can ever really be a place where everyone is valued equally, given our different roles and responsibilities within the setting. Despite the difference in age and experience of those involved, which gives each a different status in the organisation, we can learn to listen to and value the children's ideas to a greater extent. I have made efforts to tip the balance in favour of the children, even though at times I have found this a tricky process. I can see the benefits of involving them more fully in the vision for participatory action research set out by Brydon-Miller *et al.* (2011); it is the children's education and their learning that is important. A dilemma remains; I have greater life experience than them and am considered to be a trained professional, so, as well as listening, I also have a responsibility to open up new aspects of the world for them.

It comes back to the process of change. I can see that these more entrenched attitudes were taking time to address and change. I wonder to what extent the thought given to the research process assisted or hindered that?

I cannot imagine having undertaken thought about issues of this depth without the engagement in research, so the process is important. The research does not happen in a teaching vacuum and it is hard to pick out which element is having the strongest influence; research and other teaching developments are all linked in my practice. Maybe it is more important to see the connections rather than dividing them and focus on the improvement in practice? What is quite clear is that the process is far from easy.

Chapter 7 Turning the corner (2009-10)

As will be apparent from the previous chapter, the project in Part 1 on making connections had not proceeded entirely as I had anticipated and I was feeling demoralised by the lack of positive results. There had been so many distractions and other demands that I had found it hard to maintain the focus. I was struggling to find the time and space needed to reflect and find the way forward so I suspended my registration for the academic year 2009 - 2010.

Just before the break, in February 2009, when I had completed the fieldwork for Part 1, I presented some of my ideas at a seminar entitled 'Advancing Participatory Research with Children' (Dodd, 2009) alongside other research students and established researchers. Collating my ideas and hearing the other speakers had made me realise how important this was, but it also left me with much to contemplate. Inevitably, the break did not mean that I ignored the project altogether; I was still reflecting on the unresolved issues and themes that were emerging. The new areas related to children's rights and participatory research were exciting and linked more closely to school development than the work on making connections. I realised that I was learning more about life as a teacher researcher than any other area. In retrospect, it is no surprise to find a shift in direction within a longer-term project such as this, when someone is working part-time on the research alongside many other influences.

Over the year, while the study was suspended, the daily demands of teaching continued to keep me busy but there was space to reflect and prioritise what was important and currently relevant. Although I had often felt being a teacher researcher was difficult because of time-related issues, it was an example of where working part-time on a project and having a break can be beneficial. I had the opportunity to try out ideas without the pressure of needing to collect and analyse data with the rigour required for research, enabling me to trial techniques and redefine my focus. Based on ideas from a participatory research seminar, I experimented with running a pupil research group with four seven/eight-year-old and four nine/ten-year-old children. Having discussed some different research techniques, the headteacher gave the group a research question based on a key element of the School Development Plan. They devised and carried out their own research project supported by me. I was impressed with their ideas about how to gather information, closely aligned to many techniques that adults would use, and how they tackled the process of data collection, analysis and drawing of conclusions. This was especially true of the older children in the group

who had mastered skills such as using ICT. This felt like a step forward in more truly 'participatory' research, and I wanted to explore it more rigorously.

The break enabled me to make connections in my own learning and I realised that there was a continuous thread in my learning journey. I could continue the project by exploring the issues that were emerging strongly: practitioner research and developing participatory approaches with children.

Chapter 8 Teacher/Researcher dialogue – exploring ‘Participatory Research’

Redirecting the study inevitably necessitated further reading and led me to further issues and debates, particularly in relation to participatory research and how this could be further developed. The research process, alongside other developments at school, was leading me to explore key issues in relation to children’s rights, pupil ‘voice’ and the power relationships in my context, discussed in this chapter, prior to explaining the work undertaken in school in Chapters 9 and 10. To tell this part of the story I return to the teacher/researcher dialogue.

Participatory research with children

What an amazing day at the seminar on ‘Advancing Participatory Research with Children’ (Dodd, 2009)! I wonder why we encourage participation. Is it to improve motivation and engagement, or to provide another data source or because it is the expected and fashionable thing to do? I can see that it stems from a strong belief in the need to give everyone a voice and redress a power imbalance (Freire, 1970; Heron and Reason, 1997; Lincoln *et al.*, 2011). It has important implications. I came away thinking about so many ideas. One was the principle of informed consent; schools may need to be treated as a special case given that the children have no choice about being there. In participatory research, we need to be careful that we are not over-simplifying what we do, but find the best way to communicate and share understanding in the serious business of research.

For children to be fully participating, several researchers (Hill *et al.*, 2004; James, 2007) have suggested that they need to be involved in the data analysis and feedback, and need to see an impact and, if appropriate, change as a result of their contribution. Kellett (2009) reminded us that adults cannot be children again; we see things with adult eyes, perceptions and experience. Children and young people can play a valuable role in carrying out their own research projects with adult support. This is not to replace adult research, or indeed adult and child participatory research, but to provide another voice.

I really connected with the tension in getting the balance between ‘support’ and ‘management’. That linked with what I had felt in class to be the need to oversee and support the children in their learning while I worked with them to develop their

understanding of connections. Professionals may have to readjust their thinking in the light of these developments (Todd, 2012). A powerful input at the participatory research seminar came from an eleven-year-old girl who the Children’s Research Centre had supported to carry out research related to her medical condition, which was now having national impact in the form of a newsletter for other young people.

There are issues to be cautious about. Greene (2009) raised the question of **whether participating in research is seen as** ‘another, adult-initiated chore – or a happy opportunity for self-expression and communication of interests?’ She asked whether some jobs should be left to adults. I found myself reflecting on my own childhood, which I remember as enjoyable, untroubled and unfettered by difficult questions and pressures (despite being at a school with high academic expectations and a full timetable of ballet and music outside school). Examining these issues has helped me realise that I believe children have the right to enjoy childhood free of pressure and undue (although not low) expectations. Some have even expressed concerns that we could be exploiting children (James, 2007). I found myself wondering how this was affecting my views on pupil participation and how this might change at different ages.

I agree, but what matters in the classroom is how this is implemented in practice.

Children’s rights and images of childhood

The literature shows a huge shift in outlook and development of approaches in participatory research, especially over the last fifteen to twenty years (Rudduck and Flutter, 2000; Clark, 2004a; Holland *et al.*, 2010). Many researchers link this to the development of the United Nations Convention on the Rights of the Child (UNCRC) (UNGA, 1989) which in itself was the culmination of many decades of work looking at children’s rights (Rudduck and Flutter, 2000).

The UNCRC is not without its critics; Pupavac (2002) expressed concern that it undermines the rights of children in some ways, by empowering officials rather than parents in relation to their children and by creating a risk-averse culture where there is too much emphasis on worst-case scenarios. Children are losing out on autonomy in their play, as adults try to control and use it for the children’s development, making it more difficult for them to grow into mature, independent adults as they have less experience of freedom. She says ‘the key conceptual problem in children’s rights derives from the related dichotomy of the child being the rights-holder but not the moral agent who determines his or her rights’ (Pupavac, 2002: 67) and points out that

'childhood dependency is not merely a social construct, but a biological reality – for at least some period' (Pupavac, 2002: 67). In creating the UNCRC adults are still controlling children's lives, but that is partly because childhood is a period of rapid growth and development as we learn the skills that will enable us to move gradually towards greater independence. Balancing people's needs and respecting relationships is a complex business. We need to be careful that what we put in place promotes children's long-term well-being.

Alongside the UNCRC, there has been a significant change in how researchers view children. They are seen as 'beings' in their own right, not just 'becomings' or adults in the making (Rudduck and Flutter, 2000; Clark, 2004a; Thomson, 2007). At the Participatory Research seminar I had been struck by this in the presentations.

It connects with what was happening in school during that period. During Part 1, as a whole school we were being encouraged to work towards the Rights Respecting School Award, involving many developments linked to pupil voice, school councils and supporting children's social and emotional development. Projects such as these are being shown to have benefits for children across many areas of learning (Coppock, 2007). It was one of the School Development Plan issues that was taking time and making it more difficult to maintain the work on my study, but it clearly has important implications for the adults and children involved at school and elsewhere.

The concept of childhood has changed radically over the centuries and is different across the world today (Jones, 2004; Kellett *et al.*, 2004), but it has been a key principle underlying approaches to research (Rudduck and Flutter, 2000). If we assume that children are 'incompetent' and not capable of expressing their views then we are unlikely to consult them. In many parts of the world and at many times, childhood, taken as the period when a child is dependent on their parents, is or was considerably shorter than our current British expectation extending up to eighteen. Once we recognise everyone as a person with a voice, and the universal nature of human rights, things start to change.

But is it as simple as that? As a teacher in school I have a clearly defined role and responsibilities to help the children make progress in all areas of their learning. I see that the children are gradually improving in so many ways and that I, as part of the team of adults, need to do all I can to assist that process. A strong element of assessing the school's effectiveness and value for money rests on the children's learning of basic

skills as evidenced by the SATs. I seem to be getting conflicting messages here, and this is being noted in the literature too (James and James, 2001).

Possibly it is a question of having “a conception of children as articulate social actors who have much to say about the world, as people who can be encouraged to speak out” (James, 2007: 261). It connects to our perceptions of childhood. You mentioned before that you had a view of childhood as a precious time, free from worries and concerns, based on your own experience. I wonder if that is how you felt at the time, or whether it is your adult perception? Childhood is after all a label attached by adults (Mayall, 2008).

I am beginning to appreciate the need to make space, time and opportunities for children to communicate their ideas more fully in ways that they feel comfortable with, just as I was exploring with the different interview approaches and the Woolly Web. I am still wrestling with the balance between children’s improving skills and recognising competence rather than incompetence. In the UNCRC Articles they use phrases such as “in a manner consistent with the evolving capacities of the child” (Article 5) and “the child who is capable of forming his or her own views” in the oft-quoted Article 12 which talks about a child’s right to express those views. Such statements imply development and that some children, or children at some stages, may be less capable than others. Researchers who are strong advocates of a participatory approach still discuss matching questions and activities to the children’s level of understanding, for example Coad (2007).

In valuing and respecting children’s views we are not saying they are already adults. It is more that we recognise that children are experts on childhood (Kellest, 2005) and we need to do all we can to value and respect that. People have often been surprised by what they have found children can achieve (McCallum *et al.*, 2000; Thomson, 2007) and adults can speak down to children (Alderson, 2001). In choosing ‘child-friendly’ methods such as drawing, photographing and games we can encourage and promote children’s responses (Stalker and Connors, 2003; Clark, 2004a; Fraser, 2004; Coad, 2007), as you were trying to do, but there are dangers: they can provide them with a distraction from the main focus of the research (Alderson, 2001). Others point out that these are ‘participant-friendly’ research as the methods are enjoyed by all ages, appear to engage people’s interest and encourage them to contribute more fully (Fraser, 2004; McCabe and Horsley, 2008). Some would say that using methods such as these carries an implication of incompetence (Thomson, 2007); I would say that as a researcher, whoever I am researching, I aim to find the ways that will help people

participate and provide a fuller picture. I like the way Punch (2002b) sees it as a continuum; as researchers we need to select, or create the situation for the participants to select, the methods that will be most effective for the research focus. It links back to your original wish to find methods that helped the children make connections.

Children's voices

It is much more than that for me now! It is about listening to the children's many voices and making sure they have impact (James, 2007).

James mentions another important point; adults often talk about listening to children's voices, but, when putting together reports, it is generally the adults who are in control. They select the parts that they feel are most relevant and appropriate, which may or may not be the choice that the child or children would have made. Even researchers who prefer to base their ideas on more 'natural' talk, within play and other situations, are selecting what they will report. Participatory research is not just about hearing the children but encouraging, supporting, listening, valuing and responding (Clark, 2004b) so that we can do all we can to share understanding with the participants and allow all to hear and respond to their voices, not just the researcher's voice. It is interesting that you refer to 'children's voices' not just the 'pupil voice' that is often talked about. Why is that?

I am realising that a key element is listening to each child's individual and diverse ideas, not just treating them as one. That would be denying their individual rights and would give a much less rich picture. Just as we should avoid generalising about women, disabled people, men, ethnic groups or any other label we have decided to attach to a group in society, so we should avoid this with children. As a classroom practitioner, I believe passionately in the importance of looking at children as individuals and meeting their individual needs.

When researchers have asked children about 'pupil voice' children have raised interesting points. Some (Hill, 2006; Beatty et al., 2008) have said that they prefer group interviews because ideas are shared and developed, and the children have a stronger voice. Others (Christensen and Prout, 2002; Punch, 2002a) have recognised the value of privacy in individual discussions. Some chose to be interviewed in pairs, and at school (David et al., 2001). Some have indicated that they can feel constrained when talking with known adults (Hill, 2006) whereas I might expect them to respond more positively in this situation. It comes back to diversity again.

There are dangers; we need to be careful about automatically assuming that children automatically give us a better result (James, 2007). Just as all of us will express ideas differently in different circumstances, due to a variety of factors, so (we assume) the same applies for children. We need to be cautious about our interpretation and draw on the full range of evidence, including non-verbal gestures and silence (Thomson, 2011).

Is it just about listening to children? What about the adults' voices? What about being a 'trained professional' (p.112)?

Nieto (1994: 398) suggests 'that students' views should be adopted wholesale is to accept a romantic view of students that is just as partial and condescending as excluding them completely from the discussion.' Participatory research is about making sure children's voices are heard as well as adults' rather than instead of adults'. At present we need to focus on the children because of their having been silenced in the past (Kellet et al., 2004). Christensen and Prout (2002) discuss four different ways of looking at research with children; the child can be seen as 'object', 'subject', 'social actor' and now 'co-researcher'. As they rightly point out, it is not even as if these are completely separate. They cover a spectrum of beliefs and opinions, and different elements can exist in the same research project. Shifts towards more participatory work need careful consideration. Anson and Allan (2006) suggest that the change in approach could disempower some children; they feel their boundaries are changing, which can be an uncomfortable process.

Even if that happens in the shorter term, I believe there will be longer-term gains. I am moving from the child as 'subject' much more towards the child as 'social actor' and even 'co-researcher'. In school, with all the power relationships involved, it is going to present some interesting dilemmas and ethical issues.

Power relationships and ethical issues

The power relationships involved are a significant factor in research with children (Cox and Robinson-Pant, 2008). Christensen and Prout (2002) remind us that children are as diverse as adults and we need to communicate effectively to establish strong ethical practice, just as we have to with adults, describing it as 'ethical symmetry'. A key step is being aware of the power relationships between generations (Mayall, 2008). Cross (2009) interviewed Scottish children at ten/eleven years of age and then again at

thirteen/fourteen. When they revealed more in the later interviews and were questioned about this, the children said that although they had felt the researcher was on their side they still thought the adults would 'stick together'.

Power relationships within schools need special consideration because of the roles played by adults and children (Robinson and Kellett, 2004). I'Anson and Allan (2006) found that the children felt that it was the headteacher and deputy who made the big decisions in school. Hill (2006) describes children's varied perceptions of researchers coming in who are not teachers; it depends on the context and the researchers' actions. The more they adopt a 'teacherly' style, the more likely the children are to treat them like teachers, for example calling them 'sir'. Kellett and Ding (2004: 166) suggest that 'If a researcher's role becomes blurred with a teaching role children may expect more guidance and direction in their responses and not be as forthcoming'. However, teachers cannot suddenly stop being teachers; they need to be aware of the impact of their role and how it is perceived on their research and 'informed' consent (David *et al.*, 2001; Robinson and Kellett, 2004). There are so many occasions at school where adults do not seek children's permission that children become accustomed to this and may find it difficult to accept a different approach. Alderson (2004) suggests that we need to take care throughout the process to ensure high ethical standards are maintained.

Some of the studies indicated above draw on material from several years ago and there have been many changes since. At the two schools where I have been teaching and no doubt at many others, the adults have been working to ensure that children's views are respected and valued, as shown for example in the work on the UNCRC. We have been actively encouraging the children to take the lead on issues such as the curriculum. I wonder whether there is an element of the research world exercising a power relationship over practitioners in this and in much of what they suggest we need to examine when doing practitioner research. As several sources have noted, practitioners sometimes have different priorities from more academic researchers (Cordingley, 2008b; Gewirtz *et al.*, 2009; Kershner *et al.*, 2013).

Researchers are saying that everyone needs to be aware of the shifting power relationships between children and adults. For example, in their Extra(ordinary) Lives project, Holland *et al.* (2010) specifically tried to ensure that the young people's voices were strongly heard through their participatory research project. The young people were in the driving seat but they recognised the shifting nature of the power relationships. It is not always the researcher who is powerful and the researched

powerless; as researchers we need to consider carefully their ‘‘between-ness’ and relationality, co-dependence and constitutive force’ (Holland *et al.*, 2010: 363). In their project, which strongly encouraged the young people to speak openly, there was an awareness that the young people might often be trying to please researchers because of the positive relationships they had established. Even when children are actively encouraged to contribute their views it is still the adults who are in control. That is especially true in schools where so many elements of the school day, such as the timetable, use of space, and clothing are directed by adults (Robinson and Kellett, 2004). It is not just a question of establishing openness; **so many other factors from the media and society (Nieto, 1994) and religion, politics and culture (Kellett *et al.*, 2004) also play a part in this.** Just as you felt there was a conflict between the demands of SATs and the implementation of the UNCRC, so researchers have discussed a conflict between ‘citizenship’ education and children’s daily experience in schools (Nieto, 1994; Robinson and Kellett, 2004). Do they experience democracy in action or are the adults in control? To what extent is there still a ‘banking’ model or have we moved definitively towards a genuine dialogue (Freire, 1970)?

You suggest that adults are in control; as a teacher I would say that I recognise that there are decisions that have been made about many elements of the school day by adults within and beyond the school, but that I, personally, have relatively little influence over many of them, as Nieto (1994) recognised. It is not just the children who are the ‘oppressed’ (Freire, 1970). I see it as a complex and shifting web of oppressors and oppressed involving groups and individuals within and beyond the school, government and country. I wonder whether the children see all adults as a coherent group or to what extent they see us as individuals. Cross (2009) would suggest that they link us together, but maybe the picture is more complex than that.

From what I saw at the **participatory research seminar, there is a way of handing over more control of the process to the children, where they become co-researchers.**

Children as co-researchers

Alderson (2001) quotes many powerful examples from around the world where children have carried out research that has had significant impact. Fielding and Bragg (2003) suggest different levels of involvement; children as co-researchers could get better responses from other children. **H**owever we need to avoid assuming all research with children is for the same purpose (Thomson, 2011). At the ‘Advancing Participatory Research’ seminar I was struck by Kellett’s work and the child who came to present with

her. The children were given training and then support to carry out their own self-chosen research projects, taking them in most cases right through to final presentation (Kellett, 2005). This presented exciting possibilities for moving forward in my own practice, albeit for a different purpose. Many of the examples on the Children's Research Centre 'Original Research' web page (CRC, 2011) are very powerful, reflecting the children's interest, commitment, thoroughness and impact. By involving them more fully in the research, I hoped that the voices of the children involved and voices of their peers would come through more strongly in our more school focused research.

One of the reasons I liked Kellett's work was that she set up training sessions for the children involved. Children are already involved in a form of research regularly in schools, albeit unpublished, as children collect and explore data related to different areas of learning, for example in Science and Maths (Alderson, 2001). We would be wrong to think that they have no prior knowledge of the skills involved, but, just as I benefited from research training sessions, so I could see that children would benefit from them as well.

What about the power relationships involved in that? Would this not just reinforce the expert and learner relationship?

I know what you mean and Kellett acknowledges this. The picture is changing and varied. Thomas and O'Kane (1998: 346) assert:

By creating space for children to make these choices and to play an active role in the research process, shaping the agenda, speaking out about matters that concern them, and themselves reflecting upon our methodology, we may learn a great deal from them.

I am concerned about the use of the words 'our' and 'we may learn' here but they were writing at a relatively early stage of involving children in research in this country. In her study, Kellett (2005) noticed that the adults had to think hard about whether they were supporting or managing the project and believed the children's voices would come through more strongly with adult support. However, Thomson (2007), in a different study, was concerned that by giving training we were denying children a full participatory role as, in her research, children had managed tasks that others were advising her were well beyond them. Adults have to think carefully about whether their role is as a researcher or a consultant to others' research. There are potential dangers in taking over the project and in underestimating the children, with the consequences

including less effective research and a less beneficial experience for the children. It depends on the way we present the research skills.

Being a teacher in school might present me with some extra challenges on this front.

We need to 'use our positions of power appropriately' (Kirby and Gibbs, 2006: 221), but not blindly accept the children's contributions. As Gallacher and Gallagher (2008: 511) put it, 'we are all fallible: imperfect and naive, learning and changing; 'immature' rather than fully formed, rational, competent and autonomous agents'. This links back to Thomson's (2011) point about reflecting critically on children's voices just as we would with any research participants.

I feel it comes down to mutual respect and showing that we are learning together.

There are some extra ethical points. We need to consider confidentiality; the children, if they are working together, are going to be aware of how others have responded, which could compromise their anonymity (Holland *et al.*, 2010). I must write up the study so that individual children are not identifiable and, if need be, discuss the issue with them if something that could be damaging arises.

I would have liked to take them through what I write about them, but accept that this is unlikely to be in an appropriate format or timescale; it is hard to collate, analyse and reflect quickly on all the data alongside teaching.

We need to consider the extent to which we involve the children in all the stages of the process. Kirby (1999) had been concerned that some children *in her study* might not want to be involved in the process of data analysis as many people think of it as 'long, boring and hard' (Kirby, 1999: 100). Holland *et al.* (2010) found that some of the young people involved in their project were more interested in the analysis stage than others *and* many of Kellett's young people had been strongly committed to this phase (Kellett, 2005). Adults need to observe and respond carefully. There are different stages to the analysis process and we need to investigate the children's involvement in these different layers: Coad and Evans (2008) ask whether it is the children or in fact the adults who make the theories from the data.

Several researchers, including Nieto (1994), Hill (2006) and O'Brien and Moules (2007), note that an important element of maintaining the children's motivation and involvement has been the degree to which they can see their project having an

impact. Alderson (2001) points out that children often get more attention when they are talking about their research than adults, possibly because then, and even now, doing so is still relatively unusual. Maybe this was why the young girl's presentation at the conference had remained with me so strongly?

I think it was more than that; she showed such clarity about her research and explained the national impact (adding a child's section to a national newsletter).

There is a danger of disillusionment if no action is taken or they are not given a clear, reasoned explanation as to why it is not possible, as found in a major Scottish study (Stafford *et al.*, 2003; Hill, 2006). Hill *et al.* (2004) suggested that a solution to this is give the children more responsibility, although, interestingly in the same Scottish study the children said they did not want to commit too much time to consultation and they saw the resulting actions as the responsibility of adults (Stafford *et al.*, 2003). Some people have been concerned that using the children to do research could be seen as exploitation (James, 2007).

If they were just carrying out my research that might be the case; I believe that if they are more in control of the process and are benefiting from the experience in terms of skills gained, which could be in research skills, personal skills or in other areas, then I can avoid this. It is vital to respect their right to rest and play (UNGA, 1989: Article 31), so I must avoid meeting during playtimes. The Scottish children who were consulted said they preferred meeting in school time (Stafford *et al.*, 2003) as their leisure time was important for other activities.

I have another concern; what about the issue of quality in the research that we do? Some have expressed concerns about practitioner research (p.30). What about when the children are involved?

It is true that engagement and enjoyment should not be confused with effectiveness (Hill *et al.*, 2004). The type of research where children were seen as objects was based on the premise that children's views could not be trusted (Christensen and Prout, 2002). Once we accept the premise that children can research effectively, a suggested measure is to look at the degree to which the research is systematic, sceptical and ethical (Kellett, 2005) – something to investigate further as we proceed.

Chapter 9 Participatory research with the pupil research group 2010-11 (Part 2)

Having had time to reflect and, coincidentally, change school in September 2010, I was interested in overcoming some of the difficulties identified in Part 1 and in exploring the links between participatory and practitioner research. I wondered whether combining the elements would help me move forward in my research and my teaching. Not least, I hoped for something more positive to write about.

In this part of the project, described in this chapter, I worked with a pupil research group (PRG) to investigate reading in school, which was one of the main areas on our School Development Plan. Following some initial discussions about what was involved in research, and time to plan how the children were going to carry out their investigation, the PRG asked all the children in the school about various aspects of reading. They analysed their data and presented this to staff and governors. Their main findings were that the children generally enjoyed reading, but had a strong focus on decoding skills in their responses. They liked a range of texts, including funny, scary, imaginative and informative books, and thought that we should spend more time in school on electronic texts, for example using computers in Guided Reading sessions. The older children found it hard to find time for reading, alongside all their other interests. All of these points were useful to us as a staff developing the reading provision, including updating the library.

Additionally, I explored the underlying issues through analysis of our sessions together and reflection in my journal. Chapter 10 explores the development of my thoughts on participatory and practitioner research. Practically these related to the use of technology and finding space and time. At a deeper level, I found myself exploring issues relating to quality in research, and the power relationships within school. Part 2 took the journey a significant stage further.

Permissions

In my new school, we set up a pupil research group with six Year 5 (nine/ten-year-old) children, again to investigate a key area from the School Development Plan, in this case reading. Table 9-1 gives a summary of actions and data collected. The PRG had a fairly wide brief of investigating 'What helps children become better and more interested readers?' The headteacher, deputy (their class teacher) and I (together forming the Senior Leadership Team (SLT)) chose them because we felt they were

children who would contribute to and benefit from being part of a process like this. Hill *et al.* (2006) found that some children felt it was not good for adults to select children as others can feel left out. It would have been interesting to find out what the other children thought about this, to form a larger group and to allow the children to opt in to it. I think ours was the right choice for this time, given the constraints of my being the only adult available, setting up a new group and a shortage of space. In future, I would be interested to try a more open approach.

When	Who with	Actions	Data collected
20.1.11	Headteacher and governors	Gaining initial permissions	Signed agreement
25.2.11	Children in the group	Looking at the consent letter	Signed letters Journal notes
3.3.11	Children in the group	Initial discussion, looking at different research tools, journal writing, beginning to plan questions	Audio recording, the children's and my handwritten journals, draft questions on post-its
16.3.11	Children in the group	Sorting questions and deciding which research tools to use.	Audio recording, my journal notes
25.3.11	Children in the group	Beginning to prepare research tools on computers.	Audio recording, my journal notes, draft computer documents.
15.6.11	Children in the group	Reminding ourselves about the point we had reached previously, completing preparation of research tools.	Audio recording, my journal notes, completed computer documents.
16.6.11	Children in the group	Visiting each class from Reception (4-5 year olds) through to Year 5 (9-10 year olds) to collect their data	Data collection sheets, the children's and my handwritten journals.
29.6.11	Children in the group	Collecting data from Year 6, data analysis and preparation of results for the next day.	Powerpoint and graphs collated by the children, audio recording for part
30.6.11	Children in the group, teachers, one governor	Presenting their findings to the staff and a governor with a particular interest in this area	Powerpoint presentation used by the children.
11.7.11	Children in the group	Reviewing the process and discussing how it could be taken further.	Audio recording, my journal

Table 9-1: Summary of actions and data collected in Part 2

We chose Year 5 because we felt they needed to be old enough to have already mastered skills to help them with the research process and because I had felt the older children at my previous school had responded most positively. The need to take time out of lessons meant that we avoided Year 6 due to the impending SATs. Year 6 also had to manage the disruption of working in the hall during building works.

Kellett (2005) had worked with children on their own research topics, producing some powerful results and I would have loved to have taken the children through a research process that focused entirely on their interests. However, we chose to work on an area of the School Development Plan. I was aware that as my time and that of the children was being taken from the curriculum, it was important for all in the school to see some clear benefits. As a publicly funded body, a school needs to show improvement and value for money, and the School Development Plan is a key element in this process. In the SLT we felt that linking the research would help in getting permission and in following it through.

Initially I went through a similar process **as in Part 1** of gaining consent from the school (Appendix N), parents (Appendix O) and children (Appendix P). I noted in my journal:

5 out of the six children in the research group quickly returned their forms . The 6th left the form in his tray and it was only when I spoke to his mum that she tracked it down. She was very happy for him to take part but said he might be concerned about missing his playtime with friends etc. (2.11/10)

When working with children we have responsibilities to value what they are contributing and to respect their rights and wishes. I planned to meet at different curriculum times so that the children came out of a range of lessons and did not miss playtimes (p.127). The times also had to fit in with when I was available. Clarifying this was an important part of gaining informed consent that I had not explained in the letters. It had not come up with the previous group, but it would have been better to anticipate this from the adults' and children's viewpoints, whilst making sure that the procedure is not over complicated.

Thomas and O'Kane (1998) discussed the question of negotiating with adult gatekeepers when embarking on participatory research with children. To them as outsiders coming in, as with many other researchers (Punch, 2002b; Kellett and Ding, 2004; Langston *et al.*, 2004), they had to get the relevant adults' permission before coming in to talk with the children. I did not need permission to be in the school, but still felt it was vital to gain as fully informed consent as I could from the school and participants. A journal entry reflects my thoughts at the time:

As a teacher I can see it is absolutely right for me to approach the school first but what was that saying to the children? They didn't ask, but could have done and I would immediately have been saying that their permission was secondary. As it was I gave the letters to them to take home so they knew a little bit about it before their parents did. (8.11/145)

Given that I was aiming to involve the children as fully as possible, I was keen to do all I could to show that their opinions were vital and that they had a critical role to play in

the research. Possibly by sending the letter home first I had already begun to undermine this position, but equally I did not want the parents feeling marginalised.

When I was asking the children for their permission, I used a thermoevaluator (McCabe and Horsley, 2008) (Appendix P) to gauge their responses. The smiley faces system I had used previously was not part of this group's normal classroom practice and I thought they might see that as more suited to younger children. I still wanted to have the possibility for them to show a range of positive and negative responses and make it appealing. Their response appeared to be positive and they used the format again later. As they completed it, I noted that the same child who had lost the letter was only colouring up to the 'OK' level, whereas the others had all been extremely positive, colouring right to the top. Discussing this with him quietly afterwards, he said that he would like to try coming to the first full session and see how he felt. **It is possible that, as Bourke and Loveridge (2014) describe, he was having difficulty in expressing his dissent, but** at that stage, he **appeared** keen to continue. I respected this, as part of the process is making sure we listen to children and their views; it seemed right to give him the chance to see what was involved. I said that he needed to make a commitment after the first session as then we needed children who would see the study through because it was part of the School Development Plan.

I had an interesting dilemma **to consider**. For my research, I wanted to ensure that the children were happy about taking part in the group. From a school perspective we had chosen children who we felt would contribute most to the process of school development and benefit from the process themselves. We also recognise that at times we may need to encourage children to persist with things that in the short term they are finding unusual or difficult so that they learn the value of persevering and achieving a goal. The child was showing some concern at the start of each session, but, once involved, was contributing well and, at the end, expressing the wish to continue as part of the group. I had a responsibility to make it interesting, enjoyable and purposeful so that they were less likely to want to withdraw.

Initial interview and training

My first session with the group consisted of a group discussion, introducing their research journals, spending some time looking at different techniques, and beginning to plan the questions that were going to be the basis of our study. I initially wanted to find out the children's views about research, so I started with a semi-structured group discussion, rather than an activity, in order to keep it short and focused and to be able to follow up their ideas when relevant (Appendix Q). I was aware that researchers had

found that children often preferred talking in groups as this stimulated ideas and balanced out the power relationships. I also needed to be aware of any children who might prefer to talk more privately **as found in a range of other studies** (Hill, 2006; Beatty *et al.*, 2008; Holland *et al.*, 2010).

I had planned to code the recordings directly using Atlas.ti to see if I could save time by not transcribing. I found that coding the audio took longer than transcribing and so returned to the latter as a method. Learning about Express Scribe, a freely downloadable transcription program giving me keyboard control over the playback, made a considerable difference. For once, technology was helpful!

The children's views about research

Their views on research were interesting. Gallacher and Gallagher (2006) had found that children had little idea about research; it is an adult activity. **Similarly**, Jones (2004) felt that whilst inquiry and exploration are key ways of learning for children, the responsibilities involved in research are more adult. **In contrast, as Alderson (2001) has commented, children already have experience of doing research within school and the same was true here:**

- (several voices) Finding out stuff
- | | |
|--------|--|
| Edward | Reading books, seeing what they are like, how good they are ... not rude, happy and fun |
| Joshua | Looking into investigating stuff by looking into different types of readers, different people who read different stuff |
| Edward | Asking questions. The author sometimes asks you questions |
| Edward | Having sometimes sad stories |
| Emma | Finding out things like researching something on the internet |
- (3.3.11/28-33)⁷

They had some idea about investigating, but some of their comments showed possibly that they were more aware of using research to find out about different topics, maybe partly because we were investigating reading, and 'research' is something they would often do as part of their reading activities in class.

Edward made two comments showing that he was aware that data was likely to be part of the process:

⁷ References to the transcriptions are in a similar format to journal quotes with DD.MM.YY/paragraph number from Atlas.ti.

Edward Seeing the rates, how well people are reading, seeing how well the school is reading

Edward To see how well the school is reading, the chart of how the school is reading
(3.3.11/36 and 38)

It would have been interesting to question him further and explore how he thought we might get to this point: a missed opportunity on my part.

Like the children interviewed in Scotland (Stafford *et al.*, 2003; Hill, 2006), the children were positive about helping the school:

Joshua It's fun um having the opportunity to do these jobs and to help the school

Edward I think it's good to help to teachers, you get to teach the adults

Caroline & Emma It's fun helping the school and teachers

Harry Good to work in a group, working on your own ???⁸, something special
(3.3.11/08-11)

Edward's comment is interesting in the light of the discussion about power relationships (p.122). It seems as if he is anticipating the children reversing the normal roles, despite the topic having been selected by the staff.

The children's journal entries were often positive about how they felt, two of them talking about feeling confident, and one describing their feeling of excitement at being part of the group. The others in the group mostly focused at this stage on what they thought they might be doing and the resources they would use to accomplish this, such as laptops, mentioned by five of the six children, and something they welcomed. In their comments and in their journals I noted an interest in other resources, for example discussing the new pens I had brought for their journals, bringing a pencil another time and memory sticks. After a discussion about who might see their journals, making clear that I was keen to look at them if they were happy, but not if they were not, one child wrote in their journal 'I'm going to bring some paper blocks and blu-tack to cover up bits I don't want to share.' A later page has a piece of paper glued over the top.

⁸ ??? are used in the transcriptions to show where the recording was unclear and the word(s) could not be deciphered.

Truth and honesty

My own journal entry about the session, handwritten so that I was doing the same as the children, mentions how positively I felt they had responded: ‘The children already have some wonderful thoughts about what research involves, including finding out, understanding and exploring ideas’ (written 3.3.2011). I found it quite hard to write my journal alongside them because I was aware that any of them might look over. The relationships were complex as I was reluctant for them to read something negative at this early stage of the project. I was impressed but in a relatively open text I am not sure that I recorded my full feelings; the same may have been true for the children. We had talked about the fact that anything could be recorded in whatever format they chose and all of us included at least some drawings, with all but one child’s being closely linked to the text.

Researchers have at times queried the children’s trustworthiness as co-researchers⁹ (Christensen and Prout, 2002; Leitch *et al.*, 2007). The children here, when asked what they were concerned about said:

- | | |
|---------|--|
| Emma | People being ignorant to you if you try to ask them questions |
| MD [me] | What do you mean by that? |
| Emma | People ignoring me when I ask questions, that would get annoying |
| Harry | Or start arguing |
| Joshua | There’s nothing about the group I’m concerned about. I’m not really concerned. It would be annoying if someone wouldn’t answer the questions properly. |
- (3.3.11/20-24)

The children appeared to have some concerns about other children’s responses. When we talked a little later about what researchers do and do not do some similar concerns emerged:

- | | |
|--------|--|
| Joshua | They don’t, like force, they don’t, they sort of try and, let’s say it was nature, they get in the natural environment, not in a stuffy room table to table, normal conversation, not any special conversation, not normal, they do research by talking to people, it’s not a big thing they might go and interview them for 5 minutes |
| Edward | Talk to them about what is happening, not under pressure |

⁹ The term ‘co-researcher’ is used within this study to show that they shared the research.

- MD Not under pressure – why is that important?
Joshua People under pressure might give different answers, not true answers,
Emma I think they might start panicking
Edward Oh no what's going to happen!
Caroline Say things that don't make sense.
(3.3.11/55-61)

When they were beginning to sort the range of questions they had come up with, they started talking about truth and honesty:

- Joshua The thing is it would be nice if, you would have to get quite honest people to do it,
(3.3.11/324)

Later they said:

- Joshua The worst thing we can do is get the wrong information
MD What is the wrong information, what is right and what is wrong?
Edward The wrong information is about being lying, people lying
Joshua And people lying
(3.3.11/343-346)

As the conversation proceeded, Harry showed further concern about this:

- Harry If, if, someone is, says they are so good I need to, I need to keep an eye on them to see how well they read and to see if they are not lying because if they say I'm amazing I'm one of the best in my class at reading and then someone sees them reading, someone sees them with the teacher and the teacher is helping them read and the teacher keeps saying, correcting the words for them, you just have to go back to your books and rub off all the information and waste your time.
(3.3.11/359)

His perspective was that there were right and wrong answers to researchers' questions, and the latter were not worth having. Lucy also raised an issue that I had wondered about:

Lucy It's not really about what it.., sometimes on the grass they normally copy each other, they normally like do all the things what one rude ??? they copy everyone
(3.3.11/375)

She was concerned that children would copy each other's responses in their research. I had also thought about this in relation to getting the children's permission for the study, which we completed as a group, and I observed carefully in case I felt I needed to follow up with anyone individually. This group had shown no signs of copying. Later, when the children were carrying out their own fieldwork, they approached pairs of children and showed no apparent concern about the children sharing ideas from what I could observe.

Between these comments, Edward was showing some awareness of researchers' responsibilities towards their participants, albeit in a simplified way. Joshua and Caroline were equally clear that they needed to be honest as researchers:

Edward If you are lying and they said yeah, you've been really good at reading and you've done really well and you say yes I'm really good at reading, it's like when they have done OK and they think they have done brilliantly and you have to, you can't just make them feel really sad can you, so you have to make them happy,
Joshua You have to be quite honest,
Caroline You have to be honest
Joshua You have to be quite honest because some people admit they don't like reading and they don't want to be a reader and it's just nothing to do with them really, they don't like reading
(3.3.11/330-333)

They had similar concerns to many adult researchers in a rather simpler, dichotomous way, based on these comments; people were either telling the truth or lying, although Joshua in his last comment showed some recognition of the fact that people are motivated in different ways.

Training

Kellett (2005) describes having ten sessions to train the children in research. This would clearly give time to explore the issues fully and develop a common understanding. In school this was not possible, partly because of the amount of time

this would have taken the children away from their class and partly because of my availability. I can see an advantage; I spent less time explaining or presenting ideas. Instead, I had to work with the children as they went through the process; I was less obviously in a teaching role with all the relationships that are implied. After our initial discussion about research and some time to write or draw in their research journals, I showed them some of the techniques from McCabe and Horsley (2008). Joshua recognised the style and asked:

Joshua Where's the thermometer thing you used for us?
(3.3.11/147)

As we continued they discussed the ones they liked and why:

Harry It's a fun way and it's like playing a game, sticking your ...thing where
you feel about it

MD Anyone want to say anything else? Do we agree with Harry?

Caroline I like that one as well.

Joshua I like the thermometer one, the ... because we can get quite into reading
from it because it's very easy. In the middle they're OK, if they're at
the bottom they don't really like it and it's quite obvious to see how
they are feeling.

Lucy It's funner when you've got it it's easier and funner.

Emma It's quite good. Sometimes it's boring when you write things, you can
colour it in instead.

Edward I was going to do the targets. They sound really fun and creative. You
go round the school and ask.

Joshua You go round and put notes.

Caroline I was going to do the key and the lock – it's good to write down how
you are going to improve things.

Emma I like the scales because on one side there's what I like and on the other
it's what you don't.

Joshua I like the book because you could go round and ask people to write it
down but these are fun.
(3.3.11/165 onwards)

I was interested to see that their comments focused mostly on what was fun, (possibly because I had used the book at the start) with some thoughts about which would give them the most useful information. In retrospect, and having read more about Kellett's

work (2005), it would have been helpful before looking at these practical approaches to explore her suggested underlying principles of being ethical, systematic and sceptical. As ever, time was short and, in working hard not to impose my views, I had possibly stood back too much in the discussions, for example when talking about truth and honesty.

Preparing and carrying out the research

Over the next five sessions, we worked as a group to plan and prepare activities to research reading in the school. The PRG chose to ask the rest of the children the questions in Appendix R in the formats shown (from McCabe and Horsley, 2008). Much of this time was spent initially deciding who was going to do what and then preparing the formats they were going to use. This involved using laptops, with the normal technological issues. I noted (25.3.11 in handwritten journal) that the children were 'helping each other out with computer difficulties' and one child talked fairly strongly at one point about how fed up he was with the computer he was using. These were on-going issues with the laptops in the school, compounded by building works.

For a significant part of our time (up to ten minutes each session) we discussed the group's name. I was keen that the children should choose this to help give them ownership of the idea and possibly go some way towards redressing the power imbalance between teachers and students (Morrow and Richards, 1996). This might be thought to be tokenistic, but at my previous school, this process had supported our discussion and understanding about what is involved in research, for example when one child suggested the name 'Spies', but this was less evident this time. Comments, especially from Joshua, showed that they were concerned about the impression the name chosen would convey:

- | | |
|--------|--|
| Joshua | The reading quest, TRQ, little children would be curious about what it stands for
(29.3.11/16) |
| Joshua | I don't really like the quest bit. I think it should be more scientific because it is not a fun game where you are making up a team game, it is something that is quite scientific
(15.6.11/65) |

I noticed that in these discussions the contributions from me were more frequent than at other times, especially towards the end of the planning time, potentially undermining my wish to redress the power imbalance; I was concerned that they would

be presenting themselves to others without a clear way of introducing themselves. Joshua suggested the name they all liked: 'The Six Searchers'. The process highlighted another point; although I was carefully recording the children's contributions in our allocated times together, it was impossible to capture their incidental conversations when I was not present, and impractical to record their comments and questions to me in passing at various other points during the school day.

A key point to emerge from the coding of these sessions related to what people have described as 'child-friendly' or 'participant-friendly' methods (pp.96,120). Throughout the planning process the children had often expressed the view that, by using formats such as the targets, padlocks and keys, they were choosing methods that the children would find fun and which would help them contribute.

Joshua Draw something to make the little children want to do it, to make it fun
(3.3.11/320)

Edward So they are the same, so instead of filling in normal stuff, they will say
oh that's boring but if you put funky things it will probably make them
more interested.
(16.3.11/127 – in relation to what they were doing on the laptops)

Joshua We did ours as a really simple graph, it's just, and we were thinking
for the Reception and the younger pupils we could get them to draw a
smiley face or something fun and for us we could just do tallies.
(16.3.11/113)

Joshua We were doing just a chart. I thought of this, we weren't planning to
do this, I thought it would be fun if we came round with a bit of paint
and they splodged their fingerprint in the place, just for the Key stage 1,
in the place that they want to do, um, be.
(15.6.11/100)

This tied in with my notes about the session on 16.3.11/12 about why they said they had chosen the methods they had: 'So it was not boring – more formal for the older and more like a game, fun for younger pupils.' One of the children who made most comments about this had a younger sibling; familiarity might have made them more aware of younger children's preferences. I was interested that several of the 'games' they had chosen involved an analogy, especially the padlocks and keys to explore difficulties and the target to show how good they thought they were at reading.

When the PRG eventually went round the school and carried out their research, I was able to stand back and observe. I appreciate my subjectivity in that I wanted them to be successful, but all the children they talked to, and especially the younger children, appeared to be responding positively to the PRG when they were asking questions. I felt that they were involving the children and in return were getting thoughtful answers. From the children's facial expressions, they particularly enjoyed putting their thumbprints on one of the charts and some asked to do it a second time. As we were going round, Joshua commented on how positively they had responded to it. The PRG quite naturally put themselves at eye height for the children they were talking to; it was not something we had discussed. Possibly, they had a natural empathy and understanding of what would work with younger children.

As seen before (p.104), contextual issues had an impact on the research. I had a student working with me during the summer term and my class were involved in Year 2 national statutory assessment procedures, taking substantial amounts of my time. The PRG's class had a residential trip and the follow-up, which I did not want them to miss. The combination of these factors, alongside the fact that I was relatively new at the school so had not felt able to start earlier, meant that we had a significant gap between the initial planning and carrying out the research.

Presenting the research

The group worked over most of a morning to collate the data and prepare graphs and other forms of presentation. We copied and pasted these into a PowerPoint presentation (Appendix S). As we were working in pairs for much of the session it is difficult to follow on the audio recording, but it was busy, and we had limited time to explore the results of the survey fully and ensure they were clearly presented. We decided to work in pairs so that everyone had someone with whom to share thoughts on the analysis process, but we had no time for further checking. From their later comments, I know the children would have liked to have spent more time making the PowerPoint more dramatic. Alderson (2004) talks about taking time to go at the children's pace; more time would have been helpful but would also have been difficult to arrange.

At the staff meeting, the children took turns to show the format they had devised and to present the outcomes. For each research tool they picked out messages in relation to their graphs or other form of presentation. Unfortunately, after having to sort out various class-related issues at the end of the day and then prepare for the staff meeting, I forgot to record it and failed to write in my journal that night. It was

definitely a time when keeping up with teaching and research proved challenging. The children's handwritten notes on their copy of the presentation show their additional comments, for example for the pie charts Lucy wrote:

I notice the younger ones prefer to like funny books. The ones that were quite popular was comics, funny books and scary books. The older ones prefer to like funny books too.

In relation to 'What do we like to use when reading?' Joshua wrote:

Book going up. Computers going down. KS1 like comics. Hand held computer and magazine no like.

There were several positive comments from staff and the governor present afterwards, mentioning the children's confidence in presenting their findings and answering questions, for example about what they thought 'boring' books were.

Reflecting on the process

About a fortnight later, once they had completed the school production, we had a final session where I aimed to explore their views on the process. As at the start, I kept this as a semi-structured group discussion, partly because they had responded well to this previously and partly because I wanted to be able to follow up points that they raised. It was close to the end of term and two of the children were quite unsettled at the start of the session; it was hard to let my teacher role go in these circumstances and it would have been helpful to have something more exciting to grab their attention.

There were some negative points that emerged from this discussion. One child described the process as 'boring', which, when I asked him to explain more fully, was because they had had to sit and wait before presenting their ideas to the staff. This was linked to the fact that the staff meeting had clashed with a club session, which they had therefore only been able to attend part of. Here was a difficult ethical dilemma; the staff meeting is held at a regular time each week so that the adults can attend it, fitting in with various other commitments, and both the children and I felt they wanted to present their research. We had tried to find an alternative time, but with so much going on it had been difficult and in the end the children had agreed to present at that time, maybe because of the perception of teachers and children at school. Despite that, there was clearly still some concern afterwards; it would have been better to avoid the clash.

Finding an appropriate time to meet was an issue raised by several children. Some of them did not like to miss lessons, or certain lessons.

Edward And also about the research thing, sometimes we missed good lessons, 'cos we missed maths and PE and Circle time

MD Right and you don't like missing lessons.
(11.7.11/27-28)

Some were aware that there was a curriculum that they needed to follow:

Caroline Because you have to learn literacy, and maths, and science
(11.7.11/80)

Emma There's a curriculum, so if you don't learn a curriculum some people get sacked
(11.7.81)

They were also clear that the group should run during lesson time, not during Golden Time or playtimes. Golden Time was felt to be a 'freer' time and the PRG was more like lessons. **As Bourke and Loveridge (2014) found, when involving children in research we need to be very aware of what they are missing as a result.**

They expressed concern about the balance of planning, carrying out and analysing the research:

Joshua I enjoyed the going round a little bit and the graph making but ... I found the planning a bit boring.

MD Right, what was boring about it?

Joshua Because ... there was a few weeks where we just did nothing and we had to plan and plan again and I just knew what I was going to do and there were a few weeks.

MD We just had a few weeks gap didn't we when we couldn't actually meet so

Joshua Yeah.

MD Ah, but you felt, had you prepared everything right from the word go?

Joshua Yeah. Ish.

MD Ish (laughs a little). You didn't change anything as you went along?

Joshua Not much.

MD Not much at all. Right from when we first met you knew exactly what you were going to do.

Joshua Well the first 2 weeks which were interesting but the other four weeks weren't so interesting.
(11.7.11/52-62)

Harry I think we didn't have time to finish the PowerPoint like very nicely because we did too much reflection then we only had one day to finish.
(11.7.11/129)

Looking ahead to the future they thought it would be better if it were completed in sessions that were close together, within a week. Joshua recognised the value of having time to reflect:

Joshua And then on the Friday say you went and did the research that would be fine 'cos it's all in a week, you've got a lot of time to like sleep in it and think about it at home and in class and stuff but a day is just coming in too much.
(11.7.11/125)

There were two disadvantages in reviewing the work in this way; a few of the children were dominant in this session and some of the children said little. Lucy for example only spoke three times and Harry four, whereas the other children were contributing regularly. I found that in trying to follow up the children's thoughts I did not manage to cover all the areas I would have liked to explore with them, such as what they now understood to be important in research.

The session included several positive points. The children at various points identified things they had enjoyed or learnt, from their research and about research techniques, for example:

Lucy It was interesting because some people, they were the only ones who did something. (11.7.11/38)

Emma Well we kind of learned what people think about reading and like how you would make it more interesting (11.7.11/140)

Joshua We already did do research so we didn't learn a lot about doing research but we did learn a lot about the pupils in the school that's mainly, 'cos we do it in maths. We do graphs and for that you have to plan and research and ...(interrupted) (11.7.11/144)

Caroline We've done bar graphs, but we haven't done things like
thermoevaluators. (11.7.11/147)

On reflection, the sessions had focused more than I would have chosen on the practicalities of preparing the questions and resources, rather than on underlying principles, and the review reflected this. There was still much that I had learned from the process, as discussed in the next chapter.

Chapter 10 Teacher/Researcher dialogue: Examining the issues (Part 2)

In line with the discussion following Part 1, this chapter examines the issues that emerged from Part 2, returning again to the dialogue format. **As well as issues relating to the practicalities of carrying out teacher research with children, I found myself exploring questions about quality and the shifting power relationships.**

So having described the process, what are the key points that emerge for you?

Technology

I am increasingly struck by how technology is hugely helpful to researchers but can also raise issues and cause problems. Transcribing the audio recordings from the sessions where **the PRG and I** were preparing and carrying out the research was at times difficult as we often worked in pairs and threes with children talking at the same time. Just as Downs (2010) had felt a sense of responsibility to her interviewees, so did I. I was not able to complete the transcriptions until the next holiday as these are time-consuming and I was often working alongside one of the groups so I could not remember the detail. I was aware that a full transcription is often not needed and that instead a more immediate 'representation' of the key ideas could help with the development of practice. I trialled typing notes as I listened, and found this an effective way of capturing the main ideas, although without the fine detail that my more thorough transcription gave later on. I have been put off using an audio recording in more general research at school in the past because of transcription issues, but, with the addition of Express Scribe (downloadable from <http://www.nch.com.au/scribe/index.html>), I feel I have a way forward that I could use and recommend to others.

Having completed the transcription, using Atlas.ti to code the data was helpful for exploring ideas. I could locate linked quotations from across several data sources (Appendix T), and to code thoroughly I have read and reread my data. I can see there are also potential issues with it. When coding previous data, I had noted:

Already I have been thinking about the codes I choose and how those interact with the data. To what extent do they begin to restrict the data or open it up? I need to be careful in coding that I apply it relevantly and cohesively ie using it to really delve into the data rather than using it to impose ideas on the data. Part of that is in the choice of codes and part of it in the application of them. I

have been generating codes as I go through so hopefully the codes are arising from the data. (2.11/06)

Whilst exploring some of the Part 2 data in May I had observed:

Just trying to return to coding after a break. It is hard to pick up the codes again, remember all the definitions and apply them consistently. ... The definitions I included are HUGELY helpful – some codes would be easy to misinterpret without this. Does this mean that they are not effective codes? I am also noticing that perhaps some of them cover the same things, but maybe this is part of the joy of using atlas – things are mostly easily changed. (5.11/03)

Thinking back to my original ideas (p.50), I need to keep being aware that it is a tool to support my exploration rather than one dictating it.

Technology was motivating and distracting for the children. From the start they were keen to use the laptops (as in Hill, 2006), shown in their initial journal entries, but they had also experienced the frustrations in our middle sessions of dealing with computers that were not working well (p.139). They felt it was important to ask the children what technology they used when reading (Appendix R) and when this was raised had shown considerable understanding of the various items in their discussion before choosing 'kindle', 'computer' and 'hand held computer'. When we were working on the final data analysis and preparing it for presentation, as Harry mentioned in our final review, they would have liked more time to improve the presentation.

Would this have improved the quality of the research? Having seen some of their other PowerPoints, which were wonderfully designed and animated, I think we would have spent more time on this rather than refining the content, an example similar to the distractions noted by Alderson (2001). That word 'time' keeps cropping up; to what extent was that an issue?

Time and space

I have already mentioned ways in which time had an impact on the study, ranging from the time we had to explore issues in the training part of our work to the gap imposed by other, unavoidable, school events. I think we all recognised that we needed time to work on the research, but that also had implications for what we were missing, one of the strongest messages from the final review. Right from the start a child had made clear they did not want to miss play times. At the end of the project in the same child's journal entry I found

Every lesson I am going to write down what lesson we missed. ... Today we missed Science to go to our first meeting. In the 2 min break we went to the classroom, and saw they were starting a new topic.

We worked hard to ensure that they did not miss the same subjects and had made a deliberate decision to avoid interrupting what we perceived would be particularly high interest times such as the follow-up to their major residential trip. This had led to the break in the study, which on reflection they had found hard. Finding the time to undertake such a project is not easy.

Maybe it comes back to priorities and balancing rights; there are the rights of this group to their own education, but having said they were happy to be part of the group, in school they also had a role to fulfil with a responsibility towards the other children and improving the provision for reading. Maybe if they had opted into the group, rather than being chosen and then asked for their consent, it would have been less of an issue.

Space was also a challenge at times. Within the busy life of a school, particularly whilst the building works were in progress, finding an appropriate space was not always easy. Careful planning was needed to ensure we had somewhere available.

Contextual issues have had a significant impact on both parts of this project. It is hard to know whether as an 'insider' it was easier for you to arrange this or whether an 'outsider' researcher visiting would have been given a higher priority in the allocation of space. What about the quality of the research?

Quality in research

Reviewing the process and the outcomes has certainly led me to reflect on the quality of the research; I keep revisiting what constitutes high quality research. Kelleth's (2005) three factors, that it must be ethical, systematic and sceptical, give several points to consider.

The children had shown some awareness of the need to treat the children they were talking to with respect, as shown in the section on truth and honesty (p.135). In the second session, Joshua stated:

Joshua	I don't think we should put names, I think we should put initials because it's not really about, it's about the people in this school it's not about the individuals, it's to make the whole school better, not individuals ... and also it will hide identity to make it safer. (16.3.11/29)
--------	--

He recognised that they were collecting data from across the school to build up a wider picture and that people's anonymity could be important. The other children agreed with this and none of their data identified more than the year group of the child (they felt this was an important piece of information). When they went round to ask different children they appeared to be well received, however we did not ask every child for their explicit permission. They were aware of making sure they did not ask the same person twice and getting a range of views, for example while we were going round Emma told me she had talked to several girls and now needed to ask some of the boys in one classroom. There was undoubtedly more we could have explored in relation to ethical issues; it should be an on-going process for any researcher, including me, and I could have done more to make this explicit with the children. To be fair, the children followed through what they had said about respecting and involving the other children and in collating the data reliably.

Reflecting on how systematic the research was, I can see strengths and weaknesses. Having brainstormed questions they would like to ask and then grouped them, the children chose elements of the research they were interested in and the format they wanted to use, making sure that they were not doing the same as someone else in the group. Later we did not check that this had been maintained and it was only when we collated the final PowerPoint that we realised that two children had asked similar questions. Originally, the thermoevaluator was going to be used for exploring how much children liked reading and the target to explore how good they thought they were at reading. When we looked at the results, they were both labelled as being about how much they liked reading, and presented different results. In the timescale, it was difficult to explore in full what had happened, but it seemed as if the question for the target had changed as they had gone round. It would have been better to have checked round the group thoroughly before going round the school. On a more positive note, the children wanted to ensure we used a variety of methods, and appreciated that formats such as the thermoevaluator would give them results that could be graphed easily whilst the padlocks and keys, or the scales would require more thought. When analysing the data the children checked each other's counting and collating of results as they worked in pairs and talked together about the key points emerging.

Kelleff's (2005) final criterion is 'scepticism', something I had not discussed with the children. Looking back at the data it is hard to pick out many examples of scepticism as much of the relevant conversation happened in smaller groups and the recording is

not clear. The children noticed that the thermoevaluator and target appeared to be giving different results for the same question, and, through the process, showed in their comments about honesty that they were keen to get the best responses they could. They were interested and surprised by some of their findings:

- | | |
|--------------|--|
| Caroline ??? | They didn't copy any of it. |
| Lucy | It was interesting because some people, they were the only ones who did something. |
| MD | Right. |
| Lucy | There were lots of good ??? on like happy books, some on non-fiction and fiction.
(11.7.11/37 onwards) |
| Harry | I didn't think we would actually learn so much from going round and doing tables because first of all we didn't have enough and yep we have to research all the time.
(11.7.11/150) |

This is an area we could have explored in more detail, although possibly more came out in their paired discussions whilst collating the results that I did not pick up.

The children's research was linked to the School Development Plan. What about their findings? How useful were they?

Because they showed us reading from the children's perspective, we found them useful. We were interested to know about the children's attitudes to reading, preferences and the types of books, especially as we were about to reorganise our library and book stock, a fact that the children were aware of due to all the building works. The padlocks and keys gave us a picture of what they found difficult and, most relevant here, was that the majority of their comments focused on decoding with little reference to comprehension. This could have been due to factors such as the way the question was asked, or the children's perceptions of what is involved in reading. We would have loved to know more about some of their comments, for example the references to 'boring' books. One of the teachers asked the Six Searchers about this and they thought it depended on the age of the child, and often related to how hard or easy a book was. There was one significant area that they did not explore that the staff had been exploring: guided reading. I had suggested it at one point but the children had

not picked this up. I would have had either to suggest it more strongly or to explore it in other ways.

Power relationships

The issue of quality leads well into the next point. I appreciate that, as the person bringing the group together and leading at least the training element, I had a responsibility to ensure we were producing the highest quality research we could. Reflecting on the process, I now feel that I could have explored some of the issues relating to quality more fully in the training, even at the expense of leading the group more strongly. I was also seeking to redress some of the power imbalance between teachers and children in school wherever possible, accepting that to change the power dynamic completely was probably impossible. I had sought to do this through working as a group (Hill, 2006; Holland *et al.*, 2010), being careful in the language that I chose, and valuing the children's contributions (Kelleff, 2005). **In participatory action research, the researcher often has to adopt several different roles simultaneously and in order to achieve this I was endeavouring to ensure there was genuine mutual respect and a redistribution of power (Brydon-Miller *et al.*, 2011).**

There were ways in which I felt my role as a teacher impacted on the research. In comparison with the research I had carried out previously, where I had been able to think through and reflect on ideas before presenting them to the children, for example in the interviews, this time I frequently had to think on my feet, sometimes more successfully than others. There were missed opportunities to explore ideas, for example, when we were discussing the difference between a closed question and a technique such as the evaluator. Although I explored the idea of a rating scale with them here, I did not explore what Joshua meant by the word 'scientific':

- | | |
|----------|---|
| Joshua | You can make it more scientific by putting ??? in 1-10 very unhappy, 1-10 unhappy ... so people can be more exact |
| MD | What do you think are the good things of doing a rating scale like that |
| Joshua | You can get the ... information quite easily,,, |
| MD | You can get more information. Can you think of any problems with it? |
| Caroline | Some people might not like the idea of doing it |
| Joshua | You can't explain whatsoever. It's just a little drawing, it shows if they like it or not but you can't actually say, I like it <u>but</u> I don't like it because of so-and-so and so-and-so you have to say I like it, I don't like it. |
- (3.3.11/262 onwards)

I was trying to establish a culture in the group where everyone's opinions were equally valued and I appreciated that as the teacher I was going to have to work particularly hard at this. My impression was that I had tried to reflect back the children's ideas so that they could explore and explain their thinking but when looking at the available audio recordings I could find only two clear examples of this:

Lucy	I could put mine into a bar graph.
MD	Ah, you think making it into graphs would be good.
Emma	Mine is like a tally chart.
Joshua	Microsoft Excel.

(29.6.11/08 onwards)

This also occurs in 3.3.11/287 onwards when discussing what would happen if they asked more people:

Joshua	They might all be different.
MD	They might all be different.
Joshua	??? if you wanted to make a graph it would be very hard because you would have to make a long graph of 30 people.

There were several occasions where I had asked them direct questions to explore what they meant, for example:

Emma	People being ignorant to you if you try to ask them questions
MD	What do you mean by that?
Emma	People ignoring me when I ask questions that would get annoying
Harry	Or start arguing

(3.3.11/20 onwards)

I was doing this because I wanted us all to understand, but in a school context, I can see that this only reinforced my role as a teacher. There were undoubtedly many times when I found it hard to step out of the teacher role, either praising children for their ideas or reminding them of acceptable behaviour on the occasions when this was necessary:

MD	That sounds a really good idea. So you've got your sheets and you could show them. We can take excel graphs and copy and paste them in. I think your excel idea was great.
----	--

(29.6.11/40)

I reminded them at times of the key research focus or raised questions that they would need to address:

MD Remember we want to know about the teaching of reading too
(3.3.11/211):

MD Do you think it is going to be easier if say [child's name] goes round with
thermoevaluator or one person does each year group?
(15.6.11/180)

I often acted as the timekeeper:

MD We're supposed to be back in class in the next 8 minutes
(15.6.11/128)

MD The time we have got is from now until playtime and then the ... and then
going on from between playtime and lunchtime and that's it
(29.6.11/05)

At times the children chose their working partners and the size of the groups but this had also led to a boy/girl division and as a teacher I felt it would be good to arrange things differently:

MD I thought it would be good to work in pairs on it. I'm going to suggest the pairs
though
(29.6.11/51)

Even when I tried to stand back, I can see how this comment is just what I would say as a classroom teacher:

Caroline What's the question for the key?

MD Have a look back in your notes and see if you can work it out.
(16.6.11/30-31)

It was hard to put aside that role and the associated power relationships. The fact that in the final review they felt able to discuss some of the parts that were less successful from their point of view, such as the gap in the process and the issue of missing lessons, showed me that at least they felt able by this stage to express ideas that they felt uncomfortable about.

I was in an interesting position. I was in some senses an 'insider' as I was a teacher at the school so knew the children and what was happening more generally in the school environment, which might have some impact on the research. In other ways I was an 'outsider' as I was not the children's class teacher, nor did I teach them for any specific areas. As a result, I did not have the more detailed knowledge about their current skills and learning; before analysing the data, I checked with their class teacher about the ICT skills they had learned already in class. As an adult, I was automatically an 'outsider' to the children's world. As the project progressed, the children and I knew each other better so the relationship changed and I found myself being able to stand back more, for example when they were preparing their research tools.

The power relationships were different again when the 'Six Searchers' were asking the rest of the children questions; they were an identified group, and in some cases several years older than the children they were talking to. When they talked to the children in their own class, the relationships were different again. When planning the research Lucy and others had expressed concern that some children might copy others and they were watching for this as they asked people. Afterwards she commented that in some instances only one child had said something (11.7.11/38). I was interested that they had followed this through and put themselves in this observing role. The insider/outsider relationships were constantly shifting, similar to those described by Thomson and Gunter (2011).

The important question to consider is the impact this had on the research. Your role as a teacher clearly affected the workings of the group, but it seems as if when the children were talking to other children round the school the response was positive as far as you can tell.

I certainly felt that the children responded readily to the research group's activities, whether because it was children asking them or because of the choice of research methods is difficult to tell. A new set of power relationships was in place – children to children, but that feels more appropriate.

Power is not after all necessarily a negative thing; the word is emotive but power can also be seen in terms of empowerment or helping people have 'the capacity to act' (Hill *et al.*, 2004: 89). There is not a fixed amount to be shared out, but the possibility of sharing increases capacity.

I feel much happier with that in the school context. It is not a question of handing over power to the children and taking it away from the adults, but acknowledging the current position and increasing the motivation and engagement through sharing power. That is something to continue exploring. From the experiences with 'The Six Searchers' it will not necessarily be an easy process; I will have to focus hard on the language I use, the relevance of the subject matter and the effective and purposeful use of time to make it successful

I feel that gradually my approaches to research and pedagogy are becoming more closely interwoven; as I explore ideas related to childhood and children's voice in research I am also thinking about them in relation to my classroom teaching. The process has helped me reflect on what I fundamentally believe about children, which in turn means that I approach my classroom practice differently. Returning to my original idea of helping the children make connections, I have made connections for myself, with and without analogies and metaphors to support them. Having explored this more fully in my own learning, I now believe I could take it forward in my teaching. I was still wondering what this would look like with younger children who had fewer tools to draw on. As I prepared for the next year, I was thinking about empowering the children through inviting them to plan and research the development of an outside area. The project was leading forwards into my normal teaching practice.

Chapter 11 Connecting the threads

As Smythe and Murray (2005: 183) observe, narratives are 'multiple interpretations of reality' and there are many ways to tell a story. As the final stage of **my self-reflexive research journey**, I undertook a thematic analysis of the narrative dialogue, aided by Atlas.ti, to explore my story and unpick the underlying themes and messages from across the process. I had always set out to improve my practice and ideally help others as well; at the end of this analysis I present a new framework based on my learning, which I suggest could help other practitioner researchers in the future. Although the framework is limited because it is based on research largely led by one person, I believe, **based on my theses search (p.26)**, that it is unusual to find an extended teacher research project such as this leading to such an outcome. Additionally, the final section draws together the specific contributions of this study. Readers might wonder why this reflective element is not presented in the dialogue format. The answer is that, as will be shown later, the teacher and researcher viewpoints were becoming more aligned.

Grounded theory and the analysis of the data

The first stage was the analysis of the data. Within Atlas.ti, I read the dialogue many times to generate and apply codes. **A screenshot from this process is shown in Figure 11-1**. I appreciate that this is a process of interpretation and it is difficult to say when it is finished, but at the point where I believed I was no longer applying new codes and only confirming the ones that I felt were relevant, I completed a final check. Throughout the coding process, I kept memos to capture my developing thoughts on themes, much like my journal through the rest of the project, and gradually built up networks and code families. **Some have noted that there is a danger that coding reduces qualitative research to positivist number crunching (St Pierre, 2011). This was not the purpose for me behind such as approach. The process was important to explore and make sense of the narrative by examining patterns and theme with the software to support rather than dominate this (Davidson and di Gregorio, 2011).** At the end of the process there were 80 codes (Appendix U); I checked back through the quotations and memos linked to each code, and extended the original comment I had written defining the code, to capture the balance of ideas across it. Alongside working on the dialogue electronically, I read it in paper form to help me get a sense of overarching themes, as I was aware from my memos during the coding process that I had a tendency to focus on minutiae rather than the bigger picture. I wrote about these themes in memos so that I could link the analysis with the rest of the project.

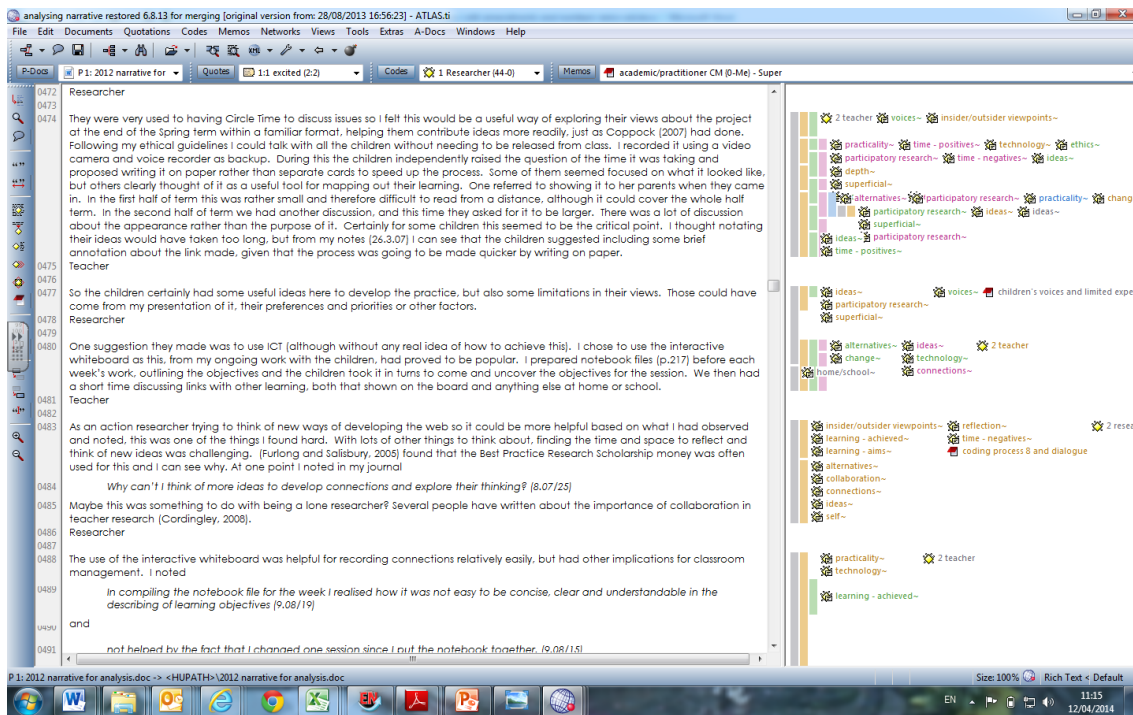


Figure 11-1: Screenshot from Atlas.ti showing coding

After the coding process, I experimented with several different ways of linking the codes to capture the factors that had come across most strongly across the project, starting from the code families, memos and networks I had created whilst coding. I ensured that all the codes, networks and memos were linked into code families, or ‘threads’ as I came to call them. I found the threads combined helpfully into broader themes, which I have used for most of the sub-headings in this chapter. I continued reworking this until I felt it accurately represented my understanding of the data. I linked several codes to more than one code family; the principal codes and main additional codes are shown in Table 11-1. Looking at quotation level the picture was even more complex with several quotations having multiple codings. A further factor that I took into account in developing the threads and themes was the relative groundedness for each code i.e. the number of quotations linked to it (Appendix U). I appreciate that this depends on the code labelling, some of which had much wider possibilities, but it contributed to the overall picture.

What became apparent was the complexity of the picture; Figure 11-2, which I produced using Atlas.ti, is included to demonstrate this, rather than to be read in detail. There were many interrelationships between all the elements, within and between networks. I appreciate there might be legitimate concerns about this process; I have based it on my original dialogue, which in itself came from data that, as I have shown, was not always as complete or thorough as I would have liked. I was interrogating the dialogue that I had written, so adding what some might see as a

Principal codes	Main additional codes	Code family or Thread	<i>Theme</i>
academic/practitioner age different groups diversity engagement equality participatory research respect rights of children voices	contextual issues group dynamics power – more generally power – others to me power – teacher/pupil	Voices	<i>Rights, responsibilities and voices</i>
adult/child ethics home/school practitioner research responsibilities role of the researcher	balancing priorities political power teacher/pupil role of the teacher SDP	Responsibilities	
copying group dynamics insider/outsider power – more generally power – others to me power – teacher/pupil relationships trust	academic/practitioner adult/child communication home/school respect voices	Relationships	<i>Working with others</i>
collaboration communication ideas jargon	home/school respect trust voices	Collaboration	
political relevance SDP teachers	contextual issues participatory research practitioner research time – negative time – positive	Relevance	<i>The teacher in context</i>
balancing priorities classroom demands contextual issues practicality role of the teacher time – negatives time – positives	alternatives choices rights of children role of the researcher	Balance	
skills technology reflection questioning children training for research	learning aims learning achieved	Skills	<i>The impact of self</i>
self values background	respect trust honesty and integrity collaboration depth home/school quality – positive communication change equality relationships	Values	

Principal codes	Main additional codes	Code family or Thread	<i>Theme</i>
learning aims	learning achieved	Focus	<i>The research process</i>
research approaches truth and reality reading access complex and simple	depth learning achieved dialogue narrative	Approaches	
evidence explicit	difficulties technology	Evidence	
analysis coding process writing		Analysis	
learning achieved change depth quality – positive quality – negative impact connections superficial process v. product	analogy/metaphor dialogue narrative	Learning	<i>Connecting, learning and communicating</i>
authenticity honesty and integrity alternatives choices difficulties caution excitement potential difficulties	narrative dialogue	Authenticity	
audience reader narrative dialogue analogy/metaphor	relevance	Audience	

Table 11-1: Sorting codes into threads and themes

further level of subjectivity. In response, I would say that it is evidence of deeper reflexivity. I felt the dialogue was my honest representation of my current interpretation of the projects. The analysis of the threads and themes came from deep immersion in this material. I was only able to work on it after a substantial gap of several months, so I came back to the material with fresher eyes and noticed many elements within it that I had been unaware of previously. I had prepared some thoughts after the original dialogue about what I thought might be the final themes. I completed the analysis without looking at these and I found when I went back to them that, whilst some points had remained the same, there were several new and slightly adapted points; unsurprisingly, a period away from the research can draw out new insights. I also noted at this time that I was appreciating having an uninterrupted period of four weeks to study the material; breaks and times of deep immersion are both important. I fully acknowledge that I have had an impact throughout on the project, and that the project has had a significant impact on me; I will explain both in

the ensuing sections. I have based my claims only on my experience, and they are my interpretation of that experience, but I hope that by being clear about how I have arrived at them, they can be of use to others.

My memos on the coding process highlight several issues that arose which linked back to my reading about Grounded Theory (p.50) and CAQDAS (p.50). I noted points that related to Charmaz's (2006) observations about the importance of investigating the language carefully and looking deeply at the data (M coding process 2 and 3¹⁰):

it's all about looking at what is obvious and what is implied under the remarks. I am aware that once I have allocated a code that could be limiting and I need to be prepared to code and recode in order not to hide or lose core meanings. (M coding process 3)

I was using the coding process to explore the data as fully as I could, and looking for the patterns and connections, rather than causality, as Charmaz suggests. **She specifies using action or process words for the codes to help in the generation of theory (Charmaz, 2011); whilst the actual words I chose might not all adhere to this, mainly as a form of shorthand, actions or processes are implied behind all of them.** I noted that building networks and code families was using similar mapping techniques to those I had used with the children in Part 1. I was building up understanding through selecting and justifying links. There were times when it was hard work with little insight, followed by more rapid progress. I was reminded of a **quotation** from Charmaz (2006: 128): 'theories flash illuminating insights and make sense of murky musings and knotty problems'.

As noted previously, I did not allow use of the software to dominate my analysis; it was a tool to support the analysis process, and it undoubtedly made some elements easier to handle, especially with this volume of data. The facility to code, network, map, write memos, move elements around and unlink them at times, supported analysis and thinking through the issues, principally because it was easy to try out ideas and then change them. Atlas.ti transferred links across automatically and it was easy to search for a related item, as I had found in the previous data analysis. My comments included points about the number of codes (M coding process 7), the value of going back over data several times, (just as in stimulated recall the children had needed to watch it twice) (M coding process 6), and redefining codes where necessary so that it matched the material being added (M coding process 9). I made a decision early on to include positive and negative examples within the same code, to avoid having too long a list. The exceptions were the two key areas of 'time' and 'quality' where there were more opposite examples. When I reviewed each code, I ensured that the related memo

¹⁰ Memos are referred to by their title, prefixed by M, in brackets.

highlighted any negative and positive examples (M coding process 11). Alongside the coding and networking there were still times when I found pencil, paper and post-its helpful to map out ideas alongside work on the computer, or as a break from looking at a screen.

In the subsequent sections, I explore each theme and its related threads, particularly reflecting on the factors that helped me progress. At the end of each section, I suggest questions based on my experience to take forward for a suggested framework to support teachers undertaking research. They are intended to stimulate discussion rather than to be exhaustive. The interrelatedness of these elements with other sections indicates the complexity of the web of connections that I made using Atlas.ti. I have separated them into threads to ensure the key points are recognised, but it is equally important to remember how they are linked. As I show (p.190), I have designed the framework to encourage discussion of connections, where appropriate, as this was helpful for me.

Rights, responsibilities and voices

One of the strongest themes to emerge from the data drew together all that I had learned about developing democratic values in the research and in the classroom. This is not surprising given the focus on participatory and practitioner research, both of which have this at their core, but it was only through the project that I began to appreciate this more fully. Reading Freire (1970) and Alexander (2008) had been key points in my development and the influence of these, alongside the school development work, led me to questions, debates and progress in this area. Within school, we had focused on the practical implementation of the UNCRC, based on children's rights. Within the research, I looked at what this meant for me: 'I have been struck when reading through and coding that so many elements have related to ensuring that everyone is involved and their voice is heard, and attended to. That is the key part of the rights agenda' (M rights and responsibilities 2). Through further reflection, I understood the theories that were underpinning the moves forward. Interestingly, this appeared to it make easier for me to see how, as well as why, this should be implemented in school. For me, it was one of the most significant points of progress, perhaps because national developments such as the response to Every Child Matters (Treasury, 2003), the school's development and my research were more closely aligned. This generated two threads: 'voices' and 'responsibilities'.

I had set out with the aim of encouraging contributions and hearing different people's viewpoints, gathered through my fieldwork and reading; by the end, I had found ways

to ensure people's voices came across more strongly, by, for example, working with children as co-researchers. The impact of this was to bring the research closer to the people it was aiming to find out more about, with, as far as I could tell, good results (p.155¹¹). In adopting the word 'voices' rather than the singular 'voice' for this thread I have incorporated the assumption of active collaboration (James, 2007) and listening to the multiplicity of voices (Thomson, 2011).

It is not just as simple as setting up a project to include different people's voices; there is the process of engaging and motivating those involved, especially when you have instigated the project in the first place. We need to help them see themselves as 'critical co-investigators' (Freire, 1970: 62) in genuine dialogue. In this project, the children, like McCabe and Horsley (2008), looked for methods that would be appealing and fun, especially for the younger children (p.140). They believed that this was important to encourage children to express their views. Initially I had thought the children's comments about the Web in Part 1 were somewhat superficial (p.83), even though I had initially planned that it should be appealing. I realised the importance of this to them and set up the Woolly Web in order to make the process of connecting ideas more active and appealing (p.87). The children responded positively as shown by their engagement (p.87) and the development of their understanding (p.99). To encourage the children's responses during the interviews, I created a game, which the children had described as 'cool' and which appeared to have the desired effect (p.97). Like Alderson (2001), I was concerned that, at some points, these elements had distracted the children; in our discussions about the Woolly Web they had focused more on the appearance than on learning and improvements (p.83). Given the more positive examples, maybe I should acknowledge that children, and possibly people more generally, are more likely to respond positively and engage in the dialogue suggested by Freire when something is presented in an engaging and appealing way (Hill, 2006). Todd (2012) critiqued describing them as child-friendly as reinforcing power differentials, but the consistency seen across the project suggests that such tools should be regarded positively in the quest to encourage a wider range of voices to contribute.

It is important to consider what we do practically to show people that we are keen to hear their voices (Robson, 2011). In the context of this study, this was often evident in how I set up a session, for example ensuring we had a quiet space without interruptions. In discussions, I encouraged the children using positive non-verbal signals, and thanked them at the end of a session for their contributions. It is hard to

¹¹ Some sections of the dialogue have been retained in the thesis, or the content is referred to in the thesis; these are referenced using page numbers.

tell what would have happened had I not done this, but the children's readiness to respond suggests it was worthwhile. Showing that their voices have made a difference is important (Kellett, 2005; James, 2007). I ensured that I used their ideas where possible, for example as we developed the different versions of the web, and in supporting the PRG as they presented to the staff. Both examples appeared to motivate the children to contribute, especially with the PRG who worked hard to prepare their material and who came across confidently at the staff meeting (p.141). It would be interesting to explore further the impact of a clear 'strategic purpose' (Todd, 2012: 197) which then raises the question of who generates this, adults or children.

Experienced researchers have identified that choice can be a factor in engaging people and ensuring their voices are heard (Frost, 2007; Cox and Robinson-Pant, 2008; Bucknall, 2010); there are a number of references in the dialogue suggesting that, where people have opted in, there is likely to be a more positive outcome. Throughout both projects, contextual factors largely governed the selection of children to be involved (such as the children who were in my class). There were more options with the PRG but here we selected the children based on their suitability and the school's needs (p.129) and I wondered whether asking children to opt in would have been more motivating for them. At times, I referred to an overload of other demands, leading to a lack of choice, having a negative impact on my own engagement and learning (p.106). The comment on the code 'choices' captures the key elements from the quotations: 'The significant point here I think is the impact of choice or lack of it. There are elements where having a choice links to motivation and others where it is not possible due to other circumstances' (CC choices¹²). The children and parents had made choices in both projects, particularly in relation to giving consent and contributing during discussions. As noted at several points, the principle of giving consent and respecting the right to withdraw is essential on ethical grounds, but it is hard to judge the degree to which participants fully understand what they are agreeing to, and whether they really felt they could express dissent (Bourke and Loveridge, 2014). To some extent, I was encouraged that the children felt able to say when they were unhappy about the video in Part 1 (p.78) and talked openly about some of the difficulties in our final discussion for Part 2 (p.142). Circle Times and similar whole class discussions had enabled any child to contribute as they chose, whilst interviews and smaller group discussions had made it more difficult to opt out: a point to consider carefully. Despite this, I noted that some children had contributed significantly less in our final PRG discussion (p.144), so there is still some element of choice possible in a less structured situation like this. There are many complex factors

¹² Code comments are referred to as CC followed by the code name

within a school that affect people's choices and it is important for teacher researchers to be aware of the potential impact.

As well as encouraging the children's voices, they also have the right to withdraw (BERA, 2004). There were times during both studies when this conflicted with other elements of the study. In Part 1, the children's concerns about the video meant that a key source of data was ruled out (p.78). In this instance, there was an acceptable alternative (the voice recorder) and the study was not unduly affected, although the possibilities for multi-modal analysis and video-based stimulated recall were lost. In Part 2, there could have been repercussions not just for the study but for other children and the rest of the school if all the children had chosen to withdraw. When one child showed some hesitancy early on, there was a conflict between the approach to difficulties that we encourage at school, the PRG's responsibility towards the rest of the school and my **beliefs about** the child's right to withdraw from my research. I felt this should be maintained even though they were co-researchers where this is usually not the case. This is an example of an additional dilemma of conflicting roles that may be faced by a teacher researcher. It relates to the point about engaging participants; where they are motivated they are less likely to want to withdraw.

This led me to consider whether, when agreeing to be part of a research project, the participants, of any age, are taking on responsibilities (an issue mentioned by Hill, 2005). In both parts, the children had shown some awareness of their responsibilities towards others, seeing it as an opportunity to help (pp.77,134), **with** this being part of their motivation for agreeing to take part. As a researcher and teacher, I have been acutely aware of my responsibilities towards the participants, the school and the research world, and, like the children, these have motivated me to participate and produce the best work I could. The permission letters had not referred to these responsibilities, although asking for permission to share elements such as the video possibly suggested this. It would be interesting to know the degree to which they had thought through the implications and whether it affected their actions at any point.

The discussion so far has focused around the children's voices as these were the main people involved in this study. The question of voices goes much wider than this and this was a key theme emerging from the analysis. There were many points where I explored the balance between voices, particularly in relation to adults and young children, where there is a wide disparity in experience and skills. I was pleased to reach a stage where I recognised that it was not about hearing one voice at the expense of the other; it is about achieving a balance (p.156), with the diversity of adults' and children's voices all contributing (Kellert, 2005). Equally it is important

that children's voices are not heard uncritically (Kellett, 2005; James, 2007; Thomson, 2011); the PRG had been questioned at the staff meeting, and the development of the webs in Part 1 had been based on a range of views, including mine. If we do not look critically at every contribution then we are in danger of not according them due respect. I wondered to what extent I had remembered that individuals' voices need to come through; I believe that direct quotations throughout the thesis help, and the initial coding of the data in each **part** of the study was based on a range of data including transcriptions, but I was aware how easy it was to start collating those into a more general picture, and I had encouraged the PRG to do this to present their results. The researcher has to balance the demands of hearing individuals and drawing together conclusions, some of which may link to groups within the research.

It is not just about balancing the voices of adults and children in school. In my reading about practitioner research, I frequently encountered debates about the academic/practitioner divide (Drake and Heath, 2010; Kershner *et al.*, 2013), and this is even to some extent reflected in the two voices in my dialogue. Practitioner voices are now more apparent in the literature, **but there is scope for this to develop further**. There are also several references in the dialogue to my frustration about the lack of transparency in government publications and my perception that these were directives rather than invitations to work collaboratively to improve practice and outcomes (e.g. pp.18,107). As a teacher researcher the impact of rapidly changing policies was an additional factor affecting the research.

I came to see the common point; in all instances there is an element of what Freire (1970) describes as the 'oppressed' having the opportunity to contribute. It is a continuum rather than a choice between one or other, or as Freire describes, it should be a dialogue. Figure 11-3 shows my perception after the analysis process of the relative balance of the voices in my study. I have chosen to focus on the five possibilities that had been significant for me and which would probably be appropriate for other teacher researchers. I use the phrase 'political world' here to represent government initiatives, although of course much more of the educational world is political. It is interesting to compare the relative balances of the different groups of voices in Parts 1 and 2. Further possibilities could include comparing intentions and outcomes. I would have found it helpful to reflect on this throughout the project so I suggest this as a tool to support other practitioners.

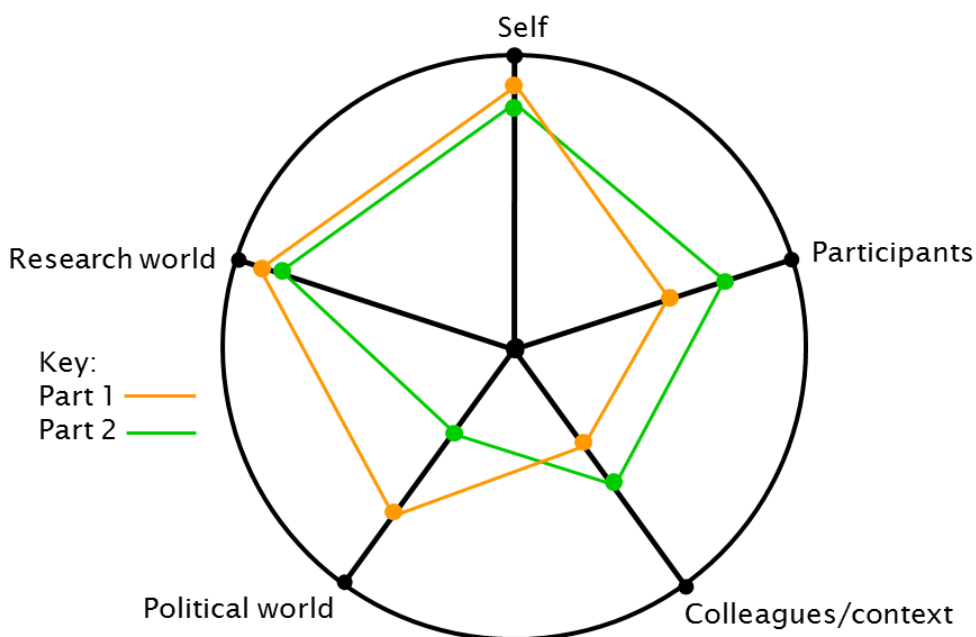


Figure 11-3: The balance of groups of voices across the study

There are dangers in such a diagram as it encourages us to see each category as one group rather than as a diverse group of voices (p.121) (Christensen and Prout, 2002; Thomson, 2011). Several sections of the dialogue focus on the need to be aware of individuals rather than grouping them together as one. It would be interesting to compare the researcher’s view on this with that of the others involved.

I have touched on the ‘Responsibilities’ thread in relation to the participants. Other aspects of this were reflected in the analysis. A key element, given high priority by many researchers, especially in relation to quality in practitioner research, is ethical practice (e.g. Kellett, 2005; Whitehead and McNiff, 2006; Groundwater-Smith and Mockler, 2007). I have suggested the thread, ‘Responsibilities’, not in any way to undermine the commitment to ethics; it is clearly essential for researchers to consider ethics carefully, follow guidelines and ensure the highest quality of implementation. My suggestion merely recognises the need for a teacher researcher to look at ethics in context (Simons and Usher, 2000) and what dilemmas this might raise. I was pleased to see that the PRG had some awareness of the need to consider how they worked with others, but also noted that there was more that we could have looked at from the start of the project to highlight this area, especially given more time. There are several instances where my dual role as teacher and researcher had presented me with difficult choices, some of which had ethical implications (pp.170,175). I noted ‘In this project I found how when I had the pupil research group it was not always easy to drop the teacher as leader role, meaning that it was not always easy to demonstrate that respect for them’ (CC ethics).

There was more I could have done to improve my practice in relation to ethics. Ellis and Bochner (2000) suggest that researchers should share what they are producing with participants so that they can check it; I did not manage to do this. I recognised that I had an on-going role to model and maintain high quality responses with the PRG, but, when looking back at the transcriptions I highlighted some points where I could have been more helpful. Similarly, there were points in Part 1 where my responses could have done more to enhance the children's learning. I was not setting out to be unethical, and do not believe my responses had a significantly negative effect, but they were points from which I could learn, as I believe any researcher might find on looking back at their work.

Across both the 'voices' and 'responsibilities' coding the word 'respect' occurred frequently, leading eventually to an extra, dedicated code. A memo captures the main point: 'There is of course so much in ensuring participation, involvement and careful consideration of different people's voices; establishing relationships and showing respect would make sense to me as key elements of this' (M rights and responsibilities 2). Within the project I noted that respect was fundamental to ethical practice (p.52), with no undue pressure put on participants. I needed to show the children that I respected their contributions as, for example, when they were unhappy about the video (p.78), and find alternatives, meeting one of the criteria for inclusive research (Nind, 2014). I tried to show we were learning together through taking on board their contributions and increasingly allowing the PRG to decide the way we were heading (Gallacher and Gallagher, 2008). Respect is fundamental to many aspects of research, especially in relation to participatory research (Alderson, 2001).

In Table 11-2 I have summarised the key points of this analysis to show how they link to the following suggested threads and questions for the framework:

Theme	Key points	Thread	Questions
Rights, responsibilities and voices	Engaging and motivating Practical arrangements Impact Choice Multiplicity of voices Critical reflection	Voices	Whose voices need to be heard? How will I/we ensure this happens? What could make this difficult? What will happen as a result?
	Ethical practice Respect Choices Responsibilities to others	Responsibilities	Who do I have responsibilities to? How will I ensure they are followed through? Who has responsibilities to the study?

Table 11-2: Rights, responsibilities and voices

Working with others

In the **quotation** above relating to 'respect', the other key word is 'relationships'. In any context, we are likely to find ourselves working with others, but the analysis showed that this is particularly complex within schools, and strongly linked to enabling different voices to be heard. Relationships are at the heart of this.

Power relationships have **considerable** impact on the research and it is important to do all we can to recognise, explore, acknowledge and where possible cut through these (Fine, 1994; Nind, 2014). This study demonstrates some steps towards this. In the frequency list of codes, the 'power relationship' between the teacher and pupils and the impact of this came 8th out of 80, with many references from literature and practice. The quotations covered a range of areas in which these had played a part. A significant area in school is the degree to which children and parents can give informed consent due to the relatively powerful position of the teacher (David *et al.*, 2001; Robinson and Kellett, 2004) **and the multiple factors influencing their choice (Bourke and Loveridge, 2014)**. I was reassured that children appeared happy and felt able to raise concerns at various points. None of them seemed to find the change in relationship hard, **in contrast to the findings from l'Anson and Allan** (2006). This may have been because it was hard for me to make the shift (pp.110,120), meaning that it was more similar to their normal experience, or because it was a gradual change within all my practice, not just for the research. Teacher researchers need to be acutely aware of the potential impact of elements such as this that can easily be taken for granted.

There were times when I wondered about the children's motivation in the context of our on-going relationship. In discussing quotations related to the children making connections I noted **in a memo**, 'There are examples which show this from different perspectives. With this one was the child pleased because they had picked up on what I was hoping for and they wanted to please me, or was it that she had seen a connection that was helping her progress in her understanding?' (M Power and insider/outsider). Establishing the underlying cause is not easy. Despite all my intentions to listen and take the lead from the children, it was not easy at times to let my teacher persona go; with the PRG I had felt I needed to deal with a behaviour issue at the start of our final reflection (p.142), and my responses in sessions were sometimes over 'teacherly' (p.153). I was still in control of the times we met, and, as their final reflections showed, this had not always been ideal for them. There are some factors that it is difficult for a teacher researcher to control; the choice here was dictated by the school timetable and events.

The power relationships work more widely than just between pupil and teacher (p.124). There are many other levels of power being exercised which impact on a teacher researcher:

... school, national, down on the teacher, teacher to pupil, pupil to pupil. Reflecting on these I realise that this has been a significant area of learning for me. Power is not all negative either – there are positive examples of it. ...What do we need to do about it as practitioner researchers? Look for what is there, where it could affect the research and acknowledge this. Where will it limit and what can we do about this? How can we develop positive power and use this to help carry out, complete and disseminate the research? (M Power 1)

It is an important aspect for researchers to consider and use in a positive way. The complexity of power relationships has been widely acknowledged and part of my motivation behind drawing together the framework is to help teachers contribute from a position of strength and careful consideration.

One stage of the work with the PRG raised questions about the implied power relationships and the effect that this could have. I was interested by Kellett's training for the young people she worked with and had seen the powerful results at the seminar (Kellett, 2009). She suggests that children's research can probably never be totally free of adult control (Kellett, 2005). There is no escaping the gap in experience and skills, which is backed up by theories of learning (Vygotsky, 1962). At the same time, I realised that by leading this research, I was reinforcing my role as a teacher. I justified it to myself by comparing it with my experience, where I had certainly needed help from more experienced researchers. Within the session I tried to mitigate the power relationships by taking ideas from the children and by showing them examples from a book (McCabe and Horsley, 2008), making the experts the authors rather than me. I attempted to do all I could to build on the children's previous knowledge, demonstrate collaborative working within the group and encourage them to respect and draw on the expertise of others, rather than labelling them as incompetent (Thomson, 2007). In working with children we need to be careful about the subtle messages we convey and there is a fine balance to be struck between supporting them and letting their voices come through.

This was not the only point where I noted a potential conflict between the relationships I was trying to build and what had happened in practice. At the start of both parts I had approached the school first, then the parents, and finally the children because it is what would be expected in schools. From the children's perspective this could be perceived as adults making the decisions which they are then asked to agree with, but I could understand a parent being concerned if their child had been approached without their permission, especially in studies that are more controversial. The pupil/teacher

and parent/teacher power relationships were based on more than their relationship with me (Nieto, 1994):

... it is not just my relationship with them as a teacher, but also their experience with other teachers. Parents, friends and family will have influenced their views and, especially as they get older, the media may well play a part. Is there any evidence in my research to support and consider this? Possibly with the research group where they thought the work we did was more like lessons – they had a clear idea of what was lessons and what was play. Asking the children for ideas in the connections project may have been difficult because they were not so used to this – we were only just developing the work on children's voice, school council etc in school. Researchers need to look wider than their relationship with the children and consider it in a wider context. (M Power relationships – looking wider)

I needed to be aware of the range of influences on the children's perceptions, including their relationship with me, which would provide the starting point from which to build.

In the coding, the word 'trust' was often an element and this was one of the codes that had the most links to others. It related to my relationships within school and beyond; in the debates over quality 'trustworthiness' is often mentioned in relation to participatory and practitioner research (Furlong and Oancea, 2005). I was led to consider what underpins this and from the evidence of the allocated quotations there were three key factors: transparency, rigour and respect. I was frequently aware of the trust that had been placed in me by the school, children and their parents in agreeing to take part in the research, and the dialogue includes references to my need to respect this and ensure that I did not let them down (pp.76,105). Their knowledge of me, especially in Part 1 where I had been at the school for several years, may well have played a part in their agreement to participate. I was a known 'insider'.

In planning the research, I cited benefits that I had as an 'insider' researcher, including knowing the children and their normal routines, the children knowing me, and there being a degree of understanding and existing common language that all researchers need (Fraser, 2004). I used this 'inside' knowledge on several occasions to help select ways of working with the children, for example the use of faces on the consent letters, Circle Time and talking partners in Part 1. I was able to use what I knew about the classroom ethos (p.92) and circumstances (p.97) to help interpret points raised in the data. As a teacher researcher it would have been difficult for me to research a group outside the school without substantial financial implications, or without using tools that will work from a distance such as questionnaires. Not basing the research within my context would have conflicted with some of my aims, especially the improvement in my practice. Further aspects of the teacher/pupil relationship will be discussed in the

section on 'the teacher in context' (p.175) as they link more strongly to the 'Balancing priorities' thread.

Relationships are dynamic and respond to changing situations, and this was noticeable in the insider/outsider viewpoints, as found by Christensen and Prout (2002). In Part 1, I commented on one class where I knew the children less well before the study; I delayed the start of the project with them in order to gain more 'insider' knowledge: 'Interesting here that initially with a new class I felt more of an outsider and was not sure who to ask etc. I knew the school but felt I needed to know individuals too – part of the relationship building and prioritising' (M Insider/outsider shift). In Part 2, I was not the class teacher for the children in the PRG; this gave me a different role but I retained a degree of 'insider' knowledge in that I checked some elements of their skills with their class teacher. The position of 'insider' was different again when the PRG were talking to other children around the school. It is helpful to acknowledge the complexity and shifting nature of relationships rather than viewing them as a binary divide (Drake and Heath, 2010; Thomson and Gunter, 2011).

The analysis highlighted potential and actual difficulties linked to relationships. My teaching commitments affected many elements, often related to time and technology, such as managing the video stimulated recall, capturing incidental moments and ensuring PRG sessions fitted in with my timetable. A significant point for any teacher researcher is that they will, in most situations, have an on-going relationship with the participants (Drake and Heath, 2010; Floyd and Arthur, 2012). This, like awareness of the trust that colleagues, parents and children had placed in me, was a powerful motivating factor, but I appreciated it could be difficult had anyone felt that things had gone less well. In the instances where children had expressed concerns, I had not picked up any negative consequences. **Floyd and Arthur (2012) note that adults may be likely to recognise points made, and may find themselves in ethical dilemmas when points from confidential interviews link with on-going work in an institution. I chose not to ask the children to read my account, partly because it was completed several weeks after working with them, and partly because I felt they would not be interested as it was written for an academic audience. Possibly I should have given them the choice, but the beneficial consequence is that they are less likely to recognise each other's comments should they read it years after the research was conducted.** A critical point for an insider researcher is the importance of being able to stand back and reflect (Elliott, 1991; Drake and Heath, 2010; Thomson and Gunter, 2011), a factor which I acknowledged from early on. I explore this further in the section on 'the impact of 'self'' (p.178)

Within the 'relationships' thread, the coding 'group dynamics' highlighted contrasting views. Working in a group can be seen as a way to counteract the power imbalance between teacher and child (Hill, 2006), and this, together with needing to be time efficient, was why I used group interviews and activities. I hoped that by being in smaller groups, there would be more opportunities for discussion, for example with the interviews in Part 1 and discussions with parents, and when the PRG were analysing and preparing to present their results. A more significant factor appeared to be how the discussions were conducted; having a game in Part 1 encouraged longer and more relevant contributions. In the less-structured review of Part 2, I was concerned that, in trying to let the children take the lead, I had not followed up points as fully as I might and some children had contributed relatively little, possibly out of choice or because I could have done more to enable this. When working in groups, I was checking in case children might be copying responses, especially when looking at giving permission, which would have clearly undermined the process (p.137). It was difficult to ascertain whether working in groups had made an appreciable difference to the power relationships given that collecting evidence from these discussions, which often involved pairs and threes, was difficult without further equipment or observers. The children were able to express concerns, suggesting they felt able to speak reasonably openly, although there may have been further points they would have made to someone else. Whilst groups may be convenient and have the potential to facilitate dialogue, there are potential hazards and points that need careful planning.

The other thread in 'Working with others' is collaboration. As I was compiling the final network, I noticed that the code 'collaboration' was one of the few that I had not linked to many other codes during the process. Its most frequently co-occurring code (where it shared a quotation with another code) was 'participatory research', which stemmed unsurprisingly mostly from the work with the PRG who had become co-researchers. There were some references to collaboration with the research world; my supervisor, seminar participants and my reading had all taken on the role of 'collaborators', with significant impact across the study. In some sense too, I had collaborated with myself, as the teacher and researcher questioned each other in the dialogue. Despite having all these 'collaborators' there was a point where I was struggling to find a way forward and described myself as a 'lone researcher' (p.87); at that point I was thinking about working with my immediate colleagues.

What became clear from my later reading was that collaboration with other practitioners is often quoted as valuable in practitioner research (Cordingley, 2008a; Christie and Menter, 2009; Kershner *et al.*, 2013). **The community is an integral part of Shulman and Shulman's (2004) model for teacher development and it is worth**

considering who needs to be part of this 'community'. I set up the project to be collaborative with the children and parents (pp.40,46), and linked both projects to some degree with the SDP. Although I considered how I needed to keep colleagues updated (p.56), I would have benefited from exploring this further, something I acknowledged when I was finding it hard to generate ideas (p.87). With the PRG, I saw the benefits of working with co-researchers; they generated much of the energy, direction and ideas. There is an interesting shift in the reasons behind my desire to collaborate. At the start, I saw it as a valuable way to collect evidence and generate ideas. Through the process, I realised how valuable it could be, developed a greater understanding of the values behind it and could see it had much wider implications, as discussed in the section on 'rights, responsibilities and voices' (p.163)

To summarise, in Table 11-3 I propose a series of questions and threads, based on the key points from this section:

Theme	Key points	Thread	Questions
Working with others	Power relationships Insider/outsider Shifts Group dynamics Trust and respect	Relationships	Which relationships will have the greatest impact? Does this need changing? How can I foster strong relationships?
	Collaboration supportive and gives direction	Collaboration	Who will I collaborate with? How will I ensure this happens? What could make this difficult?

Table 11-3: Working with others

The teacher in context

Many of the most significant factors affecting the research related to my position in the contexts in which I was working. The codes related to these threads were mostly in the top 25% for numbers of quotations. This is a crude measure but indicates the prevalence of related points. Two key threads emerged from the analysis: 'balance' and 'relevance'.

In my experience, teachers are always busy, with more than enough to fill their time. Stenhouse *et al.* (1985) noted that time was a key factor for teachers to be able to engage in research. Adding a research project to my work was always going to require some management skills, and from my first analysis of what I brought to the research, I highlighted that this might be an issue for me (p.39). Coding the dialogue brought out clearly that the need to balance different demands was a central factor impacting on the research. Managing my time was critical:

Having time was by far the biggest factor. This came not just from the teaching demands but also other school demands based on my role there, for example leading other new developments. Time had a significant impact, often leading me to make choices about for example working in groups, varying the subjects the children missed for the PRG, there being a delay between events and transcription/writing up. (M Balancing priorities)

For someone who on her own admission tends to take on too much, this was not so surprising. Time related issues also extended to the children, particularly in relation to allowing them enough time to complete things, such as the PRG analysing their data, and progressing at an appropriate pace, for example in the interviews. It is important to allow them enough time for meaningful involvement in research (Alderson, 2004), but there are other factors to be accommodated in the busy life of a school.

The groups that teachers choose to work with will often be dictated by practical considerations; in Part 1 the only reasonable group for me to work with each year was my class, although within this I could choose a group to interview in the third year. In Part 2 there was a little more choice, but school considerations still played a significant factor, for example we avoided choosing Year 6 children as the SATs were deemed to be more important. When working on a project over a longer time span, teachers may need to adapt their practice to meet the needs of different classes, as was the case in Part 1. Here I chose to adapt the web and our approach to it based on my perception of what the class responded to best, as well as building on the developments from the previous year (pp.83,105).

Other cases of balancing priorities were more complex:

There were several cases where it was a question of balancing ethical considerations and I always felt it was my teaching that had to take priority – this is my paid job and the children have no choice about being in my classroom. The ethical considerations sometimes balanced the other way in connection with the pupil research group; having committed to it the school then needed the information for the benefit of all the children.... The choices were rarely simple – the complexity of life in school leads to many demands of which the research is only one. I think the research world needs to recognise the complexity of this and appreciate what arises rather than knocking it because the data may not be quite as full. (M Balancing priorities)

In the vast majority of cases I made ‘balancing’ decisions in favour of my role as a teacher rather than as a researcher as explained above. I accept that this may be an aspect where the dialogue is limited as there were many times when I had arranged elements of the research process that are not acknowledged, all of which could otherwise have been used for other school-based activities. My final sentence in the memo indicates my on-going concern about maintaining the quality of the research alongside my teaching role.

The need to balance priorities often had a negative impact in this project on the data collection, especially in Part 1 where, for example, I found arranging stimulated recall and capturing observational notes hard to manage around my teaching commitments. In Part 2, I was not working with my class so it is difficult to make a direct comparison, but with dedicated sessions and my improved understanding of what was possible, this was less of a factor. I could understand criticisms of teacher research based on the data collection (Foster, 1999; Gorard, 2002), but also agree that practitioners bring the insider viewpoint and understanding of daily classroom practice that gives value to their research (Elliott, 2007; Dadds, 2008). The 'balancing' coding was also applied to some examples which are less obviously contextually based, including looking at the balance between theory and practice, and positive and negative examples. A particular issue for me was working out a balance between the adults' and children's voices as described above.

The need to ensure a project has 'relevance' seems obvious. The analysis highlighted some complications in this. In both schools, the SDP was fundamental to the improvement process and it made sense to link the project with this to make the process more time efficient, and help with balancing priorities. What I had not anticipated in Part 1 was the impact that several changes beyond my control would have on this, especially in a longer term project. These included a new headteacher, building works, an Ofsted inspection and various national initiatives. The SDP changed in response to these, making claims on my time, which then made it more difficult to focus on the research. Part 2 was more successful, despite further building works, partly because this research had a more clearly defined objective and shorter timescale, and was thus able to link more directly to the school's immediate needs. This meant that the school released me to work with the PRG, alleviating some of the challenges in terms of balancing priorities discussed above. I hesitate to suggest that all teacher research projects should link to the SDP, but it is worth considering how such a study will fit into the bigger picture so that teacher researchers can use time and other resources effectively.

The issue of relevance extends beyond fitting in with current priorities in school. Practitioners often have practice-based priorities for their research. These should have an impact on outcomes but this may not be the specific focus (Furlong and Salisbury, 2005; NTRP, 2011). This applied across Parts 1 and 2 in this project; I focused on how I could interact with children to help them connect ideas and to become co-researchers with them rather than specifically raising standards, although I was doing this to improve their learning experience in school. In both instances my ultimate aim was to improve learning; raising standards is implicit rather than explicit

within each. Had I been applying for funding, I wondered whether either project would have been supported in the current educational climate, which appears strongly driven by Ofsted’s focus on outcomes (Alexander, 2008). I understand the importance of ensuring children progress well, but would also claim, based on my experience, that there is value in projects focused on the teaching process. Using children’s academic achievements as a measure of success would have entailed making huge unjustified assumptions about cause and effect.

The analysis showed that relevance can be valuable for all. I wondered if it helps if participants understand why they are being asked to be involved in certain activities, as noted in a memo about the children making connections: ‘I think this links to engaging children with learning and helping them see the relevance, plus how it links to other learning. I need this as an adult, and children are no different – or are they? It is hard to explore their thinking and understanding of this’ (M relevance 2). The PRG appeared to be motivated by helping teachers and other children (p.134) as had the children in Part 1 (p.77). I had hoped that the Circle time discussions and reflection on the Woolly Web would help them discuss and appreciate the value of the connections we were making. Some children clearly picked this up, although it was not universal. The participants’ understanding of the relevance would be interesting to explore in another project.

To conclude, I suggest the following threads and questions for this theme (Table 11-4):

Theme	Key Points	Thread	Questions
The teacher in context	Time Responsibilities to others Teacher/researcher roles Theory/practice Positive/negative	Balance	What calls will there be on my time and attention? What effect might they have? How might I need to adjust this?
	Self Children School development National priorities Funding body	Relevance	Who is the study relevant to? How can I increase its relevance?

Table 11-4: The teacher in context

The impact of ‘self’

From early on in the process I realised that it was important to acknowledge and track the impact that I would be having on the project (Peshkin, 1988; Coffey, 1999), so I explored what I would bring as a teacher and researcher at the start (p.37). The analysis led to two threads, ‘values’ and ‘skills’.

The 'Values' code family network was one of the largest, as can be seen from the list of principal and main additional codes in Table 11-1. The codes involved linked across almost all the other themes, showing the importance of 'Values' as a thread. I found it interesting to track how the main points I had raised initially then developed across the project. In Table 11-5 I have summarised these as many are referred to elsewhere (page numbers refer to relevant points in the thesis). The starting points are taken from the main explanation (p.38) and the summary (p.43).

Identified area	Starting point	Main codes	Through the project	End point
Learning and progress	Strongly committed to learning and progress.	Learning – aims Learning – achieved Difficulties Quality – positive Quality – negative	Unhappy about presenting work that was not successful but knew it was important to do so.	Learning and quality comes from a range of factors. Problems and progress reported (p.197)
Organisation, control, time management Commitment	Keen to be organised Tendency to over-stretch Hard-working.	Time – positives Time – negatives Contextual issues	Time and contextual issues had a significant impact, affecting data.	PRG with shorter, more clearly defined aims worked better (p.177)
Clarity for audience	Keen to engage a teacher audience and avoid jargon.	Narrative Dialogue Audience Reader Trust Respect	Greater awareness of shared responsibility between writer and reader. Narrative exciting.	Review of dialogue and narrative approach (p.188), audience and authenticity (p.188)
Collaboration and participation	Committed to contributions and viewpoints	Voices Participatory research Collaboration	Developing awareness of underlying philosophy, the implications and ways of helping this happen.	Committed to engaging and presenting different voices (p.163).
Teacher's relationship with the children	Committed to teaching role and ensuring children's well-being and progress.	Power teacher/pupil Role of the teacher Responsibilities Contextual issues	Developing awareness of power relationships, shifts in insider/outsider and need to balance demands	Careful balancing of priorities essential (p.175). Defined times and tasks helpful.
Risk-taking	Prepared to try out ideas when I felt they had a reasonable chance of success	Ideas Change Participatory research	Learning about and trying out a range of new approaches and techniques.	Developing participatory approach valuable. Prior reading important.

Identified area	Starting point	Main codes	Through the project	End point
Home-school links	Keen to see closer links between home and school learning.	Home-school Difficulties	Element difficult to maintain due to demands of job.	An area to explore as a specific project.

Table 11-5: Examining values across the project

Other values emerged as significant from the data during the coding progress including equality, trust, depth, honesty and respect. Although the codes emerged from the analysis, they are all words that I would have related to at the start of the project, indicating partly that I did not find it easy at the start to express all the values that I would bring to the project, and partly that I came to realise the importance of certain key values to me in research. Equality and trust have been explored in the sections discussing the first two themes.

The coding notes indicated that I felt depth came from the use of the narrative, my close involvement, the quality of questioning, writing and revisiting elements over time, immersion in the data, and a focus on principles as well as practice. Depth was something I aspired to, but found hard to achieve, partly because it was difficult to define the essential elements: ‘Does looking wider lead to depth? For me, broadening the outlook has the potential to contribute to this but does not necessarily ensure greater depth. There are dangers in having lots of superficial studies. - it links back to the quality issue – not over-claiming’ (M depth 1). I saw depth as being a key measure of quality, but wondered what the most important elements were. I referred to my preference for practical solutions and I have learned that I need to take sufficient time to understand the underlying principles (p.109). In retrospect I would suggest that the key elements are clarifying the approach, the rigour of data collection and analysis, and careful reflection. If I had set a more clearly defined strategy for this, taking greater account of the other demands on my time, I would have been able to explore my findings in more depth.

Honesty is essential to any research project and is a key element of the ‘trustworthiness’ of a project. My desire to be honest was part of the reason for suspending the study between Parts 1 and 2; I was unhappy about presenting so many problems and it conflicted with my desire for progress. Across my reading I was aware that I rarely found others explaining such difficulties and wondered whether teachers felt a pressure to find success because of the accountability demands on schools. In my class we always saw mistakes as an opportunity to learn; the same needs to apply to teacher research, and that requires an honest analysis and presentation of the findings, without pressure from any quarter to do otherwise.

Respect is a multifaceted principle that needs to work across a range of relationships, both within and beyond the project: 'Respect and quality are closely linked – where we feel something is of high quality we respect it – so the practitioner world needs to produce high quality research to gain the respect of the research world' (M respect and quality). We show respect in what we say and do; it connected with Freire's (1970) vision for dialogue between oppressed and oppressor. In this project I felt that my commitment to the children's progress and relationships, developing awareness of 'voices' and learning about different approaches were examples of respect in action. It should be a two-way process. Many sections of the dialogue refer to the need for respect between the academic and practitioner worlds, based on mutual understanding (e.g. pp.27,122). I have tried to apply this in my reading and engagement with many elements I have found challenging, but have valued collaboration in taking this forward:

...from my perspective I would suggest that the collaboration between the two is invaluable, both have important contributions to make, but that there needs to be a strong degree of listening, valuing and sharing. The two need to work together to develop understanding rather than be divided. Collaboration has the potential to lead to greater involvement and relevance for all, as I have found in my project where the two have come together ... (CC academic/practitioner)

The other thread within this theme is 'Skills', with the main ones identified in the coding being technology, questioning and reflection. Learning to manage a range of new technological equipment and skills both helped and hindered the project. The benefits included storing, searching and sorting large amounts of data, which supported the analysis process, and made it easier to pick up the project after every break. The challenges ranged from working with video recordings to the vital importance of backing up data. Now I believe the advent of tablet computers in classrooms would have made data collection considerably easier, especially with the use of audio and video, and they could provide an interesting research tool to use with children. Questioning and reflection were key elements of the dialogue so will mostly be explored in the section reviewing the use of narrative (p.188). There were a few points during the process where I noted the importance of the researcher's questioning skills. Where these can be prepared as, for example, in interviews, there is time to ensure they match the purpose. I found myself often having to think quickly about responses in both parts of the project, and at times could see that I could have followed up possibilities more effectively. This partly stemmed from being a teacher but could also apply to any less formal research process. I used many other skills that had an impact on the project such as writing, synthesis of ideas and time management. These have either been picked up elsewhere or did not emerge strongly

from the coding. The researcher needs to think about their skills and areas for development throughout the project to avoid a negative impact.

Table 11-6 summarises the points from this section for the framework:

Theme	Key points	Thread	Questions
The impact of self	Clarity Collaboration Depth Honesty Progress Respect Trust	Values	Which values are important to me? How can I track their impact across the project?
	Questioning Reflection Technology Time management	Skills	What skills do I have already? What skills do I need to develop? How will I use technology?

Table 11-6: The impact of self

Results from teacher/researcher analysis

In looking at my impact on the project and the development of my ‘self’, I was interested to explore the balance between the teacher and researcher voices in the dialogue to see if one or other had dominated and if there had been any shifts. As part of the Atlas.ti analysis, it was possible to compare the word count for each voice in the different chapters. Looking through the chapters in thesis order, which also matches the chronological order, there is a broad shift towards the teacher voice increasing and the researcher voice reducing. Sorting the chapters into the different types (‘literature review’, chapters 1, 4 and 7; ‘research in action’, 2 and 5; ‘reflection’, 3 and 6), demonstrates this (Figure 11-4).

In the ‘literature review’ chapters, the researcher always dominates, but the balance shifts towards the teacher voice across the course of the study; this possibly shows a developing confidence in reading and analysing the literature through the process. In the ‘research in action’ chapters, unsurprisingly the teacher voice dominates as these were the sections where the ‘teacher’ had to put into practice the ideas generated; the balance shifts towards the researcher in these chapters, suggesting a more reflective approach developing, especially as the pupils’ voices became more dominant in Part 2. In the ‘reflection’ chapters, where the issues arising from the two parts are analysed, the teacher/researcher elements are more balanced, with a slight shift towards the researcher in Part 2, albeit within a shorter chapter. Across the complete dialogue the researcher voice has 59% of the narrative and the teacher voice 41%; the reflection chapters most closely match this balance. This could be said to be a crude analysis as

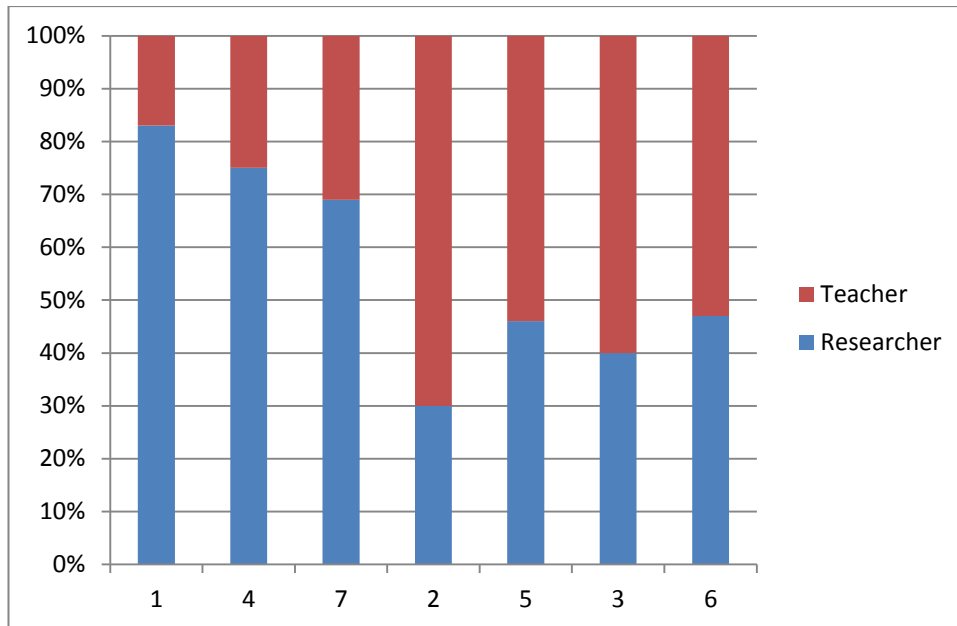


Figure 11-4: Comparing teacher/researcher balance in chapter types

some of the sections could possibly have been allocated to either voice. As the writer, I put considerable thought into selecting who was speaking at each point and that even with some changes, the overall picture of the two voices becoming more balanced would still come through. This reflects what I was finding as the writer; making the choice was requiring more careful thought as the distinction was less clear-cut.

I noticed as the project has proceeded that it has become more difficult to separate the teacher and the researcher in the narrative. The research ideas and more analytical viewpoint were becoming increasingly part of my practice which I felt was a positive step. I am annoyed with myself now when there are new developments and I feel I have not had the time to explore them properly. (1463)

This raises the question of whether it improved the study for the two voices to come together. Foster (1999) suggests that research and teaching are very different but I felt they were more linked (p.20). I am keen to break down the barriers between teaching and research as, based on my experience, I can see benefits for all involved when this happens. I can also see that it is worth maintaining at least a degree of separation. Given the identified practical demands placed on teachers and the pace of educational change, maybe at times it is helpful for teachers to step back and connect with their more reflective, analytical selves. The dialogue certainly helped me do this.

The research process

The 'Research Process' theme split into 4 threads: 'focus', 'approaches', 'evidence' and 'analysis', all four of which have an impact on the quality of the research. The first of

these was one with fewest linked quotations and codes, possibly suggesting that I could have done more to clarify this, with beneficial effects for the project. The quotations related to 'approaches' in this project examined the relationship between my role as a teacher and the different research approaches. This was critical to the development of the research methodology and led to the 'connecting research' model (Figure 2-1) as I saw myself drawing on elements from across a range. Nothing emerged from the analysis to contradict this and participatory and practitioner research were two of the most connected codes. What was clear was that exploring research approaches was often hard as I worked to understand the related vocabulary, dilemmas and implications, especially earlier on in the project. Ultimately, it was time well spent, as shown by my development in understanding of approaches and their application in practice. I suggest that, for many practitioners undertaking short-term research projects, there is a need to streamline the process into a set of issues and key questions that will help them to select the relevant elements for their project. An important part of this process is having access to an academic library and online materials.

Discussion of research approaches often leads to the question of the 'knowledge' produced and its value, especially in relation to practitioner research (Foster, 1999; Whitehead and McNiff, 2006; Hammersley, 2008; Cain, 2010). I was particularly interested in improving my practice and suggest that this is likely to be the driving force behind many practitioner research projects (Furlong and Salisbury, 2005; McNiff, 2007; Clayton *et al.*, 2008). **From the early days of practitioner research and beyond, it has been championed as a strong way of developing practice (Stenhouse, 1975; Elliott, 1991).** As a practitioner, I value hearing about other practitioners' research experiences and the 'knowledge' relates to practice in the classroom. Other teacher researchers might feel differently. The research approach needs to explore the issues surrounding truth, reality and knowledge but also fit in with the practical demands. There is a particular need to be time efficient; my learning journey included considerable reading to explore possibilities, which were interesting but had little immediate impact on my classroom practice **and** did not provide me with helpful knowledge as far as I can tell. I suggest that all researchers will have a different view of what is useful knowledge for them and that practitioners are, unsurprisingly, likely to find that this is more practice based.

'Evidence' related to data collection. As noted previously, there were undoubtedly ways in which I could have improved this, especially in Part 1. The difficulties mostly related to technological issues and to balancing priorities. Greater anticipation of these would have been helpful, hence the questions in the framework. There were also

comments relating to the challenges of helping children explain their thinking and learning. The techniques used included stimulated recall, Circle Time, the Woolly Web, the game for the interviews, various tools from McCabe and Horsley (2008) and semi-structured discussions with the PRG. I noted the importance of developing a shared vocabulary, and the contribution that well-chosen analogies and metaphors could make with this, as with the Woolly Web and the tools selected by the PRG. Engaging the children's interest appeared helpful.

I have already explored the analysis of the data to some extent in the first section of this chapter (p.157). Some would describe it as 'interpretation' rather than analysis (Schwandt *et al.*, 2007), and in a largely qualitative project such as this, that could be seen as a more appropriate word, but I have used the less emotive 'analysis' as it applies across a range of approaches. I included 'writing' within this as on many occasions my journal showed that writing after looking at data had helped me clarify my thoughts. Looking across the project a common point emerged: I had not been able to take the data back to the children or other participants for them to check, nor had the PRG. Time was a significant factor in both cases, especially in my own work, which I often completed during holidays. In an ideal world, it would have been interesting to explore the children's responses to reviewing the data, but it would have required considerable extra planning and I am not sure that the benefit would have justified the extra time the children would have had to give in this instance. Every project is different and this is something to be considered carefully (Schwandt *et al.*, 2007).

These threads are summarised in Table 11-7:

Theme	Key Points	Thread	Questions
The research process	Clarifying aims and outcomes	Focus	What is my research focus? What do I know about it already? What questions do I need to ask?
	Practitioner research Action research Participatory research Connecting ideas Truth and reality	Approaches	What approaches and beliefs underpin my study? How do they link with my focus? What impact will this have on my study?
	Planning for data collection e.g. interviews, questionnaires, games, class activities. Use of technology	Evidence	What evidence do I need to collect? How will I do this? How does this relate to my focus and approach?

Theme	Key Points	Thread	Questions
	Coding, sorting, counting Writing Time and who does this	Analysis	How will the evidence be analysed and interpreted? Who will do this? What will I need to be careful about? How does this relate to my focus and approach?

Table 11-7: The research process

Connecting, learning and communicating

The final theme focuses on identifying learning and communicating this effectively to others, with ‘Learning’, ‘Authenticity’ and ‘Audience’ as the threads. My learning from the project is summarised in Chapter 12 but it is interesting at this stage to explore which factors particularly helped or hindered the process of change and development:

Rereading the quotes for this makes me realise there are so many different elements of change – principally what is the driving force behind it – is it imposed or do we have a choice about when and how to change? Practical elements are easier to change than more deep-rooted attitudes – that comes across in several quotes. Surprising things can help us change more quickly however such as reading an inspirational article, even if thinking through all the consequences takes time. There are changes to everyone in the study and in the context – a constantly changing kaleidoscope ... (CC Change)

Just as I had set out to help children connect ideas, I was finding that making connections was an important part of the process for me. This applied to my reading and the analysis process, where:

...when coding and analysing I considered various groupings and links. In order to decide which were appropriate or not I had to think more deeply about the subject matter. Being asked to make connections that are strong was important to my learning from them. Knowing I had to be able to justify those links was also important... (CC Connections)

Explaining the connections is as important as making them. As I had anticipated with the children, using or devising analogies and metaphors often helped this process; this was especially true in developing the framework. Making connections is also about what has come before; I noted the importance of connecting with prior knowledge and how hard I found it when articles were too far removed from this, similar to Vygotsky’s zone of proximal development (Vygotsky, 1962). Relevance was also important; where change was difficult I was happy to persist if I knew it was valuable (Von Glasersfeld, 1987), as in my exploration of the values behind participatory research.

Change is not just about making connections. There were elements of the project that challenged and surprised me, such as the seminar and some key books and articles. Cognitive conflict can help learning (Posner *et al.*, 1982; Palincsar, 1998), and difficulties can be points of development. Looking at the ‘difficulties’ coding, there

were several matches with points that I would later class as learning, including examining my beliefs about the 'rights' agenda, exploring different methods of data collection and mastering technological skills. Teachers can be resistant to change (Posner *et al.*, 1982) and I was no exception. This was most apparent in my ongoing debates about the relative experience of adults and children where I often talk about deep-rooted beliefs. It leads me to question how many teachers have the time and space to explore these where necessary so as to move on in practical ways.

From the start, I intended that the project should be presented as authentically as possible (Schwandt *et al.*, 2007). It is interesting to consider the factors that contribute to this. I cannot claim to have followed all the Lincoln *et al.* (2011) proposals for fairness, but there are elements of their other four criteria: ontological, educative, catalytic and tactical authenticity. I have raised my level of consciousness in various ways and, I believe, that of the children and staff I have worked with. I can see ways in which the project has improved my understanding of others, it has led to action and it has led to some effective changes. There are more important elements for me in authenticity. This revolves around being honest and acknowledging difficulties as well as successes as I have done at several points. Researchers have an impact on their work, and must acknowledge this across the process (Peshkin, 1988); I have addressed this at various stages. Clear communication and rich description is essential so that points are clearly understood and explored in depth (Stake, 2005); I used the dialogue format to help with this. I have tried to follow these principles but ultimately what is important is convincing the reader.

My experience of teachers and teaching gave me an interest in the audience for the research. Across the project, preparing for an audience gave the research impetus, impact and depth. This applied to the PRG as they prepared their results for the staff meeting and equally to me as I prepared for the seminar and wrote the thesis. I have noted that responsibility for understanding the research lies with the reader (or listener) as well as the writer or presenter, especially in qualitative research such as this. Developing a shared understanding of what is relevant is important, partly through the presenter choosing forms of communication that can convey this most clearly. The narrative style felt most appropriate to me and I believe would be an effective way of sharing this research with many practitioners, with the capacity to tell and explore a story.

These threads are summarised in Table 11-8:

Theme	Key points	Thread	Questions
Connecting, learning and communicating	Connections Surprises Challenges Analogy and metaphor Relevance	Learning	What have I learned? What has helped and hindered with this? How does it link with other learning?
	Successes Difficulties Researcher impact Clarity Depth	Authenticity	How can I ensure my project comes across strongly and honestly? Which elements will be most important?
	Preparing for an audience helps focus Narrative Presentation	Audience	Who are the audiences for my project? How can I convey the ideas clearly?

Table 11-8: Connecting, learning and communicating

Teacher/researcher dialogue: reviewing the use of dialogue and narrative

Having reached the end of the account, what thoughts do you have on the use of dialogue and narrative?

The two viewpoints help me adopt the more analytical phase described by Riessman (1993), although I note she was discussing oral rather than written narratives. They gave me the opportunity to debate ideas, a small version of Freire’s (1970) dialogue. The dialogue is an ‘authentic’ representation of my experience (Burchell and Dyson, 2000; Chase, 2005). As it has progressed, it has helped me bridge the divide between theory and practice (Alexander, 2008) and link them more closely as it became more difficult to tell the voices apart. **Pelias (2011: 660) refers to ‘writing into’ rather than ‘writing up’ (original italics) and, similarly, Holly (2009) describes how writing can become a tool for inquiry; I became increasingly aware of the power of writing not just as a record, but to develop ideas. As well as using it to explain what was happening, it became a vehicle to explore my research journey and the learning from it (Chase, 2011). This was an unanticipated benefit to emerge from the project.**

There was a danger in separating the two voices; this polarisation was emphasised to some extent, but it also encouraged me to stand back and see things from different perspectives. I had always been concerned to develop the ‘involved yet distant’ approach needed for an ‘insider’ researcher (p.40). A key part of that was the questioning approach used between the two voices. Sometimes this was a convenient way of moving between them, but mostly it reflected the way I was thinking and

promoted debate about issues, as has been found in other narratives (Bochner, 2001). If anything, I noticed a tendency in my journal to raise many more questions than I answered, and the dialogue forced me to consider possible responses.

Writing was invaluable in this process. It forced me to think through ideas (Burchell and Dyson, 2000; Burchell, 2010). The advantage of the dialogue was that ideas tended to flow more readily, because it was capturing my thoughts (pp.49,103). It helped me reflect and question; I became my own collaborator: 'It generates questions and responses which could be said to be inefficient in terms of words, but I think it reflects good practice in terms of reflection – seeing things from different perspectives' (M dialogue). Alexander (2008: 122), admittedly talking about dialogue between people, suggests that it needs the ability to 'question, listen, reflect, reason, explain, speculate and explore ideas, to analyse problems, frame hypotheses and develop solutions; to discuss, argue, examine evidence, defend, probe and assess arguments', all of which I would say were present to some extent. Writing made these thoughts more concrete (p.103).

Pelias (2011: 661) sets out five compositional strategies described and used by writers in qualitative research: 'evocative', 'reflexive', 'embodied', 'partial and partisan' and 'material.' Reflecting on these, I felt this narrative was not emotional and personal enough to be 'evocative' and did not have the 'corporeal presence' (Pelias, 2011: 663) to be 'embodied'. It is 'reflexive' in that I have considered my role and how it shifted, particularly in terms of being an insider and outsider. From the start I recognised my 'partial and partisan' viewpoint and I can see how it is a 'material' record of my journey. Pelias suggests his list is incomplete and in my case I would agree. The dialogue is less emotionally intense than many narrative texts, partly because of the subject matter and maybe partly because that is not my style. It started as a reflection of my thought processes and I would suggest an additional strategy: 'dialogic'. The two voices have questioned each other and responded in order to move the discussion forward.

I wondered to what extent I would recommend it as a format to other teacher researchers. Whilst I have found it valuable, there is a potential danger in adopting a format such as this that **it is seen** as a binary divide rather than recognising the plurality behind each 'voice' (Fine, 1994). In telling the story, I have still included at times the more traditional approach of a literature review, outline of research and then discussion of the implications. Maybe I should have embedded these more. Ultimately, I believe

it is up to each person to find the method that conveys her/his story and learning most authentically.

I hope the use of dialogue has an important benefit for the reader, as I planned initially (p.9) following my excitement when reading Ellis and Bochner (2000). After starting to use the dialogue I found other innovative forms of presentation that resonated strongly and helped me access relevant points (Dadds and Hart, 2001). This is what I aim for in communicating my project to others. Part of that is due to its openness:

Why should presenting this in this way be more honest? I think I believe it is about acknowledging myself in the research, and telling it from my perspective. I am not ignoring the part I played. Telling it as a story does not fictionalise it, rather it uses a technique that many acknowledge to be central to our existence. (M narrative 1)

I leave it now for the reader to decide.

A framework for teacher research

In order to analyse what I have learned from this project, I have had to explore it in detail and unpick many elements of it, somewhat like pulling a skein of sewing threads apart. It is time now to connect the threads again.

When I embarked on this study, I thought I had a clear research question in my mind and the path ahead, although possibly bumpy, would be reasonably straight. I had not anticipated even half the issues and interests that would emerge and cause the path to twist and turn, and even between Part 1 and Part 2, to have a significant change of course. It may be the nature of research, especially in more extended projects such as this, or that I was insufficiently prepared to set out on the path; **perhaps, as Fox and Allan (2014) suggest, it is just the process that many researchers go through.**

Changing supervisor and then school will probably both have had an impact. From the process, and particularly from the deeper analysis of the narrative dialogue, I believe I have learned much about the process of being a teacher and researcher, which now leads me to suggest a model that I hope may help others. It is based on the factors that the analysis has shown have helped me be successful, or which, with greater anticipation, could have helped.

Having looked at some recent texts supporting practitioner researchers (Fox *et al.*, 2007; Drake and Heath, 2010; Menter *et al.*, 2011; Jones *et al.*, 2012; **Kemmis et al.**, 2014), I can see that they set out much good advice and detailed guidance. They are written in clear, approachable language, address many key issues and are undoubtedly helpful. Nonetheless, from the study, I am aware of the time pressures and other

demands on teachers, and how these affect the teacher as a researcher in her/his ability to access such texts. I therefore suggest a visual model or framework that can be assimilated quickly, and then thought through over time. I am not suggesting that teachers should not be reading in more depth, but I have designed the framework to flag up significant areas and questions so that teachers have prepared themselves in relation to certain key points and can use their time efficiently. I have used open questions to trigger critical reflection. I can see potential for use of the framework both for small-scale investigations within a teacher's classroom and for more extended research. I have written it from a teacher's perspective as that is what I know; other practitioner researchers may find there are points that resonate for them too.

This chapter is called 'Connecting the threads' for good reason; unsurprisingly, given what I have noted about how analogies and metaphors support learning, I have chosen to use one as the basis for the model. The visual image I have selected comes from the patterns I made as a child in school and have seen many times since, where threads are stitched across a circle and the pattern changes according to the number of nodes (Figure 11-5).

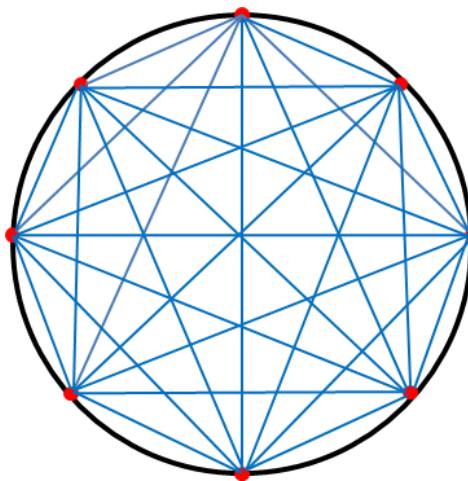


Figure 11-5: Threads across a circle with 8 nodes

There are many ways in which I feel the analogy may help. Principally, the idea of connecting threads mirrors the connections that I found helpful as I explored the issues, encouraging the same for others. I recognise that there are limitations to the analogy; the connecting threads can link to each other but remain separate and are only integrated in the sense that they form one pattern. Overall, as I have found in my own learning, exploring the strengths and limitations of the analogy can assist in the process (Petrie and Oshlag, 1993). Additionally, the notion of a wheel carries other implications that may be helpful, ranging from a steering wheel to guide the research to wheels helping a vehicle run smoothly.

Within the framework there are two elements; the wheel (Figure 11-6) is designed as an on-going focus for reflection and discussion. The ring nearest the **edge** has the theme, the next **one in** the threads and the third has the questions. I have deliberately left a



Figure 11-6: A suggested framework for teacher researchers

label for one thread blank so that people using the framework are encouraged to contribute their own perspective. Alongside this, I felt it would be useful to have a tool to support teachers' self-assessment at various stages through the project (Figure 11-7: A self-assessment tool to accompany the framework). Both the framework and the self-assessment sheet are designed to be used individually, or more ideally, collaboratively.

contributing to the debate (Stenhouse *et al.*, 1985). Over thirty years ago, Kemmis and McTaggart (1982) published their 'Action Research Planner', which provided guidance for action researchers. The difference with my framework presented here is that it is more succinct, and is not restricted to use in action research. Much more recently, a similar framework, the Accessible Research Cycle (ARC), has been produced (Jones *et al.*, 2012). This sets out questions to take practitioners through the process, but differs from the framework presented here in several key respects. The ARC is presented by academics with practitioners commenting on the application of each stage. Its origins appear to come from action research; in my study the framework has been devised based on close analysis of a practitioner's experience of research, which based on my search of theses, appears to be unusual. The questions in the ARC assume a researcher led project, whereas the framework here encourages more explicit consideration of participatory approaches, in keeping with the underlying belief that these should be adopted more widely. Finally, the ARC is presented as a series of stages. Some projects may proceed in this orderly fashion; but it is my understanding that the process is likely to be more complex. Rather than stages, the framework presented here looks at elements to be considered, and invites the reader to consider their interconnectedness. Ellingson (2011) presents a series of questions to support qualitative researchers in 'wondering' about their research. I share with her the belief that researchers should reflect on these issues, however her questions seem appropriate for a more experienced researcher and are less strongly linked to context than those set out in my framework. Similarly Zeni (2009) and Griffiths (2009) both suggest valuable questions to support action researchers. They focus on specific areas rather than the complete process, are proposed by academic researchers and like the Action Research Planner, are designed for action research, which may not be appropriate for all practitioners.

Throughout the project I have aimed to produce something of practical value to others, and it is the framework that sets this out. There are, however, further points that I feel should be considered from my journey in relation to practitioner and participatory research. I deliberately chose the format 'Teacher/Researcher' with a forward slash between the two as, certainly initially, the two roles felt very distinct and separate though interchangeable. Over time, through involvement in the process, the roles have come together and I can appreciate what I have learned. The process of exploring ideas in this depth is one that I believe few teachers get the opportunity to undertake, despite the benefits. I present the framework as a tool to help people become teacher-researchers, working the hyphen and interconnectedness (Fine, 1994), rather than the more divided teacher/researcher, as I believe such a shift would have the potential to improve education and learning for children. Although Porthouse

(2010) used a similar dialogue between teacher and researcher voices in a practitioner research project, it is less extended and of course applies to a different project. Zeni (2009) also describes a researcher/practitioner dialogue, but with shorter, snappier comments.

I am not denying the role of academic researchers who bring specialist expertise and knowledge, just as teachers, children and other parties involved bring their own specialist perspectives. All involved can work together to contribute different viewpoints, both showing respect and questioning deeply. Ideas, skills and expertise need to be connected, compared, contrasted and explored for learning to take place. In 'empowering' certain groups and individuals within this process whose voices may have been less clearly heard in the past, we need to be careful that we do not marginalise or lose the expertise of others; genuine dialogue can enable the multiplicity of voices to contribute and progress. Teacher (and other practitioner) researchers are well positioned to access people, information and local knowledge but also have to balance the demands on their time. Academics have a role as 'professional' researchers who can support the reflective process and management of data. It is similar to the diagram of 'connecting research' presented in Figure 2-1; different people and approaches can usefully link and come together to achieve my overall goal in education: improving children's learning.

Ideas related to participatory research **with children** have emerged across the project, with particular techniques such as the Woolly Web, faces, games and thermoevaluator being explored. Participatory research has the potential to go much further than this, with varying degrees of involvement throughout the process (Nind, 2014). A specific point of development here was the application of Kellett's work with children as researchers (Kellett, 2005) to a pupil research group. In a burgeoning area of research exploring pupil voice (Cain and Burnard, 2012; Lee and Johnston-Wilder, 2013), this project presents a primary school viewpoint, with the group focusing on an adult specified element of the School Development Plan. .

Finally, this thesis has charted my personal journey through the research, demonstrating the developmental possibilities within such a project (Lather, 1986). Dadds and Hart (2001) encouraged their students to experiment with different ways of presenting their research; my use here of a narrative dialogue between elements of oneself gives a particular perspective, indicating the dilemmas and debates that I faced through the project. The tensions and progress towards a more cohesive view are apparent (Drake and Heath, 2010) and in a world still dominated by academic writers, it is important for other voices to contribute to the discussion (Freire, 1970). As a

practitioner I have appreciated the opportunities I have had to read other practitioners' accounts of research undertaken (Dadds and Hart, 2001; Roche, 2011); I have always found points of relevance and believe others would find the same in mine.

Chapter 12 Conclusions and recommendations

In summary, my self-reflexive research journey was based on two main projects: exploring how I could help children make connections in their learning and working with a pupil research group on an area of the School Development Plan. I have used a narrative approach to explore an area that, compared to many that have used this approach, could be seen as relatively positive, in the way that Chase (2011) suggests should happen. Through this, I have developed my understanding of teaching and research, particularly as a practitioner researcher. A key development across the journey has been exploring my understanding of the beliefs and processes involved in research. The route has led me to question how I work with the children and to explore the impact of my role as a teacher on my classroom based research. The writing of my journal and the dialogue has been an important part of my journey, which I then analysed in depth to draw out my learning and explore the 'problems, progress and priorities' of the title. This is very much my story, but I present my thoughts in these three areas, along with the framework, as my contribution to knowledge. I acknowledge that not all of them are unique to me, but suggest this is contributing to the wider development of knowledge in relation to practitioner research.

Reflecting on my learning: 'problems'

The reader may feel that I have already spent too much time elaborating the problems, but I feel it is worth drawing together the main areas as part of the honesty and authenticity I have always aimed for in this study. Thinking back to how we learn, problems can help as we adapt our understanding and practice to resolve them (Posner *et al.*, 1982). Like Fox and Allan (2014: 111), I believe that valuable learning can come from the 'bumpy ride' of the reflexive process. I recognise that many of the limitations described here stem from imperfect practice on my part, but also know that I always set out with the best of intentions. I thought I had a clear, well-planned, action-research based project, even when I had to adapt it following on from difficulties I had experienced. However, I needed greater anticipation of potential difficulties or a stronger determination to see things through regardless, but as the study has shown, schools are complex places with many demands placed on those working there.

Many factors can affect the manageability of practitioner research. Probably most significant is the support of the school and ideally working in collaboration with others. Demands such as Ofsted and national initiatives can enhance and detract from practitioner research. The timescale of a more extended project made it harder to fit into the rapidly changing educational climate. By choosing a smaller scale project of immediate relevance to the School Development Plan, fitting it in was easier. It leaves a nagging concern about how we accommodate deeper and more substantial change.

There were many times when I had found the learning process hard, as I had wrestled with theory and its application to the classroom, similar to the teasing out of understanding described by Fox and Allan (2014). I was encountering a whole new language, as described by Somekh (1994); in order to grow I had to learn to understand the ideas and link them with my experience. At times, there were points of resonance, but at others, real difficulties as I worked to interpret familiar and new ideas.

My role as a teacher created some dilemmas; I had responsibilities towards the children and their right to learn which at times meant I had to compromise elements of the project. Practitioners are well placed to notice on-going incidental data, which was potentially valuable for Part 1, but there were many challenges making it hard to record and reflect on this. I was researching 'critical moments' which could occur at any time but were not readily captured. By the next available break, the multiple demands of teaching had usually overridden the detail which would make the analysis useful and interesting, but a visiting researcher might never have been around to see a 'critical moment'. Digital data collection presented me with particular challenges. Teaching has often felt like a juggling act and the research added another element to this. At school, we need to make the space and time for research for it to be effective.

In this project I was heavily reliant on verbal data, and for some children this may not be a way that they can or would prefer to express their ideas. I am still working to find ways of encouraging the children to discuss their ideas in greater depth and detail. We have to respect their voices; when the children expressed concern about the digital camera (2006-7) I found it hard to continue, as this was a chief way of collecting data at that time but having offered them the choice of saying if they were not happy with it, I had to respect what they said. There is a danger of taking the normal relationships in school for granted. We need to work constantly to see everything from all the different points of view and respect all the diversity, especially within groups that we might tend to put together. This is particularly true for the children's views, although these should not be heard uncritically as we all speak differently about different points

depending on the time and the context (Thomson, 2011). My closeness to what I was researching sometimes made it more difficult to stand back, although I found the dialogue format helpful for this.

Reflecting on my learning: 'progress'

Practitioner research is a complex and demanding activity, which, despite the challenges and potential problems, can have significant implications. In my experience, there have been many points of 'progress', which interestingly often link to the problems identified above. A key element in the process is understanding that there is no one right way to move forward; describing their work with teachers in America, Bryant and Bates (2010) discuss the initial resistance from practitioners to the focus on process over product and go on to explain that 'action research wanders, struggles, creates tension, and facilitates risk-taking. ... we want our students ... to allow action research to transform their teaching and explore where their questions might lead them' (Bryant and Bates, 2010: 315). There are several words which link with my work, not least the 'struggles' and 'tension'. The process has been exploratory, with reflection feeding into further action and leading me to areas I did not remotely expect at the start. The journey helped me reflect on what I am doing with the children. Given time, I have been able to examine and develop more deep-seated attitudes and beliefs **to make the process more participatory, despite the inbuilt power imbalance, resonating with Brydon-Miller *et al.* (2011) and their exposition of participatory action research.** The process led me to be more thoughtful and critical about the approaches I use, both for the research and in my everyday practice. I am more aware and interested in the underlying philosophy and implications of this. This applies especially to consideration of the complexity of relationships, responsibilities and different voices in research. Within the classroom, the research helped me discuss my role as a learner more explicitly with the children and this showed them that I believe it is a lifelong activity. **I am more comfortable exploring and linking theory and practice, and have a more strongly democratic approach, as Levin and Greenwood (2011) also describe.**

Exploring other people's ideas is always challenging, but, as has been recognised by many, working with younger children presents some extra considerations. Within the narrow parameters of this project, they have responded well when I have used games and more practical activities, but this is not to say they do not also respond to other approaches. **Certain techniques appeared to foster engagement and discussion, in particular the use of technology, the 'Woolly Web', turning an interview into a game and using formats based on analogies such as those chosen by the PRG. These I feel I**

could share and develop further with other practitioner researchers. Working with children is not just about appealing techniques: it needs to go deeper than that as we share ideas more fully and show respect for what they bring to the research. The PRG engaged fully with their responsibilities as researchers and used this to benefit all the children in the school. Sharing the 'power' in school can be beneficial for all, especially with the children as co-researchers, and the more I have tapped into this, the more I have learnt.

I have developed the range of techniques I can use for research. I am now more aware of points to consider when preparing and conducting interviews and other discussions, with greater awareness of the factors that can affect these such as power relationships. Reflective writing has proved an invaluable tool and one I would strongly recommend to others, not just to convey ideas, but to explore and develop them, as Holly (2009) describes. I am more able to anticipate potential hazards in research methods, for example the challenges in capturing incidental data. Through the study, I have always endeavoured to act ethically, in particular approaching the need to gain informed and on-going consent in appropriate ways. Some of this felt like jumping through the hoops of ethics regulation, because as a committed teacher I always want the best for the children in my care. Nonetheless, the research process has developed my understanding of the many subtleties involved in ethical practice and their changing nature as technology develops.

Technology has been enormously helpful in many ways, especially as the pool of texts available from my computer at home has expanded, and my skills have developed to manage these. It has real benefits when handling large amounts of data, as I have discovered through the coding process, and is invaluable as a tool for presenting ideas. It has also caused me huge difficulties in relation to learning new techniques, managing the equipment and data and making sure that it is a tool rather than a dominating force. When I read Davidson and di Gregorio (2011) I understood their description of researchers battling away, often on their own, to master technology and agree with them that it is important to recognise that the human element is still vital.

I am now more open to less traditional ways of presenting research and see the real benefits these have to offer in terms of effective communication, both for the researcher and the reader. Most significantly, I have become a strong advocate for the use of a narrative approach where appropriate; it enabled me to explore and develop my thinking, as well as communicate it in a format with the potential for engaging with other practitioners. Although dealing with more mundane matters than many narratives in current research, for me it fulfilled the 'Urgency of speaking' and

'Urgency of being heard' discussed by Chase (2011: 427). The use of the dialogue format helped me explore ideas in what (Pelias, 2011) would describe as a self-reflexive and discursive way. This can contribute to the debate about the value of practitioner research and how best to achieve this. Chase (2011) advocates a move towards more everyday narratives (such as I feel mine is) in comparison to those exploring extremes of social injustice, which currently appear to be more prevalent.

I have become more aware of how I respond to new ideas and change. I need to ensure I do not just focus on the practical, but also explore the underlying principles, especially where they are more challenging. This takes time and effort but will help in the long term. The project has shown in a concrete way how I always try to fit too much in, often at the expense of quality, and this is something I will continue to address. I understand more fully that connecting ideas with each other and with what I already know is often important in the learning process for me. Like Preissle (2011), I find analogies and metaphors (often represented diagrammatically) provide a useful structure through which to develop and communicate this understanding. Whilst I have valued spending time and effort exploring the approaches and underlying philosophy, I share her vision for the future of looking beyond boundaries and investigating each research project in its own right.

The debates around quality in research have concerned me, especially where practitioner research and participatory research are heavily criticised with apparently little appreciation of the demands and the learning process. At the same time, I would never want to endorse poor quality work. The criteria against which quality will be judged are so dependent on the underlying approach that it is vital for practitioners to make clear the points that are important to them. I now feel more confident in stating that the most important elements for me are honesty, clarity and responsibility. If they are in place, I can decide whether a piece of research has been carried out ethically and whether it comes across as authentic and relevant. This relevance is, to me, what gives it value, and I appreciate that this will vary from person to person. Practical knowledge is often criticised, but this is critical for practitioners. Most significantly, I have learned to look deeper at what lies behind practical suggestions. For me, research and teaching have become more closely aligned. The academic and practitioner worlds seem to be learning to listen to each other, and I am pleased to be part of this process. In my experience, there is further work to be done, especially in helping some teachers see the relevance of researching their practice, an area in which the framework may help.

Looking to the future: 'priorities'

Finally, I come to the 'priorities'. The word is dual purpose. Firstly, it reminds practitioner researchers that they, of all researchers, will be faced with a particular need to prioritise. There were many claims on my time both within the research process and beyond; with greater anticipation, I believe I could have made this process easier for me, for others and the research.

'Priorities' also leads into future areas **to be explored** following on from this study **and future research questions**. My first suggestion links to the point above about practitioners needing to prioritise. I was pleased to see the education select committee suggesting that sabbaticals for teachers would be invaluable for their personal development and the development of practice (Stuart, 2012). Since this was written in May 2012 I have not heard of any further developments. Given the many sources of evidence, including from this project, that time and space are key factors in enabling more thorough teacher research, I suggest that this is a key political priority for the future. The practitioners' voices need to inform the development process, and practitioners also need the time to develop, reflect and present them. I had this kind of time for my Masters (Dodd 2004), and can testify to the difference that even a small amount of time made both to my motivation and to the weight given to the project in school. Asking small primary schools to fund this for one person is difficult within their budget constraints. Judging by the responses from some colleagues who knew I was undertaking research, there is still some way to go in making connections across what some perceive as an academic/practitioner divide. The framework is designed to assist with this.

A further priority is exploration of how children can be encouraged to make connections. As practice has moved on, many classrooms have 'working walls' where children are encouraged to look back at key information from previous lessons. This to some extent encourages connecting learning. I wonder whether there are ways of encouraging this closer linking and broader linking. I was keen to explore the links between children's home and school learning and fell far short of what I had hoped to achieve. Children's experiences, both in real life and via technology may provide useful points with which to connect. **I have found that making connections occurs in a number of different ways, encompassing gradual shifts (as through the analysis process discussed in Chapter 11) and more rapid turns (as when reading Ellis and Bochner, 2000). I would be interested to investigate the impact of different approaches, including working walls and reminding children of prior learning towards helping children make connections.**

In terms of the research process, I am now keen to see how teacher researchers respond to the suggested framework. I am interested to know whether it helps them explore the threads from the start and track them through the process, ultimately leading to more effective research, grounded in the realities of teaching. **The few people I have shown it to have responded positively, but it clearly needs fuller exploration and potentially development.**

One specific area of interest generated **through the project is the exploration of children's and other participants' sense of responsibility towards the research, especially where children are co-researchers. I would be interested to investigate participants' views of the extent to which they felt their voices had been heard and valued and their perception of the relevance of their project. In this project, I endeavoured to follow ethical procedures throughout, but the initial ideas came from my contact with the University, based on the BERA guidelines, and were led by me. Further lines of enquiry could be based on a more co-constructed ethical procedure as suggested by Christians (2011) and Canella and Lincoln (2011), particularly where the overall aims of the project stem from a participatory research approach.**

In Part 2, I explored working with a pupil research group on an element of the School Development Plan. Colleagues and I chose a Year 5 group, who happened not to be my class, principally because we felt that this was a more appropriate age group for this project. Within the project, I noted that this led to shifting insider/outsider perspectives. A further point to explore would be comparing the impact of working with children taught directly by the teacher researcher and working with those that are not. Alongside this it would be interesting to explore the implications of different people, including the children, fulfilling Shulman and Shulman's (2004) concept of 'community'.

Having struggled and appreciated the benefits of technology, I welcome the involvement of more mainstream IT companies in the hardware and software that researchers can use to support data collection and analysis (Davidson and di Gregorio, 2011). I can see the potential for tablet computers for collecting data within classrooms, especially as children become increasingly accustomed to them being around and using them. The facility to switch rapidly between audio and video recording, together with the development of applications to annotate these, could make incidental data collection much simpler. I battled with the complexities of Atlas.ti, and noted the time (and finance) needed to become familiar with it even at a basic level. It will be interesting to see what emerges over the next few years that

practitioners could use more readily for data analysis, and the impact that this has on the process.

Coda

As a musician as well as a teacher and researcher, it feels appropriate to end with a 'Coda' or concluding thoughts which round off a composition. I started the study with a picture of children suddenly realising a connection. I cannot say in my research that I have had a 'critical moment' like that with a light suddenly coming on, although there have been times when I have read articles, like Ellis and Bochner (2000), where I felt the aeroplane was suddenly swinging round giving me a totally different perspective on the world I thought I knew. What I have found is that through the study I have gradually made the connections that help me move forward, just as, bit by bit, more elements can be added to and moved around on a clay model. To do this I have had to be shown new techniques, try out ideas, make mistakes, talk to others and read about other views, write, revisit, and above all take time and space. I do not see myself as a finished article; now I hope to share my learning with others so that children and practitioners are given the opportunities to plan, anticipate and make connections in the ways I have found helpful. Most importantly, I have learned about the complexity of learning and the importance of listening and responding to the different voices; by collaborating, we maximise learning for all.

I have chosen to finish with direct quotations from the classroom and academic worlds as both have been significant influences. Making connections has been a key part of my learning process, just as Colin described in relation to the Woolly Web: 'We might stick on them and think more about what we learn and remember them' (9.08/06). His description of the process matches my journey and the links that have helped me. It has not been easy and it has taken me on unexpected paths, with many 'restless' times working on my own and with others, driven by the desire to find out more. Freire (1970: 53) argues: 'Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful enquiry human beings pursue in the world, with the world and with each other.' I related to this immediately; it gives me confidence that my story is worth contributing to the overall picture.

References

Alderson, P. (2001). "Research by children." *International Journal of Social Research Methodology* 4(2): 139-153.

Alderson, P. (2004). "Ethics". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 97-112.

Alderson, P. (2005). "Research by children". in Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.), *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University: 61-75.

Alexander, P. A. and Murphy, P. K. (1999). "Nurturing the seeds of transfer: a domain-specific perspective." *International Journal of Educational Research* 31(7): 561-576.

Alexander, R. (2008). *Essays on Pedagogy*. London, New York, Routledge.

Anderson, G. L., Herr, K. and Nihlen, A. S. (2007). *Studying Your Own School: An Educator's Guide to Practitioner Action Research*. Thousand Oaks, Corwin Press.

Andrews, M., Sclater, S. D., Squire, C. and Tamboukou, M. (2004). "Narrative research". in Gobo, G., Seale, C., Silverman, D. and Gubrium, J., F., (Eds.), *Qualitative Research Practice*. London, Thousand Oaks, New Delhi, SAGE Publications: 109-124.

Anghileri, J. (2006). *Teaching Number Sense*. London and New York, Continuum International Publishing Group.

Atkinson, S. (1995). *An Action Research Investigation into Mathematics Curriculum Development and the Role of Mathematics Co-ordinator in a Primary School*. PhD thesis. Open University.

Attard, K. (2006). *Reflecting on reflection: a case-study of one teacher's early-career professional learning*. PhD thesis. Loughborough University.

Aubrey, C., David, T., Godfrey, R. and Thompson, L. (2000). *Early Childhood Educational Research: Issues in Methodology and Ethics*. London, RoutledgeFalmer.

Barnes, D. R., Britton, J. N. and Torbe, M. (1986). *Language, the Learner and the School (3rd edition)*. London, Penguin.

Barry, C. A. (1998) Analysis software: Atlas/ti and Nudist compared'. *Sociological Research Online* 3, Accessed on 22.8.11 from <http://socresonline.org.uk/3/3/4.html>

- Bartlett, F. C. (1932). *Remembering: A study in Experimental and Social Psychology*. Cambridge, Cambridge University Press.
- Bartlett, S. and Burton, D. (2006). "Practitioner research or descriptions of classroom practice? A discussion of teachers investigating their classrooms." *Educational Action Research* **14**(3): 395-405.
- Bassey, M. (2007). "On the kinds of research in educational settings". in Hammersley, M., (Ed.) *Educational Research and Evidence-based Practice*. Milton Keynes, The Open University: 141-150.
- Beatty, R., Bedford, J., Both, P., Eld, J., Goitom, M., Heinrichs, L., Moran-Bonilla, L., Massoud, M., Van Ngo, H., Pynch, T., Rogerson, M., Sitter, K., Speaker, C. E. and Unrau, M. (2008). "Recording action research in a classroom: singing with chickadees." *Educational Action Research* **16**(3): 335-344.
- Bell, J. (2005). *Doing Your Research Project: A Guide for First-Time Researchers in Education, Health and Social Science (4th edition)*. . Maidenhead, Open University Press/McGraw-Hill.
- Benjamin, S., Nind, M., Hall, K., Collins, J. and Sheehy, K. (2003). "Moments of inclusion and exclusion: pupils negotiating classroom contexts." *British Journal of Sociology of Education* **24**(5): 547-558.
- BERA (2004). *Revised Ethical Guidelines for Educational Research*, British Educational Research Association.
- Bettelheim, B. (1978). *The Uses of Enchantment: The Meaning and Importance of Fairy Tales*. Middlesex, Penguin.
- Bills, C. (2001). "Metaphors and other linguistic pointers to children's mental representations." *Research in Mathematics Education* **3**(1): 141-154.
- Black, M. (1993). "More about metaphor". in Ortony, A., (Ed.) *Metaphor and Thought (2nd edition)*. Cambridge, Cambridge University Press: 19-41.
- Black, P. and Wiliam, D. (2006). *Inside the Black Box: Raising Standards Through Classroom Assessment*. London, Granada Learning.
- Blain, M. and Eady, S. (2002). "The WOW factor: spiritual development through science." *International Journal of Research & Method in Education* **25**(2): 125-135.
- Blake, A. (2004). "Helping young children to see what is relevant and why: supporting cognitive change in earth science using analogy." *International Journal of Science Education* **26**(15): 1855-1873.

- Bochner, A. P. (1997). "It's about time: narrative and the divided self." *Qualitative Inquiry* **3**(4): 418-438.
- Bochner, A. P. (2001). "Narrative's virtues." *Qualitative inquiry* **7**(2): 131-157.
- Bourke, R. and Loveridge, J. (2014). "Exploring informed consent and dissent through children's participation in educational research." *International Journal of Research & Method in Education* **37**(2): 151-165.
- Bourne, J. and Jewitt, C. (2003). "Orchestrating debate: a multimodal analysis of classroom interaction." *Reading* **37**(2): 64-72.
- Brennan, M. (2009). "A school system takes on exhibitions through teacher action research". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 202-212.
- Brown, M. and Macatangay, A. (2002). "The impact of action research for professional development: case studies in two Manchester schools." *Westminster Studies in Education* **25**(1): 35-45.
- Brown, T. and England, J. (2005). "Identity, narrative and practitioner research: a Lacanian perspective." *Discourse: Studies in the Cultural Politics of Education* **26**(4): 443-458.
- Bruce, J. (1987). *Aspects of the Early Growth and Development of a New, Semi-open Plan Primary School as Perceived by its Participant Members*. M.Phil thesis.
- Bryant, I. (1996). "Action research and reflective practice". in Scott, D. and Usher, R., (Eds.), *Understanding Educational Research*. London, Routledge: 106-119.
- Bryant, J. and Bates, A. (2010). "The power of student resistance in action research: teacher educators respond to classroom challenges." *Educational Action Research* **18**(3): 305-318.
- Brydon-Miller, M., Kral, M., Maguire, P., Noffke, S. and Sabhlok, A. (2011). "Jazz and the banyan tree: roots and riffs on participatory action research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research*. Thousand Oaks, California London, SAGE: 387-400.
- Bucknall, S. (2010). *Children as researchers in English primary schools: developing a model for good practice*. British Educational Research Association Annual Conference, University of Warwick, UK, 1-4 Sept. 2010. Accessed on 25.8.11 from http://oro.open.ac.uk/23195/1/Children_as_researchers_in_English_primary_schools_final.pdf

- Burchell, H. (2010). "Poetic expression and poetic form in practitioner research." *Educational Action Research* **18**(3): 389-400.
- Burchell, H. and Dyson, J. (2000). "Just a little story: The use of stories to aid reflection on teaching in higher education." *Educational Action Research* **8**(3): 435-450.
- Cain, T. (2010). "Music teachers' action research and the development of big k knowledge." *International Journal of Music Education* **28**(22): 159-175.
- Cain, T. (2011). "Teachers' classroom-based action research." *International Journal of Research and Method in Education* **34**(1): 3-16.
- Cain, T. and Burnard, P. (2012). "Teachers and pupils as researchers". in Philpott, C. and Spruce, G., (Eds.), *Debates in Music Teaching*. Abingdon, New York, Routledge: 223-241.
- Campbell, A. and Jacques, K. (2004). "Best practice researched: teachers' expectations of the impact of doing research in their classrooms and schools." *Teacher Development* **7**(1): 75-90.
- Cannella, G. S. and Lincoln, Y. S. (2011). "Ethics, research regulations, and critical social science". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 81-90.
- Cardno, C. (2006). "Leading change from within: action research to strengthen curriculum leadership in a primary school." *School Leadership and Management* **26**(5): 453-471.
- CARN (no date). "Collaborative Action Research Network." Retrieved 05/05/2014, from <http://www.esri.mmu.ac.uk/carnnew/index.php>.
- Caro-Bruce, C., Klehr, M., Zeichner, K. and Sierra-Piedrahita, A. M. (2009). "A school district-based action research program in the United States". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 104-117.
- Carolan, S. A. J. (2000). *Parent, Teacher and Child Perceptions of Human Rights Education: a Primary School Study* PhD thesis. University of Birmingham.
- Carr, W. and Kemmis, S. (1986). *Becoming Critical: Education Knowledge and Action Research*. Lewes, Falmer Press.
- Carr, W. and Kemmis, S. (2009). "Educational action research: a critical approach". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 74-84.

Caviglioli, O. and Harris, I. (2000). *Mapwise: Accelerated Learning Through Visible Thinking*. Stafford, Network Educational Press.

CBI (2007). *Shaping Up for the Future: the Business Vision for Education and Skills*. CBI. Accessed on 29.9.13 from <http://icg-uk.org.14-1.a01.co.uk/hres/shaping%20up%20for%20the%20future%20%20cbi%20april%2020071.pdf>

Chambers, A. (1985). *Booktalk: Occasional Writing on Literature and Children*. London, Bodley Head

Charmaz, K. (2006). *Constructing Grounded Theory: A Practical Guide Through Qualitative Analysis*. Los Angeles, London, New Delhi, Singapore, SAGE Publications.

Charmaz, K. (2011). "Grounded theory methods in social justice research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 359-380.

Chase, S. E. (2005). "Narrative inquiry: multiple lenses, approaches, voices". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (3rd edition)*. Thousand Oaks, London, New Delhi, Sage Publications: 651-679.

Chase, S. E. (2011). "Narrative inquiry: still a field in the making". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 421-434.

Christensen, P. and Prout, A. (2002). "Working with ethical symmetry in social research with children." *Childhood* **9**: 477-497.

Christians, C. G. (2011). "Ethics and politics in qualitative research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 81-89.

Christie, D. and Menter, I. (2009). "Research capacity building in teacher education: Scottish collaborative approaches." *Journal of Education for Teaching* **35**(4): 337-354.

Clark, A. (2004a). "The mosaic approach and research with young children". in Lewis, V., Kellett, M., Robinson, C., Fraser, S. and Ding, S., (Eds.), *The Reality of Research with Children and Young People*. London, SAGE Publications in association with the Open University: 142-161.

Clark, J. (2004b) Participatory research with children and young people: pitfalls, possibilities and perils. Accessed on 13.8.07 from

http://www.ecls.ncl.ac.uk/publications/Clark%5E2004-Participatory_research_with_children.pdf

Clarke, S. (2003). *Enriching Feedback in the Primary Classroom: Oral and Written Feedback from Teachers and Children*. London, Hodder & Stoughton.

Clarke, S. (2005). *Formative Assessment in Action: Weaving the Elements Together*. London, Hodder Murray

Claxton, G. (2002). *Building Learning Power*. Bristol, TLO

Clayton, S., O'Brien, M., Burton, D., Campbell, A., Qualter, A. and Varga-Atkins, T. (2008). "'I know it's not proper research, but...': how professionals' understandings of research can frustrate its potential for CPD." *Educational Action Research* **16**(1): 73-84.

Clough, P. (2002). *Narratives and Fictions in Educational Research*. Buckingham, Philadelphia, Open University Press.

Coad, J. (2007). "Using art-based techniques in engaging children and young people in health care consultations and/or research." *Journal of Research in Nursing* **12**(5): 487-497.

Coad, J. and Evans, R. (2008). "Reflections on practical approaches to involving children and young people in the data analysis process." *Children & Society* **22**(1): 41-52.

Cobb, P., Confrey, J., diSessa, A., Lehrer, R. and Schauble, L. (2003). "Design experiments in educational research." *Educational Researcher* **32**(1): 9-13.

Coffey, A. (1999). *The Ethnographic Self: Fieldwork and the Representation of Identity*. London, California, New Delhi, SAGE Publications.

Cohen, L., Manion, L. and Morrison, K. (2000). *Research Methods in Education (5th edition)*. London and New York, RoutledgeFalmer.

Coleman, M. and Lumby, J. (1999). "The significance of site-based practitioner research in educational management". in Middlewood, D., Coleman, M. and Lumby, J., (Eds.), *Practitioner Research in Education: Making a Difference*. London, Paul Chapman Publishing Ltd.: 1-19.

Cook, T. (2004). "Reflecting and learning together: action research as a vital element of developing understanding and practice." *Educational Action Research* **12**(1): 77-98.

Coppock, V. (2007). "It's good to talk! A multidimensional qualitative study of the effectiveness of emotional literacy work in schools." *Children & Society* **21**(6): 405-419.

Cordingley, P. (2008a). "Research and evidence-informed practice: focusing on practice and practitioners." *Cambridge Journal of Education* **38**(1): 37-52.

Cordingley, P. (2008b). *Sauce for the Goose*. Coventry, CUREE.

Costley, C. and Armsby, P. (2007). "Research influences on a professional doctorate." *Research in Post-Compulsory Education* **12**(3): 343-355.

Covell, K. (2010). "School engagement and rights-respecting schools." *Cambridge Journal of Education* **40**(1): 39-51.

Cox, S. and Robinson-Pant, A. (2008). "Power, participation and decision-making in the primary classroom: children as action researchers." *Educational Action Research* **16**(4): 457-468.

CRC (2011). "Children's Research Centre original research page." Retrieved 22/08/2011, from <http://childrens-research-centre.open.ac.uk/research.cfm>.

Creswell, J. W. (2011). "Controversies in mixed methods research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 269-284.

Cross, B. (2009). "Hearing out children's narrative pathways to adulthood: young people as interpreters of their own childhoods in divergent working-class Scottish communities." *Childhood* **16**: 335-353.

Dadds, M. (2008). "Empathetic validity in practitioner research." *Educational Action Research* **16**(2): 279-290.

Dadds, M. and Hart, S. (2001). *Doing Practitioner Research Differently*. London, RoutledgeFalmer.

Darke, S. F. (2002). *School and Community: a Communitarian Perspective*. PhD thesis. University of Exeter.

David, M., Edwards, R. and Alldred, P. (2001). "Children and school based research: 'informed consent' or 'educated consent'." *British Educational Research Journal* **27**(3): 347-365.

Davidson, J. and di Gregorio, S. (2011). "Qualitative research and technology: in the midst of a revolution". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 627-643.

Delamont, S. (2002). *Fieldwork in Educational Settings: Methods, Pitfalls and Perspectives*. London and New York, Routledge.

- Denzin, N. K. (1997). "Triangulation in educational research". in Reeves, J. P., (Ed.) *Educational Research, Methodology and Measurement: An International Handbook (2nd edition)*. Oxford, Elsevier Science Ltd: 318-322.
- Denzin, N. K. and Lincoln, Y. S. (2011). "The discipline and practice of qualitative research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of qualitative research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 1-19.
- Deshler, D., Schumaker, J., Bulgren, J., Lenz, K., Jantzen, J. E., Adams, G., Carnine, D., Grossen, B., Davis, B. and Marquis, J. (2001). "Making learning easier: connecting new knowledge to things students already know." *Teaching Exceptional Children* **33**(4): 82-85.
- DfES (2003). *Excellence and Enjoyment: a Strategy for Primary Schools*. Nottingham, DfES.
- DfES (2004). *Excellence and Enjoyment: Learning and Teaching in the Primary Years*. London, DfES.
- Dodd, M. (2004). *Investigating the Links Between Stories Heard and Writing with Year 2 Children*. M.A (Ed) dissertation. University of Southampton.
- Dodd, M. (2009). *Trying things out: involving primary school children through action research*. Advancing Participatory Research with Children and Young People, National Council for Voluntary Organisations, 23rd February 2009 (unpublished). Sponsored by ESRC National Centre for Research Methods and Child Well-being Research Centre.
- Dowling, M. and Dauncey, E. (1984). *Teaching 3-9 year olds: Theory into Practice*. East Grinstead, Ward Lock Educational.
- Downs, Y. (2010). "Transcription tales or let not love's labours be lost." *International Journal of Research & Method in Education* **33**(1): 101-112.
- Drake, P. and Heath, L. (2010). *Practitioner Research at Doctoral Level: Developing Coherent Research Methodologies*. London, New York, Routledge.
- Driver, R., Asoko, H., Leach, J., Scott, P. and Mortimer, E. (1994). "Constructing scientific knowledge in the classroom." *Educational Researcher* **23**(7): 5-12.
- Duffy, B. (2005). "The analysis of documentary evidence". in Bell, J., (Ed.) *Doing Your Research Project: A Guide for First-Time Researchers in Education, Health and Social Science (4th edition)*. Maidenhead, Open University Press/McGraw-Hill: 122-135.
- Eagle, S., French, J. and Malcolm, P. (2005) Thinking Headteachers, Thinking Schools. Accessed on 3.8.06 from <http://www.ncsl.org.uk/media/1CB/1A/thinking-headteachers-thinking-schools.pdf>

Edwards-Leis, C. (2006). *Variations to stimulated recall protocols to enhance student reflection: I did, I saw, I remembered*. AARE Conference 2006, Adelaide, Accessed on 19.2.07 from <http://eprints.jcu.edu.au/3035/>

Eilertsen, T.-V., Gustafson, N. and Salo, P. (2008). "Action research and the micropolitics in schools." *Educational Action Research* **16**(3): 295-308.

Ellingson, L. L. (1998). "' Then you know how I feel": empathy, identification, and reflexivity in fieldwork." *Qualitative Inquiry* **4**(4): 492-514.

Ellingson, L. L. (2011). "Analysis and representation across the continuum". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 595-610.

Elliott, J. (1991). *Action Research for Educational Change*. Milton Keynes, Open University Press.

Elliott, J. (2007). "Assessing the quality of action research." *Research Papers in Education* **22**(2): 229-246.

Ellis, C. and Bochner, A. P. (2000). "Autoethnography, personal narrative, reflexivity: researcher as subject". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *Handbook of Qualitative Research (2nd edition)*. Thousand Oaks, SAGE Publications. **2**: 733-768.

Fals-Borda, O. (2001). "Participatory (action) research in social theory: origins and challenges". in Reason, P. and Bradbury, H., (Eds.), *Handbook of Action Research: Participative Inquiry and Practice*. London, Thousand Oaks, New Delhi, SAGE Publications: 27-37.

Fielding, M. and Bragg, S. (2003). *Students as researchers: Making a difference*. Cambridge, Pearson Publishing.

Fine, M. (1994). "Working the hyphens: reinventing Self and Other in qualitative research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The Landscape of Qualitative Research: Theories and Issues*. Thousand Oaks, London, New Delhi, SAGE Publications: 130-155.

Finlayson, J. G. (2005). *Habermas*. Oxford, Oxford University Press.

Fisher, R. (2005). *Teaching Children to Think*. Cheltenham, Nelson Thornes.

Flores-Castinas, E., Montoya-Vargas, J. and Suárez, D. H. (2009). "Participatory action research in Latin American education: a road map to a different part of the world". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 453-466.

Floyd, A. and Arthur, L. (2012). "Researching from within: external and internal ethical engagement." *International Journal of Research & Method in Education* **35**(2): 171-180.

Forster, J. (1996) Linking Thinking. Accessed on 4.8.06 from <http://www.nexus.edu.au/teachstud/gat/forster1.htm>

Foster, P. (1999). "'Never mind the quality, feel the impact': a methodological assessment of teacher research sponsored by the Teacher Training Agency." *British Journal of Educational Studies* **47**(4): 380-398.

Fox, A. and Allan, J. (2014). "Doing reflexivity: moments of unbecoming and becoming." *International Journal of Research & Method in Education* **37**(1): 101-112.

Fox, M., Green, G. and Martin, P. (2007). *Doing Practitioner Research*. London, Los Angeles, New Delhi, Singapore, Sage Publications Ltd.

Fraser, S. (2004). "Situating empirical research". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 15-26.

Freire, P. (1970). *Pedagogy of the Oppressed*, translated by Myra Bergman Ramos. London, Penguin Books.

Frost, R. (2007). "Developing the skills of seven- and eight-year-old researchers: a whole class approach." *Educational Action Research* **15**(3): 441-458.

Furlong, J. and Oancea, A. (2005). *Assessing Quality in Applied and Practice-based Educational Research: a Framework for Discussion*. Oxford, Oxford University Department of Educational Studies.

Furlong, J. and Salisbury, J. (2005). "Best practice research scholarships: an evaluation." *Research Papers in Education* **20**(1): 45-83.

Gallacher, L. and Gallagher, M. (2006). *Are participatory approaches really the way forward in research with children?* PIER Conference: Learning from children and young people, University of Stirling, 24th January 2006. Accessed on 10.8.07 from <http://www.geos.ed.ac.uk/homes/s0453363/PIER.pdf>

Gallacher, L. and Gallagher, M. (2008). "Methodological immaturity in childhood research: thinking through 'participatory methods'." *Childhood* **15**: 499-516.

Gallas, K. (2010) The variable of the self in classroom research: a brief and incomplete history of my work as a teacher researcher. *Inquiry in Education* **1**, 2 Accessed on 31.12.13 from <http://digitalcommons.nl.edu/cgi/viewcontent.cgi?article=1010&context=ie>

- Gass, S. M. and Mackey, A. (2000). *Stimulated Recall Methodology in Second Language Research*. Mahwah, New Jersey and London, Lawrence Erlbaum Associates.
- Geake, J. and Cooper, P. (2003). "Cognitive neuroscience: implications for education?" *Westminster Studies in Education* **26**(1): 7-20.
- Gewirtz, S., Shapiro, J., Maguire, M., Mahony, P. and Cribb, A. (2009). "Doing teacher research: a qualitative analysis of purposes, processes and experiences." *Educational Action Research* **17**(4): 567-583.
- Gibbs, P. and Costley, C. (2006). "An ethics of community and care for practitioner researchers." *International Journal of Research & Method in Education* **29**(2): 239-249.
- Glaser, B. G. and Holton, J. (2004). "Remodeling Grounded Theory." Retrieved 22/08/2011, from <http://www.qualitative-research.net/index.php/fqs/article/viewArticle/607/1315>.
- Glaser, B. G. and Strauss, A. L. (1968). *The Discovery of Grounded Theory*. London, Weidenfeld and Nicolson.
- Goodwin, W. L. and Goodwin, L. D. (1996). *Understanding Quantitative and Qualitative Research in Early Childhood Education*. New York and London, Teachers College Press.
- Gorard, S. (2002). "Fostering scepticism: the importance of warranting claims." *Evaluation & Research in Education* **16**(3): 136-149.
- Goswami, U. (1986). "Children's use of analogy in learning to read: a developmental study." *Journal of Experimental Child Psychology* **42**(1): 73-83.
- Goswami, U. (1988). "Children's use of analogy in learning to spell." *British Journal of Developmental Psychology* **6**(1): 21-33.
- Goswami, U. (1995). "Phonological development and reading by analogy: what is analogy and what is it not?" *Journal of Research in Reading* **18**(2): 139-145.
- Greany, T. and Rodd, J. (2003). *Creating a Learning to Learn School*. Stafford, Network Educational Press.
- Greene, S. (2009). *Accessing children's perspectives and experience: some impediments*. Advancing Participatory Research with Children and Young People, National Council for Voluntary Organisations, 23rd February 2009 (unpublished). Sponsored by ESRC National Centre for Research Methods and Child Well-being Research Centre.
- Greenfield, S. (2004). "Only connect " *Education Guardian* 2.8.04. Retrieved 03/08/2011, from

<http://education.guardian.co.uk/higher/comment/story/0,9828,1274441,00.html>

≥

Griffiths, M. (2009). "Action research for/as/mindful of social justice". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 85-98.

Groundwater-Smith, S. and Mockler, N. (2007). "Ethics in practitioner research: an issue of quality." *Research Papers in Education* **22**(2): 199-211.

Groundwater-Smith, S., Mockler, N., Mitchell, J., Ponte, P. and Ronnerman, K. (2012). *Facilitating Practitioner Research*. London and New York, Routledge.

Guthrie, L. I. (2005). *Teachers' Beliefs about Adopted Formative Assessment Strategies in Teaching Writing in the Primary School: a Case Study*. EdD thesis. University of Newcastle-upon-Tyne.

Hammersley, M. (1993). "On the teacher as researcher". in Hammersley, M., (Ed.) *Educational Research: Current Issues Vol. 1*. London, The Open University and Paul Chapman Publishing Ltd.

Hammersley, M. (2004). "Get real! a defence of realism' ". in Piper, H. and Stronach, I., (Eds.), *Education Research: Difference and Diversity*. Aldershot, Ashgate Publishing Ltd.

Hammersley, M. (2005). "Countering the 'new orthodoxy' in educational research: a response to Phil Hodgkinson." *British Educational Research Journal* **31**(2): 139-155.

Hammersley, M., (Ed.) (2007a). *Educational Research and Evidence-based Practice*. Los Angeles, London, New Delhi, Singapore, SAGE Publications and The Open University.

Hammersley, M. (2007b). "The issue of quality in qualitative research." *International Journal of Research & Method in Education* **30**(3): 287-305.

Hammersley, M. (2008). "Troubling criteria: a critical commentary on Furlong and Oancea's framework for assessing educational research." *British Educational Research Journal* **34**(6): 747-762.

Hardy, B. (1977). "Towards a poetics of fiction: an approach through narrative". in Meek, M., Warlow, A. and Barton, G., (Eds.), *The Cool Web: The Pattern of Children's Reading*. London, The Bodley Head: 12-23.

Hargreaves, A. and Goodson, I. F. (1996). "Teachers' professional lives: aspirations and actualities". in Goodson, I. F. and Hargreaves, A., (Eds.), *Teachers' Professional Lives*. Abingdon, RoutledgeFalmer: 1-27.

Hargreaves, D. (2007). "Teaching as a research-based profession: possibilities and prospects (the Teacher Training Agency lecture 1996)". in Hammersley, M., (Ed.) *Educational Research and Evidence-based Practice*. Los Angeles, London, New Delhi, Singapore, SAGE Publications and The Open University: 3-17.

Hargreaves, L., Moyles, J., Merry, R., Paterson, F., Pell, A. and Esarte-Sarries, V. (2003). "How do primary school teachers define and implement interactive teaching in the National Literacy Strategy in England?" *Research Papers in Education* **18**(3): 217-236.

Hart, S., Dixon, A., Drummond, M. J. and McIntyre, D. (2004). *Learning Without Limits*. Maidenhead, Open University Press.

Haynes, J. E. (2007). *'Listening as a Critical Practice: Learning from Philosophy with Children*. PhD thesis. University of Exeter.

Hedges, H. (2004) A whale of an interest in sea creatures: the learning potential of excursions. *Early Childhood Research and Practice* **6**, Accessed on 29.9.13 from <http://ecrp.uiuc.edu/v6n1/hedges.html>

Heron, J. and Reason, P. (1997). "A participatory inquiry paradigm." *Qualitative Inquiry* **3**(3): 274-294.

Hill, M. (2005). "Ethical considerations in researching children's experiences". in Greene, S. and Hogan, D., (Eds.), *Researching Children's Experience: Approaches and Methods*. London, Thousand Oaks, New Delhi, SAGE Publications: 61-86.

Hill, M. (2006). "Children's voices on ways of having a voice." *Childhood* **13**(1): 69-89.

Hill, M., Davis, J., Prout, A. and Tisdall, K. (2004). "Moving the participation agenda forward." *Children and Society* **18**: 77-96.

Hillage, J., Pearson, R., Anderson, A. and Tamkin, P. (1998). *Excellence in research on schools*. London, DfEE

Hitchcock, G. and Hughes, D. (1995). *Research and the Teacher: a Qualitative Introduction to School-based Research (2nd edition)*. London and New York, Routledge.

Hodkinson, P. (2004). "Research as a form of work: expertise, community and methodological objectivity." *British Educational Research Journal* **30**(1): 9-26.

Holland, S., Renold, E., Ross, N. J. and Hillman, A. (2010). "Power, agency and participatory agendas: a critical exploration of young people's engagement in participative qualitative research." *Childhood* **17**: 360-375.

Holly, M. L. (2009). "Writing to learn: a process for the curious". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 267-277.

Holt, N. L. (2008). "Representation, legitimation, and autoethnography: An autoethnographic writing story." *International Journal of Qualitative Methods* **2**(1): 18-28.

Hones, D. F. (1998). "Known in part: the transformational power of narrative inquiry." *Qualitative Inquiry* **4**(2): 225-248.

Hopkins, D. (2002). *A teacher's guide to classroom research (3rd edition)*. Maidenhead and Philadelphia, Open University Press.

Humphrey, N. and Hanley, J. R. (2004). "The role of orthographic analogies in reading for meaning: evidence from readers with dyslexia." *Journal of Research in Reading* **27**(3): 265-280.

l'Anson, J. and Allan, J. (2006). "Children's rights in practice: a study of change within a primary school." *International Journal of Children's Spirituality* **11**(2): 265-279.

Jacobs, J. K., Kawanaka, T. and Stigler, J. W. (1999). "Integrating qualitative and quantitative approaches to the analysis of video data on classroom teaching." *International Journal of Educational Research* **31**(8): 717-724.

Jakobson, B. and Wickman, P.-O. (2007). "Transformation through language use: children's spontaneous metaphors in elementary school science." *Science & Education* **16**: 267-289.

James, A. (2007). "Giving voice to children's voices: practices and problems, pitfalls and potentials." *American Anthropologist* **109**(2): 261-272.

James, A. L. and James, A. (2001). "Tightening the net: children, community, and control." *The British Journal of Sociology* **52**(2): 211-228.

Janesick, V. J. (1999). "A journal about journal writing as a qualitative research technique: history, issues, and reflections." *Qualitative Inquiry* **5**(4): 505-524.

Jeffrey, B. and Keynes, M. (2004). *Meaningful creative learning: learners' perspectives*. European Conference on Educational Research University of Crete 22-25 September 2004. Accessed on 7.8.06 from <http://www.leeds.ac.uk/educol/documents/153507.doc>

Jewitt, C. and Kress, G. (2003). "A multimodal approach to research in education". in Goodman, S., Lills, T., Maybin, J. and Mercer, N., (Eds.), *Language, Literacy and Education: A Reader*. Stoke-on-Trent, Trentham Books and Open University Press: 277-292.

Johnson, E. B. (2002). *Contextual Teaching and Learning: What it is and Why it's Here to Stay*. Thousand Oaks, Corwin Press.

Jones, A. (2004). "Involving children and young people as researchers". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 113-130.

Jones, P., Egerton, J. and Whitehurst, T. (2012). *Creating Meaningful Inquiry in Inclusive Classrooms: Practitioners' Stories of Research*. Abingdon, New York, Routledge.

Kane, R. G. and Maw, N. (2005). "Making sense of learning at secondary school: involving students to improve teaching practice." *Cambridge Journal of Education* 35(3): 311-322.

Keiny, S. and Orland-Barak, L. (2009). "Educational action research as a paradigm for change". in Noffke, S. and Somekh, B., (Eds.), *The Sage Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 166-177.

Kellett, M. (2005). *Children as Active Researchers: a New Paradigm for the 21st Century?* UK, ESRC.

Kellett, M. (2009). *Meaningful participation for young researchers*. Advancing Participatory Research with Children and Young People, National Council for Voluntary Organisations, 23rd February 2009 (unpublished). Sponsored by ESRC National Centre for Research Methods and Child Well-being Research Centre.

Kellett, M. and Ding, S. (2004). "Middle childhood". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 161-174.

Kellett, M., Robinson, C. and Burr, R. (2004). "Images of childhood". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 27-42.

Kemmis, S. (1993). "Action research". in Hammersley, M., (Ed.) *Educational Research: Current Issues Vol. 1*. London, The Open University and Paul Chapman Publishing Ltd.: 177-190.

Kemmis, S. (2001). "Exploring the relevance of critical theory for action research: emancipatory action research in the footsteps of Jurgen Habermas". in Reason, P. and Bradbury, H., (Eds.), *Handbook of Action Research:*

- Participative Inquiry and Practice*. London, Thousand Oaks, New Delhi, SAGE Publications: 91-102.
- Kemmis, S. and McTaggart, R. (1982). *The Action Research Planner*. Deakin University, School of Education, Open Campus Program.
- Kemmis, S., McTaggart, R. and Nixon, R. (2014). *The Action Research Planner: Doing Critical Participatory Action Research*, Singapore: Springer
- Kershner, R., Pedder, D. and Doddington, C. (2013). "Professional learning during a schools–university partnership Master of Education course: teachers' perspectives of their learning experiences." *Teachers and Teaching* **19**(1): 33-49.
- Kiesinger, C. E. (1998). "From interview to story: writing Abbie's life." *Qualitative Inquiry* **4**(1): 71-95.
- Kincheloe, J. L., McLaren, P. and Steinberg, S. R. (2011). "Critical pedagogy and qualitative research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 163-177.
- Kirby, P. (1999). *Involving Young Researchers: How to Enable Young People to Design and Conduct Research*. York, Joseph Rowntree Foundation and Youth Work Press.
- Kirby, P. and Gibbs, S. (2006). "Facilitating participation: adults' caring support roles within child to child projects in schools and after school settings." *Children & Society* **20**(3): 209-222.
- Lakoff, G. and Johnson, M. (1980). *Metaphors We Live By*. Chicago, London, The University of Chicago Press.
- Langston, A., Abbott, L., Lewis, V. and Kellett, M. (2004). "Early childhood". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC: 147-160.
- Lather, P. (1986). "Research as praxis." *Harvard Educational Review* **56**(3): 257-277.
- Leat, D. and Lin, M. (2003). "Developing a pedagogy of metacognition and transfer: some signposts for the generation and use of knowledge and the creation of research partnerships." *British Educational Research Journal* **29**(3): 383-414.
- Lee-Treweek, G. (2000). "The insight of emotional danger". in Lee-Treweek, G. and Linkogle, S., (Eds.), *Danger in the Field: Risk and Ethics in Social Research*. London, Routledge: 114-131.

- Lee, C. and Johnston-Wilder, S. (2013). "Learning mathematics—letting the pupils have their say." *Educational Studies in Mathematics*: 1-18.
- Leitch, R., Gardner, J., Mitchell, S., Lundy, L., Odena, O., Galanouli, D. and Clough, P. (2007). "Consulting pupils in Assessment for Learning classrooms: the twists and turns of working with children as co-researchers." *Educational Action Research* **15**(3): 459-478.
- Lesgold, A. (2004). "Contextual requirements for constructivist learning." *International Journal of Educational Research* **41**(6): 495-502.
- Levin, M. and Greenwood, D. (2011). "Revitalizing universities by reinventing the social sciences". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 27-42.
- Lewins, A. and Silver, C. (2006). "Choosing a CAQDAS Package." Retrieved 10/08/2006, from <http://caqdas.soc.surrey.ac.uk/ChoosingLewins&SilverV4%20june06.pdf>.
- Lincoln, Y. S., Lynham, S. A. and Guba, E. G. (2011). "Paradigmatic controversies, contradictions, and emerging confluences, revisited". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 97-128.
- Loxley, A. and Seery, A. (2008). "Some philosophical and other related issues of insider research". in Sikes, P. and Potts, A., (Eds.), *Researching Education from the Inside: Investigations from Within*. London and New York, Routledge: 15-32.
- Lyle, J. (2003). "Stimulated recall: a report on its use in naturalistic research." *British Educational Research Journal* **29**(6): 861-878.
- MacLure, M. (2004). "Women, writing, theory: 'a contradiction in terms'?" in Piper, H. and Stronach, I., (Eds.), *Educational Research: Difference and Diversity*. Cardiff, Ashgate.
- Mayall, B. (2008). "Conversations with children: working with generational issues". in Christensen, P. and James, A., (Eds.), *Research with Children: Perspectives and Practices (2nd edition)*. Abingdon, Routledge: 109-124.
- Mayer, R. E. (1993). "The instructive metaphor: metaphoric aids to students' understanding of science". in Ortony, A., (Ed.) *Metaphor and Thought (2nd edition)*. Cambridge, Cambridge University Press: 561-578.
- McCabe, A. and Horsley, K. (2008). *The Evaluator's Cookbook: Exercises for Participatory Evaluation with Children and Young People*. London and New York, Routledge.

- McCallum, B., Hargreaves, E. and Gipps, C. (2000). "Learning: the pupil's voice." *Cambridge Journal of Education* **30**(2): 275-289.
- McGuinness, C. (1999). *From Thinking Skills to Thinking Classrooms*. London, DfEE.
- McLaughlin, H. (2006). "Involving young service users as co-researchers: possibilities, benefits and costs." *British Journal of Social Work* **36**: 1395-1410.
- McNiff, J. (1988). *Action Research: Practice and Principles*. London, Routledge.
- McNiff, J. (2007). "How do I account for the good in what I claim as quality educational research?" *Philosophical Issues in Higher Education, Philosophy of Education Special Interest Group, BERA*. Retrieved 07/04/2009, from <http://www.jeanmcniff.com/thesignificanceofi.html>.
- McNiff, J., Lomax, P. and Whitehead, J. (2003). *You and Your Action Research Project (2nd edition)*. London and New York, RoutledgeFalmer.
- Mendelsohn, E., Winner, E. and Gardner, H. (1980). *The Spontaneous Production of Analogies by Grade School Children*. Cambridge, Harvard University.
- Menter, I., Elliot, D., Hulme, M., Lewin, J. and Lowden, K. (2011). *A Guide to Practitioner Research in Education*. Los Angeles, London, New Delhi, Singapore, Washington DC, Sage Publications.
- Mercer, N. (1995). *The Guided Construction of Knowledge: Talk Amongst Teachers and Learners*. Clevedon, Philadelphia, Adelaide, Multilingual Matters Ltd.
- Middlewood, D., Coleman, M. and Lumby, J., (Eds.) (1999). *Practitioner Research in Education: Making a Difference*. London, Thousand Oaks, New Delhi, Sage Publications and Paul Chapman Publishing Ltd.
- Morrow, V. and Richards, M. (1996). "The ethics of social research with children: an overview." *Children & Society* **10**(2): 90-105.
- Mosley, J. (1993). *Turn Your School Round*. Cambridge, LDA.
- Moss, G. (2001). "On literacy and the social organisation of knowledge inside and outside school." *Language and Education* **15**(2&3): 146-161.
- Moyles, J., Adams, S. and Musgrove, A. (2002). "Using reflective dialogues as a tool for engaging with challenges of defining effective pedagogy." *Early Child Development and Care* **172**: 463-478.
- Murphy, P. F. (1996). "Defining pedagogy". in Murphy, P. F. and Gibbs, C. G., (Eds.), *Equity in the Classroom: Towards Effective Pedagogy for Girls and Boys*. UNESCO: 9-22.

Murray, T. H. (1997). *What Do We Mean by 'Narrative Ethics'?* New York, Routledge.

Myhill, D. and Brackley, M. (2004). "Making connections: teachers' use of children's prior knowledge in whole class discourse." *British Journal of Educational Studies* **52**(3): 263-275.

NCSL (2010). "Using Research to Improve Your School." Retrieved 20/06/2010, from <http://www.nationalcollege.org.uk/index/leadershiplibrary/leadingschools/school-improvement/using-research-to-improve-your-school.htm>.

Nieto, S. (1994). "Lessons from students on creating a chance to dream." *Harvard Educational Review* **64**(4): 392-426.

Nind, M. (2014). *What is Inclusive Research?* London, New York, Bloomsbury Academic.

NTRP (2011) Habitats for teacher research: teacher perspectives on research as a sustainable environment for CPD. Accessed on 19.8.11 from http://www.ntpr.org.uk/sites/all/documents/NTRP%20survey%20report%20FINAL_0.pdf

O'Brien, N. and Moules, T. (2007). "So round the spiral again: a reflective participatory research project with children and young people." *Educational Action Research* **15**(3): 385-402.

Palincsar, A. S. (1998). "Social constructivist perspectives on teaching and learning." *Annual Review of Psychology* **49**(1): 345-375.

Pardoe, D. (2004). *Towards Successful Learning*. Stafford, Network Educational Press.

Pelias, R. J. (2011). "Writing into position: strategies for composition and evaluation". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 659-668.

Peshkin, A. (1988). "In search of subjectivity - one's own." *Educational Researcher* **17**(7): 17-21.

Petrie, H. G. and Oshlag, R. S. (1993). "Metaphor and learning". in Ortony, A., (Ed.) *Metaphor and Thought (2nd edition)*. Cambridge, Cambridge University Press: 579-610.

PhotoFinder (2014). Retrieved 05/04/2014, from https://www.youtube.com/watch?v=il7pi_FLaGE.

- Pike, G. and Selby, D. (1988). *Global Teacher, Global Learner*. London, Sydney, Auckland, Toronto, Hodder and Stoughton.
- Pirie, S. E. B. (1996). *Classroom video-recording: when, why and how does it offer a valuable source for qualitative research?* Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Panama City, 19.2.2007. Accessed on 19.2.07 from <http://files.eric.ed.gov/fulltext/ED401128.pdf>
- Porthouse, G. (2010). *Developing an Online Learning Community of Practices with Ten-year-old Pupils*. PhD thesis. University of Hertfordshire
- Posner, G. J., Strike, K. A., Hewson, P. W. and Gertzog, W. A. (1982). "Accommodation of a scientific conception: toward a theory of conceptual change." *Science Education* **66**(2): 211-227.
- Powell, E. (2005). "Conceptualising and facilitating active learning: teachers' video-stimulated reflective dialogues." *Reflective Practice* **6**(3): 407-418.
- Pratt, N. (2006). "'Interactive' teaching in numeracy lessons: what do children have to say?" *Cambridge Journal of Education* **36**(2): 221-235.
- Preissle, J. (2011). "The Future of Qualitative Research". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 685-698.
- Prosser, J. (2005). "The moral maze of image ethics". in Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.), *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University: 133-149.
- Punch, S. (2002a). "Interviewing strategies with young people: the 'secret-box', stimulus material and task-based activities." *Children & Society* **16**: 45-56.
- Punch, S. (2002b). "Research with children: the same or different from research with adults?" *Childhood* **9**(3): 321-341.
- Pupavac, V. (2002). "The international children's rights regime". in Chandler, D., (Ed.) *Rethinking Human Rights: Critical Approaches to International Politics*. Basingstoke, Palgrave Macmillan: 57-75.
- Reason, P. and Bradbury, H. (2001). "Introduction: inquiry and participation in search of a world worthy of human aspiration". in Reason, P. and Bradbury, H., (Eds.), *Handbook of Action Research: Participative Inquiry and Practice*. London, Thousand Oaks, New Delhi, SAGE Publications: 1-14.
- Richardson, L. (1997). "Writing: a method of inquiry ". in Denzin, N. and Lincoln, Y., (Eds.), *Handbook of Qualitative Research* Thousand Oaks:, SAGE: 516-527.

Riessman, C. K. (1993). *Narrative Analysis*. Newbury Park, London, New Delhi, SAGE Publications.

Robinson, C. and Kellett, M. (2004). "Power". in Fraser, S., Lewis, V., Ding, S., Kellett, M. and Robinson, C., (Eds.), *Doing Research with Children and Young People*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE Publications in association with The Open University: 81-96.

Robson, C. (2011). *Real World Research: a Resource for Users of Social Research Methods in Applied Settings (3rd edition)*. Chichester, Wiley

Robson, S. (2009). "Producing and using video data in the early years: ethical questions and practical consequences in research with young children." *Children & Society* **25**: 179-189.

Roche, M. (2011). "Creating a dialogical and critical classroom: reflection and action to improve practice." *Educational Action Research* **19**(3): 327-343.

Root-Bernstein, M. and Root-Bernstein, R. (1999). *Sparks of Genius: The 13 Thinking Tools of the World's Most Creative People*. New York, Houghton Miffler.

Rose, J. (2006). *Independent Review of the Teaching of Early Reading*. Nottingham, DfES Publications.

Rudduck, J. and Flutter, J. (2000). "Pupil participation and pupil perspective: 'carving a new order of experience'." *Cambridge Journal of Education* **30**(1): 75-89.

Rudduck, J. and McIntyre, D., (Eds.) (1998). *Challenges for Educational Research*. London, Thousand Oaks, New Delhi, Paul Chapman Publications.

Rumelhart, D. E. (1993). "Some problems with the notion of literal meanings". in Ortony, A., (Ed.) *Metaphor and Thought (2nd edition)*. Cambridge, Cambridge University Press: 71-82.

Scanlan, M. (2008). *My Story in a Box: Linking Home and School to Explore Identity, Creative Writing and Oracy*. PhD thesis. University of Bristol.

Schofield, J. W. (1993). "Increasing the generalizability of qualitative research". in Hammersley, M., (Ed.) *Social Research: Philosophy, Policy and Practice*. Thousand Oaks and Maidenhead, SAGE Publications and Open University Press: 200-225.

Schwandt, T. A., Lincoln, Y. S. and Guba, E. G. (2007). "Judging interpretations: but is it rigorous? Trustworthiness and authenticity in naturalistic evaluation." *New Directions for Evaluation* **2007**(114): 11-25.

- Sebba, J. and Robinson, C. (2009). *Evaluation of UNICEF UK's Rights Respecting Schools Award (RRSA)*. University of Sussex, Falmer.
- Sewell, K. (2011). "Researching sensitive issues: a critical appraisal of 'draw-and-write' as a data collection technique in eliciting children's perceptions." *International Journal of Research & Method in Education* **34**(2): 175-191.
- Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.) (2005). *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University.
- Shulman, L. S. (1986). "Those who understand: knowledge growth in teaching." *Educational Researcher* **15**(2): 4-14.
- Shulman, L. S. and Shulman, J. H. (2004). "How and what teachers learn: a shifting perspective." *Journal of Curriculum Studies* **36**(2): 257-271.
- Sikes, P. (2006). "On dodgy ground? Problematics and ethics in educational research." *International Journal of Research & Method in Education* **29**(1): 105-117.
- Sikes, P. and Potts, A. P. (2008). "Introduction: what are we talking about and why?". in Sikes, P. and Potts, A. P., (Eds.), *Researching Education from the Inside: Investigations from Within*. London and New York, Routledge: 3-12.
- Sikes, P. J., Measor, L. and Peter, W. (1985). *Teacher Careers: Crisis and Continuities*. London and Philadelphia, The Falmer Press.
- Silverman, D. (2013). *A Very Short, Fairly Interesting and Reasonably Cheap Book About Qualitative Research*. London, Thousand Oaks, New Delhi, Singapore, SAGE.
- Simons, H. (2009). *Case Study Research in Practice*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE.
- Simons, H., Kushner, S., Jones, K. and James, D. (2003). "From evidence-based practice to practice-based evidence: the idea of situated generalisation." *Research Papers in Education* **18**(4): 347-364.
- Simons, H. and Usher, R. (2000). *Situated Ethics in Educational Research*, Routledge.
- Simons, P. R. J. (1999). "Transfer of learning: paradoxes for learners." *International Journal of Educational Research* **31**(7): 577-589.
- Smith, A. (1998). *Accelerated Learning in Practice*. Stafford, Network Educational Press.

- Smith, J. K. (2004). "Learning to live with relativism in educational research". in Piper, H. and Stronach, I., (Eds.), *Education Research: Difference and Diversity*. Aldershot, Ashgate Publishing Ltd.
- Smythe, W. E. and Murray, M., J. (2005). "Owning the story: ethical considerations in narrative research". in Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.), *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University: 176-191.
- Somekh, B. (1994). "Inhabiting each other's castles: towards knowledge and mutual growth through collaboration." *Educational Action Research* 2(3): 357-381.
- Somekh, B. (2005). *Action Research: A Methodology For Change And Development*. Maidenhead and New York, McGraw-Hill International.
- Somekh, B. (2010). "The Collaborative Action Research Network: 30 years of agency in developing educational action research." *Educational Action Research* 18(1): 103-121.
- Somekh, B. and Noffke, S. (2009). "Conclusions". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 521-526.
- Somekh, B. and Zeichner, K. (2009). "Action research for educational reform: Remodelling action research theories and practices in local contexts." *Educational Action Research* 17(1): 5-21.
- Southampton, U. o. (2012). "Ethics Policy." Retrieved 18/03/2012, from http://www.southampton.ac.uk/inf/ethics_policy.html.
- Sparkes, A. C. (2000). "Autoethnography and narratives of self: reflections on criteria in action." *Sociology of Sport Journal* 17(1): 21-43.
- St Pierre, E. A. (2011). "Post qualitative research: the critique and the coming after". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 611-626.
- Stafford, A., Laybourn, A., Hill, M. and Walker, M. (2003). "'Having a say': children and young people talk about consultation." *Children & Society* 17(5): 361-373.
- Stake, R. (1978). "The case study method in social inquiry." *Educational Researcher* 7(2): 5-8.
- Stake, R. (2005). "Qualitative case studies". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (3rd edition)*. Thousand Oaks, London, New Delhi, SAGE Publications: 443-466.

- Stalker, K. and Connors, C. (2003). "Communicating with disabled children." *Adoption & Fostering Journal* **27**(1): 26-35.
- Stenhouse, L. (1971). "The humanities curriculum project: the rationale." *Theory into Practice* **10**(3): 154-162.
- Stenhouse, L. (1975). *An Introduction to Curriculum Research and Development*. London, Heinemann
- Stenhouse, L. (1986). "The teacher as researcher". in Hammersley, M., (Ed.) *Controversies in Classroom Research: a reader*. Buckingham, Open University Press.
- Stenhouse, L., Rudduck, J. and Hopkins, D. (1985). *Research as a Basis for Teaching: Readings From the Work of Lawrence Stenhouse*. London, Portsmouth, Heinemann.
- Stringer, E. (1996). *Action Research: A Handbook for Practitioners*. Thousand Oaks, London, New Delhi, SAGE Publications.
- Stuart, G. (2012). *Great teachers: attracting, training and retaining the best, ninth report of session 2010-12, Vol. 1: Report, together with formal minutes*. London, TSO Shop. Accessed on 1.9.13 from <http://www.publications.parliament.uk/pa/cm201012/cmselect/cmeduc/1515/1515.pdf>
- Teddlie, C. and Tashakkori, A. (2011). "Mixed methods research: contemporary issues in an emerging field". in Denzin, N. K. and Lincoln, Y. S., (Eds.), *The SAGE Handbook of Qualitative Research (4th edition)*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 285-300.
- Thomas, N. and O'Kane, C. (1998). "The ethics of participatory research with children." *Children & Society* **12**(5): 336-348.
- Thomas, U., Tiplady, L. and Wall, K. (2014). "Stories of practitioner enquiry: using narrative interviews to explore teachers' perspectives of learning to learn." *International Journal of Qualitative Studies in Education* **27**(3): 397-411.
- Thomson, F. (2007). "Are methodologies for children keeping *them* in their place." *Children's Geographies* **5**(3): 207-218.
- Thomson, P. (2011). "Coming to terms with 'voice'". in Czerniawski, G. and Kidd, W., (Eds.), *The Student Voice Handbook: Bridging the Academic/Practitioner Divide*. Bingley, Emerald: 19-30.
- Thomson, P. and Gunter, H. (2011). "Inside, outside, upside down: the fluidity of academic researcher 'identity' in working with/in school." *International Journal of Research & Method in Education* **34**(1): 17-30.

- Thorne, B. (1993). *Gender Play: Girls and Boys in School*. New Brunswick, NJ, Rutgers University Press.
- Todd, L. (2012). "Critical dialogue, critical methodology: bridging the research gap to young people's participation in evaluating children's services." *Children's Geographies* **10**(2): 187-200.
- Tooley, J. and Darby, D. (1998). *Educational Research, A Critique: A Survey of Published Educational Research*. London, OFSTED.
- Treasury, H. M. (2003). *Every Child Matters*. London, TSO (CM5860). Accessed on 19.8.11 from <http://www.education.gov.uk/consultations/downloadableDocs/EveryChildMatters.pdf>
- UEA (2013). "Centre for Applied Research in Education." Retrieved 05/05/2014, from <https://www.uea.ac.uk/education/research/care>.
- UNGA (1989). "Convention on the Rights of the Child." Retrieved 29/09/2013, from <http://sithi.org/admin/upload/law/Convention%20on%20the%20Rights%20of%20the%20Child.ENG.pdf>.
- Von Glasersfeld, E. (1987). "Learning as a constructive activity". in Janvier, C., (Ed.) *Problems of Representation in the Teaching and Learning of Mathematics*. Hillside, NJ, England, Lawrence Erlbaum Associates: 3-17.
- Von Glasersfeld, E. (1989). "Cognition, construction of knowledge, and teaching." *Synthese* **80**(1): 121-140.
- Vygotsky, L. S. (1962). *Thought and Language*. Edited and translated by Eugenia Hanfmann and Gertrude Vakar. Massachusetts, New York and London, The M.I.T. Press and John Wiley and Sons.
- Walford, G. (1991). "Reflexive accounts of doing educational research". in Walford, G., (Ed.) *Doing Educational Research*. London, Routledge: 1-18.
- Watson, V. (1992). "The possibilities of children's fiction". in Styles, M., Bearne, E. and Watson, V., (Eds.), *After Alice: Exploring Children's Literature*. London, Cassell: 11-24.
- Watts, M. and Ebbutt, D. (1987). "More than the sum of the parts: research methods in group interviewing." *British Educational Research Journal* **13**(1): 25-34.
- Wetton, N. (1996). "Safe in the sun." *Health Education* **4**: 13-16.
- Whitehead, J. and McNiff, J. (2006). *Action Research: Living Theory*. London, Thousand Oaks, New Delhi, Sage Publications Ltd.

- Whitty, G. (2006). "Education(al) research and education policy making: is conflict inevitable?" *British Educational Research Journal* **32**(02): 159-176.
- Wolfendale, S. (2005). "'Parents as partners' in research and evaluation: methodological and ethical issues and solutions". in Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.), *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University: 119-130.
- Wong, L. M. (1998). "The ethics of rapport: institutional safeguards, resistance, and betrayal." *Qualitative Inquiry* **4**(2): 178-199.
- Woodward, D. (1997). *Children's Perceptions of Gender: an Action Research Study with Year Three Primary School Children*. PhD thesis. University of Sussex.
- Wragg, E. and Brown, G. (1993). *Explaining*. London and New York, Routledge.
- Wyse, D., Jones, R., Bradford, H. and Wolpert, M. A. (2013). *Teaching English, Language and Literacy (3rd edition)*. London and New York, Routledge.
- Zeichner, K. (2001). "Educational action research". in Reason, P. and Bradbury, H., (Eds.), *Handbook of Action Research: Participative Inquiry and Practice*. London, Thousand Oaks, New Delhi, SAGE Publications: 273-283.
- Zeni, J. (2005). "A guide to ethical issues and action research". in Sheehy, K., Nind, M., Rix, J. and Simmons, K., (Eds.), *Ethics and Research in Inclusive Education: Values into Practice*. Abingdon, New York, RoutledgeFalmer, The Open University: 205-214.
- Zeni, J. (2009). "Ethics and the 'Personal' in action research". in Noffke, S. and Somekh, B., (Eds.), *The SAGE Handbook of Educational Action Research*. Los Angeles, London, New Delhi, Singapore, Washington DC, SAGE: 254-266.

Appendices

Appendix A Permissions (trials) – school letter

Dear (Chair of governors) and (Headteacher),

Thank you very much for your support for the PhD I have undertaken so far. I am now reaching the point where I need to start getting written permission for what I am planning to undertake. I hope the attached proposal makes clear what I am planning to achieve over the last few weeks of this term, in order to trial some of the techniques I am planning to use. I would like to get this done this term, so that I can reflect on the results over the summer holiday and make a fresh start with the new group of year 2 children in the new academic year. If you are happy for this to proceed, I would be very grateful if you could return a signed copy to me. In September I will ask for permission again to proceed with the full fieldwork for the project.

If at any time you are not happy with anything, or would like further details, please contact me and I will of course put everything on hold until the problems are resolved.

Yours sincerely

Miranda Dodd

Main focus of study:

I am planning to investigate what I can do to facilitate ‘critical moments’ in children’s learning; helping children make links between what they are learning and what they know already, from both home and school, to help improve understanding. When trying out various approaches and investigating the children’s responses I hope to gather evidence about what is happening and what I can do to promote or hinder the ‘critical moments’. In September I am proposing to start the project by setting up an on-going ‘learning map’ where we can show what we have been learning and make links. I am planning some lessons which will be structured in different ways. I hope that further ideas will be developed in discussion with the children and their parents.

Proposed actions June and July 2006

- Two video sessions of my inputs. This is so that I can experiment with positioning and use of the video, and explore the analysis tools I am hoping to use. The analysis of these sessions will look at what I do and say to help children make links in their learning. The main focus will be on the techniques I am using, but the children’s responses will also be analysed.
- Two video sessions of year 2 children working independently, one in Literacy and one in Maths. The aim of these sessions is to pilot use of the video with groups of children, and to use it as a focus for follow-up discussion (see next action).
- Two pilot group interviews with 5 children, using the videos above as a starting point, to talk with the children about what was happening during the lesson, and what they think could have helped them make links. This is so that I can pilot the use of group interviews, the use of video to facilitate discussion and the development of ideas with, rather than for the children. I am hoping that they will become involved collaboratively in the development of practice.
- Making available digital tape recorders for the children to record their ideas independently if they wish, as a means of communicating with me about the project and their learning.
- Keep on-going notes about the children’s responses.
- One pilot discussion with a group of three parents, to trial group interviews of parents, ascertain their feelings about whether this or individual interviews would be preferable, discuss other possible forms of involvement and ways of developing the project and to trial interview questions (see attached proforma).

Ethical considerations

Use of time

I recognise that it is very important that what I am doing is a positive experience for the children and their parents, and that it does not disrupt the children's learning or my teaching.

- The video sessions and digital tape recorders can be undertaken alongside normal classroom work.
- The discussion with parents I propose to arrange for a convenient time for them after school.
- The pilot group interviews could be done during an assembly or story time, or, with your agreement, with an afternoon's supply cover for my class.
- In order to make sure that the participants' time is well used I will make sure that sessions are not unnecessarily disrupted and that sessions are not too long.

Consent

- I will ensure as far as I am able that all the participants have given their informed consent to what I am involving them in and are aware of their right to withdraw at any time.
- I have enclosed a letter to be sent to the parents asking for their permission, and I will discuss the project with the children together following the outline presented in the attached letter, and allowing them to ask any questions. I will ask them to indicate their consent individually, using the attached letter for 7 of the children, and faces for them to choose from for the other 7. This is so that I can evaluate both methods for ensuring children have given their informed consent.
- I recognise that in my role as teacher the children especially, and possibly parents as well, may feel that it is difficult to refuse or withdraw consent. In addition the children are usually in a position where they want to win my approbation. When seeking consent I will need to make clear to them that I will be happiest if they show me their genuine feelings and that I value and respect these. Part of the pilot will be evaluating how achievable this is.
- If at any time any participant appears unhappy with the proceedings I will stop. All participants have the right to withdraw at any point, and I will check verbally with the children that they are happy to proceed on each occasion.

Anonymity

The names of all participants will be changed in any reporting of the findings from this pilot. As the letter to parents makes clear, I may need to show the video to people who are interested in my research so I am seeking permission for this, as people's faces will be visible and it will be very difficult to avoid using names

Reporting

I anticipate that there will be a section in my thesis reporting on the pilot and other written reports may need to refer to the findings. I will prepare a brief summary report of the pilot for you when asking for permission to carry on with the main fieldwork. This will also be suitable for sharing with any parents who are interested. I will report back verbally to the children before the end of term, in terms that they can understand.

My responsibilities

- I recognise that I have a duty as a researcher to collect evidence, analyse it and report on it openly, honestly and in enough detail to enable others to understand what I am doing.
- I am intending that this should be a project involving parents and children collaboratively, enabling them to be involved in how it develops. In order to achieve this I will need to build on the relationships I have already established and be honest, open, positive and supportive whilst doing the piloting.
- I need to be aware of the cultural, religious, gender and other differences within the group of children and their parents, and ensure that all are supported and happy with what is done.
- The support of everyone involved will be acknowledged, whilst maintaining anonymity.
- I recognise the importance of making sure that I do not allow this to disrupt my teaching. I need to look after myself as well as the participants in order that I can work effectively.

Agreed by:

Name XXXXX
Position: Chair of Governors

Signed

Name XXXXX
Position: Headteacher

Signed

Name Jill Bourne
Position: Supervisor

Signed

Name Miranda Dodd
Position: Researcher

Signed

Appendix B Permissions (trials) – parents' letter

June 2006

To Parents of Mrs Dodd's group at XXXXX

Dear Parents

As part of the on-going work at the school to improve children's learning, I am undertaking a study looking at how teachers can help children make links in their learning. I am planning to undertake the main study next year, but would like to pilot some of the techniques I am hoping to use this term. I am planning to:

- Video two of my input sessions with the children.
- Video two small group sessions where the children are working independently.
- Use these videos in group interviews, discussing with the children what was helping them and what was making it more difficult for them to learn.
- Make available digital tape recorders for the children to record their ideas independently if they wish, as a means of communicating with me about the project and their learning.
- Keep on-going notes about the children's responses

None of the activities are worrying or threatening for the children and most of the work is part of our normal classroom routine. I am hoping that this will help me set up the main study more effectively so that we can come up with useful ideas about helping children learn.

In addition I am looking for three parents who would be willing to try out and give me feedback on interviewing parents about helping children make links between home and school learning. This would initially be as a group, but could be done individually if people prefer. I anticipate that this will take no longer than half an hour

This letter is to check that we have your permission to include your child in the pilot. The study forms part of my research for an M.Phil/PhD and will be written up at a later date. I will give the children brief verbal feedback before the end of term, and there will be a short summary of my findings from the pilot available in September for anyone who wishes to look at it. It is possible that I might want to use the video and digital tape recordings in future training sessions or workshops. In all written records everyone's names will be changed and no details will be included which could identify your child or their work.

Please could you sign and return the permission form below to show you are happy for your child to be included. I will also approach the children and ask for their permission. If you would like to know more about what I am doing at any time then please ask and if you or your child wishes to withdraw at any time in the future please let me know.

Many thanks for your help.

Miranda Dodd

Pilot study on making links in learning, June 2006

Child's name

I give permission for my child to be included in the pilot study.

I give permission for the video to be shown to people interested in the research.

Signed Date

I am interested in taking part in the interview with parents

Name:

Appendix C Permissions (trials) – children’s letter

(font size reduced from 17 to 14 to fit it on one page here)

Dear

I am trying to find out more about what helps children learn. To do this I plan to video some sessions while you are working and then look at and talk about one of these videos with you. I may need to show the video to other people who are interested in what I have learned. I am also planning to have some special digital tape recorders that you can use to tell me what you think if you want to.

I hope you will agree to take part. If you have any worries please let me know and we will stop and sort them out.

Thank you for your help

Mrs Dodd

Please colour in one face to show how you feel about taking part in the study about helping children learn.



Please colour in one face to show how you feel about me showing the video to people who are interested



Name:

Date:

Appendix D Permissions (Part 1) – school letter

Main focus of study:

I am planning to investigate what I can do to facilitate ‘critical moments’ in children’s learning; helping children make links between what they are learning and what they know already, from both home and school, to help improve understanding. When trying out various approaches and investigating the children’s responses I hope to gather evidence about what is happening and what I can do to promote or hinder the ‘critical moments’ I am proposing to start the project by setting up an on-going ‘learning map’ where we can show what we have been learning and make links. I am planning some lessons which will be structured in different ways. I hope that further ideas will be developed in discussion with the school, children and their parents. If successful it should benefit these children’s learning and provide some useful strategies for the school in the future.

Proposed actions September 2006 to July 2007

- Set up learning map to introduce the idea of making links in learning and use it as an on-going tool to help us discuss links and connections.
- Experiment with some different ways of structuring lessons, starting with giving children a selection of linked tasks based on a similar concept in different curriculum areas.
- I hope that further ideas will emerge from the discussions with children and parents and from the on-going analysis of the data.
- At least three video sessions a term, and possibly more (in case of technical difficulties etc.), of whole class inputs. The analysis of these sessions will look at what I do and say to help children make links in their learning. The main focus will be on the techniques I am using, but the children’s responses will also be analysed.
- At least three video sessions each term of children working in groups (with each child being involved just once each term). The aim of these sessions is to use it as a focus for follow-up discussion (see next action).
- Group interviews with children, using the videos above as a starting point, to talk with the children about what was happening during the lesson, and what they think could have helped them make links. I am hoping that they will become involved collaboratively in the development of practice. The interviews will also ask the children for their thoughts and ideas about the project. If necessary, in order to avoid them having too long an interview at one stretch I will have this discussion separately. I will make sure that when the children come to do this it is at a time which will cause minimum disruption to their learning.
- Making available digital tape recorders for the children to record their ideas independently if they wish, as a means of communicating with me about the project and their learning.
- Keep on-going notes about the children’s responses and collecting any relevant evidence such as written work, photographs of models, drawings etc. This will be the main form of evidence in order to minimise disruption for the children.
- Setting up an initial meeting with the parents to explain the project, and ask for volunteers to be involved in investigating the extent to which children link ideas between home and school. I plan to develop strategies for this in discussion with the parents, one possibility being that they keep a diary recording examples of any ‘critical moments’ together with some brief contextual details
- I will analyse the data throughout the project, but each term will look overall at the data collected and plan for further developments in the next term. I will provide you, the parents and the children with brief feedback on this at the start of each new term.

Ethical considerations

Use of time

I recognise that it is very important that what I am doing is a positive experience for the children and their parents, and that it does not disrupt the children’s learning or my teaching.

- The video sessions and digital tape recorders can be undertaken alongside normal classroom work.
- The discussion with parents I propose to arrange for a convenient time for them after school.
- The group interviews could be done during an assembly or story time, or, with your agreement, with an afternoon’s supply cover for my class.

- In order to make sure that the participants' time is well used I will make sure that sessions are not unnecessarily disrupted and that sessions are not too long.

Consent

- I will ensure as far as I am able that all the participants have given their informed consent to what I am involving them in and are aware of their right to withdraw at any time. This includes yourselves.
- I have enclosed a letter to be sent to the parents asking for their permission, and I will discuss the project with the children together following the outline presented in the attached letter, and allowing them to ask any questions. I will ask them to indicate their consent individually, using the attached letter.
- I recognise that in my role as teacher the children especially, and possibly parents as well, may feel that it is difficult to refuse or withdraw consent. In addition the children are usually in a position where they want to win my approbation. When seeking consent I will need to make clear to them that I will be happiest if they show me their genuine feelings and that I value and respect these.
- If at any time any participant appears unhappy with the proceedings I will stop. All participants have the right to withdraw at any point, and I will check verbally with the children that they are happy to proceed on each occasion.

Anonymity

The names of all participants will be changed in any reporting of the findings from this pilot. As the letter to parents makes clear, I may need to show the video to people who are interested in my research so I am seeking permission for this, as people's faces will be visible and it will be very difficult to avoid using names.

Reporting

As stated above, I will report termly to all the participants. I aim to do this clearly, using approachable language and making clear that I value everyone's input into the project. At the end of the project I will be working on writing up my findings for my MPhil/PhD thesis.

My responsibilities

- I recognise that I have a duty as a researcher to collect evidence, analyse it and report on it openly, honestly and in enough detail to enable others to understand what I am doing.
- I am intending that this should be a project involving parents and children collaboratively, enabling them to be involved in how it develops. In order to achieve this I will need to build on the relationships I have already established and be honest, open, positive and supportive whilst doing the piloting.
- I need to be aware of the cultural, religious, gender and other differences within the group of children and their parents, and ensure that all are supported and happy with what is done.
- The support of everyone involved will be acknowledged, whilst maintaining anonymity.
- I recognise the importance of making sure that I do not allow this to disrupt my teaching. I need to look after myself as well as the participants in order that I can work effectively.

Miranda Dodd MPhil/PhD proposal September 2006

Agreed by:

Name XXXXX
Position: Chair of Governors

Signed

Name XXXXX
Position: Headteacher

Signed

Name Jill Bourne
Position: Supervisor

Signed

Name Miranda Dodd
Position: Researcher

Signed

Appendix E Permissions (Part 1) – parents' letters

September 2006

To Parents of Mrs Dodd's group at XXXXX

Dear Parents

As part of the on-going work at the school to improve children's learning, I am undertaking a study looking at how teachers can help children make links in their learning. Having piloted some of the techniques last term I am now planning to undertake the main study throughout this year. I am planning to:

- Develop a 'learning map' with the children, as a focus for discussions about links in learning (you will soon be able to see this up on the wall, do come and have a look)
- Try out some different ways of organising lessons which may help children make links.
- Video some of my input sessions with the children.
- Video some small group sessions where the children are working independently (each child would be videoed no more than once each term).
- Use these videos in group interviews, discussing with the children what was helping them and what was making it more difficult for them to learn.
- Make available digital tape recorders for the children to record their ideas independently if they wish, as a means of communicating with me about the project and their learning.
- Keep on-going notes about the children's responses and copies of any relevant pieces of work by photocopying, photographing etc as appropriate.

None of the activities are worrying or threatening for the children and most of the work is part of our normal classroom routine. In my reading I have come across many references to the importance of helping children make links in their learning. I am hoping that this will benefit your child's learning and provide us with more information about how to improve things for them at school.

An important part of helping children make links in their learning is helping them make connections between their experiences at home and school. I am very keen that this should be a collaborative project, with ideas contributed by the children and yourselves. To discuss how we might go about this I would like to invite you to a preliminary meeting on Monday 9th October at 7.30pm, at XXXXX. It will last no longer than an hour. If you cannot come that day, I am very happy to discuss this with you at another, more suitable time.

This letter is to check that we have your permission to include your child in the study. The study forms part of my research for an M.Phil/PhD and will be written up at a later date. I will give you and the children a brief summary of progress at the start of each new term, and an indication of what action I am proposing as a result for the next term.

It is possible that I might want to use the video and digital tape recordings in future training sessions or workshops. I may need to include stills or short clips on disc within my thesis. In all written records everyone's names will be changed and no details will be included which could identify your child or their work.

Please could you sign and return the permission form attached to show you are happy for your child to be included. I will also approach the children and ask for their permission. If you would like to know more about what I am doing at any time then please ask and if you or your child wishes to withdraw at any time in the future please let me know.

Many thanks for your help.

Miranda Dodd

Study on making links in learning, September 2006 to July 2007

Child's name

Please delete as applicable:

I do/do not give permission for my child to be included in the study.

I do/do not give permission for the video to be shown to people interested in the research and short clips and stills to be used within the thesis.

Signed Date

I will/will not be coming to the meeting for parents on Monday 9th October

Name:

July 2007

To Parents of children who will be in XXXXX class in September 2007

Dear Parents

As part of the on-going work at the school to improve children's learning, I am continuing a study I began last year looking at how teachers can help children make links in their learning. In the next year am planning to:

- Continue to work with a 'learning web' with the children, as a focus for discussions about links in learning (you can our current version of this up on the wall, do come and have a look)
- Try out some different ways of organising lessons which may help children make links.
- Video some of my input sessions with the children.
- Video some small group sessions where the children are working independently (each child would be videoed no more than once each term).
- Use these videos in group interviews, discussing with the children what was helping them and what was making it more difficult for them to learn.
- Interview some of the children, using drawing and games at the start, middle and end of the study to try and explore what helps them make connections in more detail.
- Keep on-going notes about the children's responses and copies of any relevant pieces of work by photocopying, photographing etc as appropriate.

None of the activities are worrying or threatening for the children and most of the work is part of our normal classroom routine. In my reading I have come across many references to the importance of helping children make links in their learning. I am hoping that this will benefit your child's learning and provide us with more information about how to improve things for them at school.

This letter is to check that we have your permission to include your child in the study. The study forms part of my research for an M.Phil/PhD and will be written up at a later date. If you want to know how it is progressing at any point do ask me, and I will feed back to you at the end of the year about the progress I have made.

It is possible that I might want to use the video and digital tape recordings in future training sessions or workshops. I may need to include stills or short clips on disc within my thesis. In all written records everyone's names will be changed and no details will be included which could identify your child or their work.

Please could you sign and return the permission form attached to show you are happy for your child to be included. I will also approach the children and ask for their permission. If you would like to know more about what I am doing at any time then please ask and if you or your child wishes to withdraw at any time in the future please let me know.

Many thanks for your help.

Miranda Dodd

Study on making links in learning, September 2007 to July 2008

Child's name

Please delete as applicable:

I do/do not give permission for my child to be included in the study.

I do/do not give permission for the video to be shown to people interested in the research and short clips and stills to be used within the thesis.

Signed Date

Please complete and return to school by Friday 13th July. Thank you.

24th February 2009

To Parents of XXX Class at XXXXX

Dear Parents

As some of you may be aware, as part of the on-going work at the school to improve children's learning, I am involved in a study looking at how teachers can help children make links in their learning. None of the activities are worrying or threatening for the children and the work is part of our normal classroom routine. I have been collecting data over the last couple of years and have now got into the habit of regularly using a digital voice recorder, my own journal notes, examples of children's work and photographs to help me reflect on my teaching. It has become apparent this year that it would be very helpful if I could use some of this material for my study so I am writing to ask if you would be happy to give permission for this. It is also possible that I might want to use some of this evidence in future training sessions or workshops.

In my reading I have come across many references to the importance of helping children make links in their learning. I am hoping that the study will benefit your child's learning and provide us with more information about how to improve things for them at school.

This letter is to check that we have your permission to include your child in the study which forms part of my research for an M.Phil/PhD. In all written records everyone's names will be changed and no details will be included which could identify your child or their work other than the possibility of their face appearing in a photograph (but with no mention of their real name). Once the study is completed I will present the findings to the parents and children involved.

Please could you sign and return the permission form attached to show you are happy for your child to be included. I will also approach the children and ask for their permission. If you would like to know more about what I am doing at any time then please ask and if you or your child wishes to withdraw at any time in the future please let me know.

Many thanks for your help.

Miranda Dodd

Study on making links in learning, September 2008 to July 2009

Child's name

Please delete as applicable:

I do/do not give permission for digital voice recordings, photos, examples of work and journal notes involving my child to be included in the study and to be shown to people interested in the research where necessary.

Signed Date

Appendix F Permissions (Part 1) – children’s letter

(font size reduced from 17 to 14 to fit on one page here)

Dear

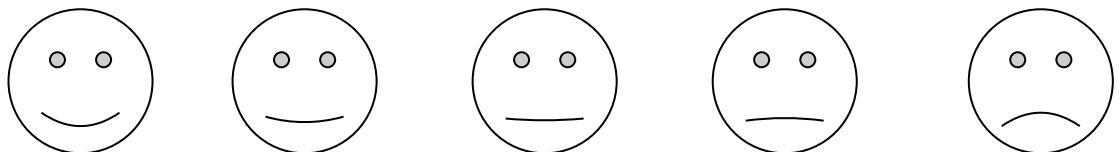
I am trying to find out more about what helps children learn. To do this I plan to video some sessions while you are working as a class and in groups and then look at and talk about one of these videos with you. I may need to show the video to other people who are interested in what I have learned. I am also planning to have some special digital tape recorders that you can use to tell me what you think if you want to and I will sometimes be talking with you and making notes about your learning.

I want to ask if you will agree to take part. If you have any worries please let me know and we will stop and sort them out.

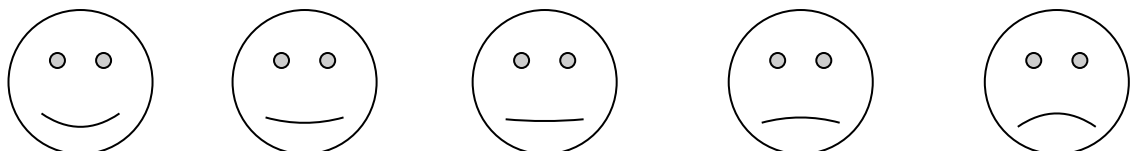
Thank you for your help

Mrs. Dodd

Please colour in one face to show how you feel about taking part in the study about helping children learn.



Please colour in one face to show how you feel about me showing the video to people who are interested in learning



Name:

Date:

Appendix G Letter to children and parents (July 2007)

Wednesday 4th July 2007

Dear Children,

As you know I am working on some research to help me and hopefully others understand about how to help children make connections in their learning. Several people have said this is helpful but I am keen to find out more about how to do this.

I want to say a huge thank you to all of you in my class this year. You have been very helpful and have given me lots to think about. We have made different learning webs showing the connections that you have thought of. I have noticed more children making connections and you are doing this more frequently. Sometimes you have said that one book is just like another, or you have seen how learning in one part of Maths can help with another. Lots of people think of connections now when we talk about it as a class. We have discovered that it is best when they have time to discuss ideas with a talking partner first before putting them on the web of learning. You have often noticed connections between work in different subjects and have enjoyed seeing the lines crossing the web of learning we have built up. You have helped develop the way of recording the connections we have made and have also talked to me about some special tasks you have done. I now feel that I am clearer about what I would like to do next year to take the project forward.

If you would like to know more or have any other ideas to help, please come and ask me.

Best wishes

Mrs Dodd

cc. All XXXXXX class Y2 children's parents

Appendix H Children's responses - permission interviews (Part 1)

Summary from colouring in the faces

Taking part in the study:

	06-07	07-08
Very happy	16	14
Fairly happy	1	5
OK	1	2
Fairly unhappy	0	0
Very unhappy	0	0

Showing the video to others:

	06-07	07-08
Very happy	16	16
Fairly happy	1	1
OK	1	3
Fairly unhappy	0	1
Very unhappy	0	0

Summary of coding based on their explanations.

NB some children did not explain their responses so no coding was given.

Taking part in the study

	06-07	07-08
Responses showing that others might be interested and awareness of others	8	5
Responses showing they wanted to help me	2	2
Responses showing their own interest	4	12
Responses showing they were nervous	2	1
Responses showing they were worried about extra work being involved	1	0
Responses indicating that they may not have understood clearly	0	1

Summary of coding: showing the video:

	06-07	07-08
Responses showing that others might be interested and awareness of others	7	7
Responses showing they wanted to help me	0	0
Responses showing their own interest	2	9
Responses showing they were nervous	3	2
Responses showing they were worried about extra work being involved	0	0
Responses indicating that they may not have understood clearly	0	1

Appendix I Outline of interviews (Part 1)

2007-8

Interview schedule: Name

Date

How do you feel about learning at school? (faces) – see photo on next page

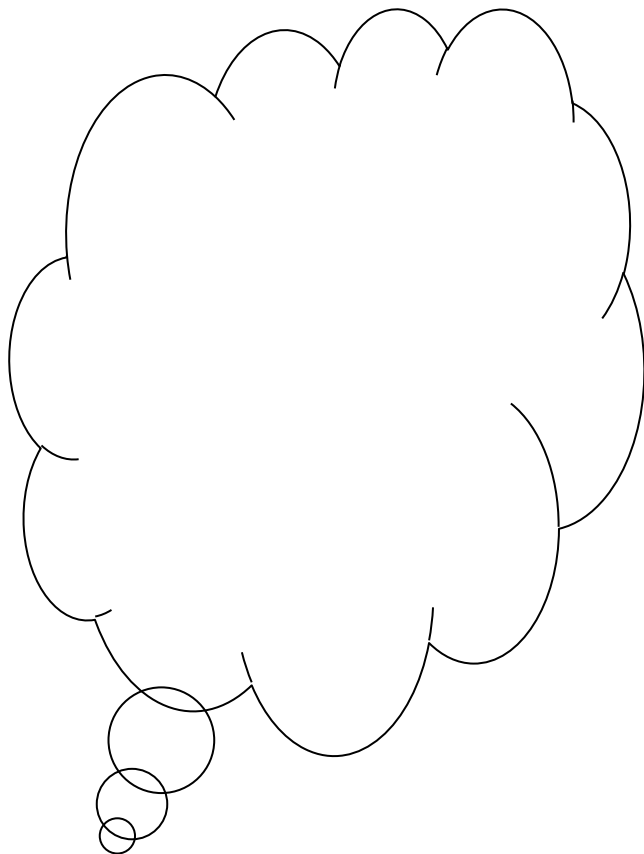
(ask them to explain further)

What do you think about (goes through your mind) when we are working as a class?

What do you think about when you are working in a group?

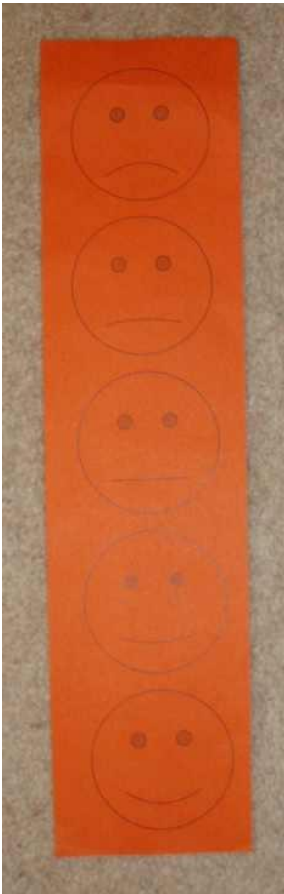
What do you think about when you are working by yourself?

The children had the bubble below enlarged to fill an A4 sheet to record their responses if they wanted, or they could just talk and I noted their responses.



Appendix J Interview resources (Part 1)

Faces used with the children (approximately half size)



As shown in the photograph below each child had a set of cards which they sorted:



Appendix K Summary of interview responses (Part 1)

Summary of interview responses from sorting activity

2007-8 Au = Autumn term 2007 interview, Sp = Spring 2008, Su = Summer 2008

statement	Laura			Tim			Freddy			Kate			Lizzy			Totals		
	Au	Sp	Su	Au	Sp	Su	Au	Sp	Su	Au	Sp	Su	Au	Sp	Su	N	S	A
Other things you have learned.	N	N	N	N	N	S	S	N	S	N	N	N	A	A	A	9	3	3
Things you have done at school in the last few days.	N	S	N	N	S	S	N	N	A	N	N	N	S	S	S	8	6	1
Things you have done at school a long time ago.	N	N	N	N	N	N	A	S	S	N	N	N	S	S	A	9	4	2
Things you have done at home in the last few days.	N	N	S	N	A	N	N	S	S	N	N	N	S	A	A	8	4	3
Things you have done at home a long time ago.	N	N	N	N	N	N	A	S	A	N	N	N	N	A	A	10	1	4
Things that are similar.	N	N	S	N	N	N	A	N	S	N	N	N	N	S	N	11	3	1
Things that are different.	N	N	N	N	S	S	N	N	S	N	N	N	N	A	N	11	3	1
What you are learning now.	A	A	A	N	A	S	A	S	S	A	A	A	A	A	A	1	3	1
Playtime.	S	N	S	S	A	A	N	S	A	N	N	N	A	A	A	5	4	6
Home.	N	N	N	N	S	A	A	S	S	N	S	A	A	A	A	5	4	6

N	8	8	6	9	4	4	4	4	0	9	8	8	3	0	2
S	1	1	3	1	3	4	1	6	7	0	1	0	3	3	1
A	1	1	1	0	3	2	5	0	3	1	1	2	4	7	7

Positive changes+		1	2		6	1		1	6		0	0		6	1	24
Negative changes+		0	1		1	2		6	0		0	0		0	3	13

Total Changes:

N = Never, S = Sometimes, A= Always

+ Positive and negative changes are defined as responses that might indicate more linking of learning. The last two categories ('Home' and 'Playtime') were not included in this because it is even more difficult with those to show whether they have a positive or negative effect. Changes are defined as N to S or S to A. N to A or vice versa counts as 2 changes.

2008-9 Summary of interview responses from sorting activity

Su = Summer 2008, ht = Autumn half term October 2008 and De = end of Autumn term December 2008

statement	Jenny			Ruth			Jessica			Pippa			David			Colin			Totals		
	Su	ht	De	Su	ht	De	Su	ht	De	Su	ht	De	Su	ht	De	Su	ht	De	N	S	A
Other things you have learned.	S	A	A	S	A	A	S	A	S	A	S	S	S	A	N	S	A	N	2	8	8
Things you have done at school in the last few days.	N	S	A	S	S	A	A	A	A	A	S	S	S	A	S	N	S	S	2	9	7
Things you have done at school a long time ago.	N	N	A	S	A	A	N	S	S	N	S	S	S	A	S	S	S	S	4	0	4
Things you have done at home in the last few days.	A	S	A	S	S	A	A	N	N	S	A	S	N	A	A	A	N	S	4	6	8
Things you have done at home a long time ago.	N	S	A	S	S	A	S	S	S	A	N	N	S	N	A	S	S	N	5	9	4
Things that are similar.	S	A	A	S	A	A	N	A	A	S	S	S	N	S	?	N	N	S	4	7	6
Things that are different.	A	A	A	S	S	?	N	N	A	N	N	S	A	S	S	S	S	N	5	7	5
What you are learning now.	A	A	A	A	A	A	A	S	A	A	A	A	S	S	N	S	S	S	1	6	1
Playtime.	N	N	N	N	N	S	A	A	N	A	N	S	A	S	N	A	A	A	8	3	7
Home.	S	N	S	N	N	N	S	N	A	S	S	S	A	S	A	S	N	S	6	9	3

Never	4	3	1	2	2	1	3	3	2	2	3	1	2	1	3	2	3	3
Sometimes	3	3	1	7	4	1	3	3	3	3	5	8	5	5	3	6	5	6
Always	3	4	8	1	4	7	4	4	5	5	2	1	3	4	3	2	2	1

Positive changes		4	5		3	3		4	3		2	1		6	2		2	2
Negative changes		1	0		0	0		3	1		4	1		2	5		2	4

Total Changes
37
23

Summary of key points in relation to other questions

(questions in red indicate follow up questions asked by me)

These responses are condensed from the fuller transcript to represent the main themes and ideas.

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
Activities completed during group interview	Faces, sorting cards (see table below)	Faces, sorting cards (see table below)	Faces, sorting cards (see table below), game	Faces, sorting cards (see table below), game
How do you feel about learning at school?	I like learning at school, I like coming to school, I like lots of things at school, I like learning and I like writing stories/handwriting/maths I like it and I don't like it - dividing I'm in the middle and times I like. I like writing stories and recounts because it is sort of the same.	It's fun - we learn lots of new things every day. I love school and I like doing lessons. Sometimes I copy the things you have done at school at home. I feel sad because I don't really like missing mummy, but I do like learning lots of things. The things we learn here help give us ideas for things to do at home. Middling face because I miss my mummy but I really enjoy learning/new maths challenges/handwriting/writing on the whiteboards	Most of all I learn lots and if I already know it I put my thumbs up. I like learning because it means that when I am older I will be able to do harder learning (x2). It's sometimes fun when you add up and take away, so when you use the number sentences and you don't have to use your fingers and you can do it in your head. I feel sad because I don't get to see my Mummy (x2) and it's quite boring sitting on the carpet/ waiting for stuff to load onto the computer. Full smiley because we get lots of playtime. Sometimes I feel a bit sad when people don't play with me (x2).	I like learning all sorts of things (x2). Sometimes it is fun when we do lots of different experiments in different things (x2). I don't get to see my Mum/pets/Dad during the day (x2). We get playtimes. When I am older I can remember, I still get to learn things.

\$Both groups were being taught in a newly refurbished classroom with a serious echo problem which was resolved by acoustic tiles going up at the end of October 2008. This may be part of the reason why there are so many references to listening as the smallest noise made it difficult for everyone. This also influenced the recordings made.

*This was the final interview for the 2007-8 focus group. The recording of the Autumn term interview was lost before backing up and the Spring term interview was very poor quality with so much background noise (building works) it was very hard to decipher.

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
How do you feel about our 'What are we learning today' chart on the Smartboard?	n/a	n/a	<p>Happy (all) Why do you say happy?¹³</p> <p>Because it's a surprise to find out what we are learning about (x 4).</p> <p>You do more and more learning but it is sitting on the carpet.</p> <p>References to different people having a go and waiting to have their turn (x 5)</p> <p>Anything we could do to improve it and make it better?</p> <p>System for making sure everyone has a go (x 4).</p> <p>Sometimes from the back the writing is small.</p>	<p>References to different people having a go and taking it in turns/making it fair (x6).</p> <p>It helps us because when we do our Star, Window, Wish and a Smile (weekly reflection on learning) we don't have to remember everything.</p> <p>You can see some of the things it links with. Is that helpful? You can see some of the things it links with.</p> <p>It's helpful because you can think now what did I do for that, that's a bit similar so you don't have to think as hard as the first time because it links and you can do a bit the same as it.</p> <p>Do you ever make links like that when we haven't talked about them? Yes (x6).</p>

¹³ Text in red shows where I gave additional prompts

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
What helps you learn at school?	<p>Practice, no one disturbs you, if you keep your eyes on the person you are supposed to be looking at, listen and don't play around It's quite confusing when we have to do something really long like 10 number sentences. What can other people do to help you? What can I do to help you? When no one distracts me.</p>	n/a	<p>Sometimes the things that I have done in school the last few days. If I think about the things we have done the last few days it might help with the links. You can remember the link and then why it links and then you can do more things about what you have been learning. Middling response to links (x 3) – can get distracted. It helps you with your learning because sometimes if I think Oh I am going to get this wrong and when I come to do it I actually do it right because I thought about linking it with a different thing, it helped me. People not talking/shouting out, when it is quiet. (x 3) When I have had a really good playtime.</p>	<p>When other people are not making a noise. Talking partner. PE. By working in groups – instead of working on your own you can tell ideas to other people and then you might be able to link things in. Other people might distract you (x2).</p>

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
What do you think about when we are working as a class?	I don't really know, sometimes frustrating (very quiet and recording did not pick up), I've told you a 100 times. I wondered if it had changed at all? No Yesterday I thought about playing football with my dad. Going to Year 3. Why? Because we are going next year.	n/a	I think it is very good when we are working together and making it easy for each other. Boring on the carpet because we don't get to stand up. It's quite easy because when someone has a really good idea you want to use that idea to think of another one.	Listening
What do you think about when you are working as a group?	n/a	n/a	Mmm quite fun because I might get to have my friends. Sometimes people work really well with other people and sometimes there are other people who mess about and I don't like it.	It's helpful because we can share ideas, you're not just doing it and if you can only think of one sentence you can ask another person and they will help you (x2).

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
What do you think about when you are working by yourself/on your own?	<p>(Not sure initially so I asked about a specific story writing task we had done recently)</p> <p>I was very very happy.</p> <p>Typing lots of interesting words and making it really good.</p> <p>Detail, interesting words and question marks.</p> <p>Making my chapters long chapters.</p> <p>I was thinking about the problem and getting it all sorted out and reading it at the end to the children. I was really proud that I did it in 2 days and normally I would do it in about 4 days.</p>	n/a	I think extra hard about things because I don't have anyone else to work with.	n/a
What makes it difficult for you to learn at school?	n/a	n/a	When people shout out I can't concentrate because it makes me think about them, not what I am learning and when someone's making a noise.	Other people distracting me.

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
How can you help others learn?	n/a	n/a	I can sit quietly or if they are stuck on maths at the table I can quickly whisper it to them. By not shouting out and be quiet and not whisper and then it won't disturb them too much	Concentrating and not distracting (x2). Not just saying what you think. You might not have got it right and you would make them not get it right if they had the right answer. Are there other ways you have helped people learn? It's easier to learn when you are happy because if you are sad then you think about what is making you sad.
What helps you link your learning to other things you have learned?	n/a	n/a	When we have one of those discussions when we have the shape and how it linked. I don't know.	Not sure. Put the what are you learning board up. How can we improve it? Making the shapes and words a bit bigger.
What makes it difficult for you to connect your learning to what you know already?	n/a	n/a	When people mess around. You might think about something that's on another board (referring to weekly learning chart). When I can't remember. What could I do to help? Show us what we have been learning before from other weeks.	You remember lots of things and it's hard because you might not have done anything at home that links with it.

Date	2007-8 group\$		2008-9 group\$	
	Summer 2008*	July 2008	October 2008	December 2008
What makes it difficult for you to understand things at school?	n/a	n/a	Something where I don't understand things, I can hear things and sometimes I can't because I have bad hearing, sometimes people whisper (x 2)	When someone is troubling you and it is getting really annoying. When you are poorly or someone is distracting you.

Appendix L Interview game (Part 1)



Appendix N Permissions (Part 2) – school proposal

Research Aim: exploring life as a teacher researcher

Main focus of study:

Examining ways of working as effectively as possible to develop practice in an embedded thorough way. Previously I have worked with my own class exploring how we can help children make connections in their learning. Although I found this interesting it was difficult to explore it in depth and really develop it when working on my own and with many other demands and distractions. I would now like to explore a more collaborative approach with a shorter term project which is closely linked to very clearly identified school development aims. I have found that the children can contribute very valuable ideas, especially when there are opportunities to include games and when I worked with a pupil research group last year I was impressed with their grasp of the research process and the thinking they contributed to school development.

Proposed actions:

- Set up a pupil research group (6 children from Year 5 who will then carry out research with other children across the school) to explore how we can improve our provision for the development of reading in the school. Introduce the group to research techniques and games and support them in devising, carrying out, analysing and reporting back on their research project. Explore the impact of this on staff. Interview the children as a group before and after the research to explore their views of research and its place in school. This group will be selected by the senior leadership team to include children who will be able to think through and plan ideas so should contribute to our provision for gifted and talented children.
- Work with a small group (2 -4) of volunteer members of staff (teachers or TAs) to develop small scale research linked to our reading development. Agree an area to focus on based on current needs, explore possible research techniques, carry out research, collect data and analyse. Prepare a short presentation for the rest of the staff. Interview the volunteer staff before and after the project about their ideas on developing practice and research in school (as a group discussion).
- Record interviews and group sessions using a small, relatively unobtrusive, digital Dictaphone and my own handwritten notes, having checked the participants are happy before starting.
- Maintain my journal with observations and descriptive and reflective thoughts throughout the process.
- Keep copies of data collected and if necessary children's work.
- Analyse the data as the project proceeds, but each term will look overall at the data collected and plan for further developments in the next term. Provide you, staff, the children and their parents with brief feedback on this at the start and end of the Summer term. Part of the feedback will be the children's presentation to governors, staff and parents, and the staff's presentation to the rest of the staff.
- Timescale: I envisage setting up the project at the start of the Spring term and complete by the end of the Summer term.

Ethical considerations

Use of time

I recognise that it is very important that what I am doing is a positive experience for the children and the staff involved, and that it does not disrupt the children's learning or my teaching.

- In order to make sure that the participants' time is well used I will make sure that sessions are not unnecessarily disrupted and that sessions are not too long.

- I plan that I work with the children for five main sessions (morning or afternoon) after which they should be able to report back to staff, governors and parents as we feel is helpful.
 - Interviewing re research and introducing techniques
 - Planning research project and preparing resources
 - Carrying out research
 - Analysing research
 - Preparing presentation
 It may be helpful to block sessions 1 and 2, and sessions 4 and 5 as full days. There is funding for cover for this for me.
- For the staff sessions I will plan them at mutually convenient times and make sure they are not being taken away from other important activities. The pre and post interviews can be carried out jointly as a discussion and should take around 20 minutes each.

Consent

- I will ensure as far as I am able that all the participants have given their informed consent to what I am involving them in and are aware of their right to withdraw at any time.
- I have enclosed a letter to be sent to the parents of children in the focus group asking for their permission.
- I will discuss the project with the children together following the outline presented in the attached letter, and allowing them to ask any questions. I will ask them to indicate their consent individually, using the attached letter. If at any time any participant appears unhappy with the proceedings I will stop. All participants have the right to withdraw at any point, and I will check verbally with the children that they are happy to proceed on each occasion.
- I attach a letter which I will discuss with the staff volunteers to help them give informed consent.
- I will give the relevant children and staff the opportunity to read and respond to my summary of findings each term.
- I will provide a short summary report at the end when the thesis is completed and make a copy of the thesis available to anyone who requests it.

Anonymity

The names of all participants will be changed or obliterated in any reporting of the findings. The school will not be identified and I will make sure as far as possible that contextual details do not identify the school in order to protect staff and children's anonymity.

Data protection

All data will be secured under password on my computer and backed up on an encrypted back up drive which is kept remotely from the computer except when backing up is taking place. Data will only be that which is relevant to the project and will not include full names, dates of birth, addresses, phone numbers or other personal details.

Reporting

As stated above, I will report termly to all the participants. I aim to do this clearly, using approachable language and making clear that I value everyone's input into the project. At the end of the project I will be working on writing up my findings for my MPhil/PhD thesis.

My responsibilities

- I recognise that I have a duty as a researcher to collect evidence, analyse it and report on it openly, honestly and in enough detail to enable others to understand what I am doing.

- I am intending that this should be a project involving staff and children collaboratively, enabling them to be involved in how it develops. In order to achieve this I will need to build on the relationships I have already established and be honest, open, positive and supportive throughout. I need to keep showing my appreciation to those who have agreed to participate (but will not use incentives for this) and will make sure they are aware that they have the right to withdraw at any point. I will observe and listen carefully to ensure that they are still happy to be part of the project.
- I need to be aware of the cultural, religious, gender and other differences within the group of children and staff, and ensure that all are supported and happy with what is done.
- The support of everyone involved will be acknowledged, whilst maintaining anonymity.
- I recognise the importance of making sure that I do not allow this to disrupt my teaching. I need to look after myself as well as the participants in order that I can work effectively.

Agreed by:

Name Signed

Position: Chair of Governors

Name Signed

Position: Headteacher

Name Signed

Position: Supervisor

Name Signed

Position: Researcher

Appendix O Permissions (Part 2) – parents' letter

To Parents of the Pupil Research Group

Dear Parents

As part of the on-going work at the school to improve children's reading, I am undertaking a study with a small group of children to explore this further.

We are planning to:

- Set up the group, ask them about what they think is valuable in research and make sure they understand a range of possible research techniques.
- Help them plan an effective research project to explore reading.
- Support them in carrying out their research, collecting data and analysing this, preparing a presentation on their findings and presenting these ideas to governors, staff and parents.
- Carry out a final interview with the children to examine the impact of the project.
- Keep on-going notes about the children's responses and copies of any relevant pieces of work by photocopying, photographing etc as appropriate.
- Recording group discussions using a small digital Dictaphone.

None of the activities are worrying or threatening for the children and they will develop their knowledge and use of research techniques, as well as speaking and listening skills and possibly data-handling depending on the research methods they choose.

Initially this is planned as a short term project covering the Spring and Summer terms. If the findings about this way of working are positive we anticipate that we will continue with the approach next year which may or may not involve your child.

This letter is to check that we have your permission to include your child in the study. The study forms part of my research for an M.Phil/PhD and will be written up at a later date. I will give you and the children a brief summary of progress at the start and end of the Summer term.

It is possible that I might want to use the digital tape recordings in future training sessions or workshops. I may need to include photos of children's work or the group carrying out their research within my thesis and in future training sessions. In all written records everyone's names will be changed and no details will be included which could identify your child or their work.

Please could you sign and return the permission form attached to show whether you are happy for your child to be included. I will also approach the children and ask for their permission. If you would like to know more about what I am doing at any time then please ask and if you or your child wishes to withdraw at any time in the future please let me know. If you are concerned at any point about how the research is being carried out please contact XXXX (Head) or my supervisor, Professor Melanie Nind, at the University of Southampton (02380 595813 or man@soton.ac.uk).

Many thanks for your help.

Miranda Dodd

Study on researching reading, January 2011 to July 2011

Child's name

Please delete as applicable:

I do/do not give permission for my child to be included in the study.

I do/do not give permission for the digital tape recordings to be shown to people interested in the research

I do/do not give permission for photos of to be used within the thesis or shown to people interested in the research.

Signed Date

Appendix P Permissions (Part 2) – children’s letter

(font size reduced from 12 to 10, and at some points 9, to fit it on to one page here)

Dear

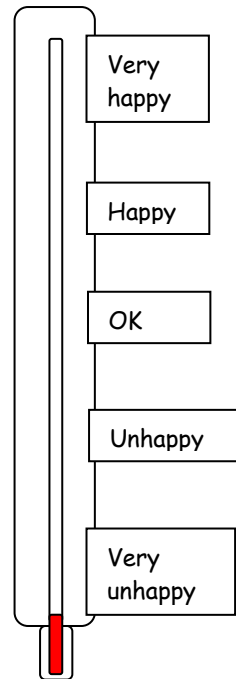
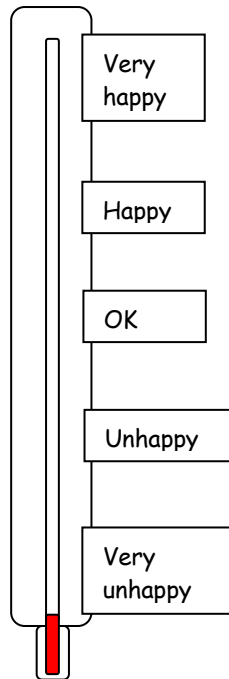
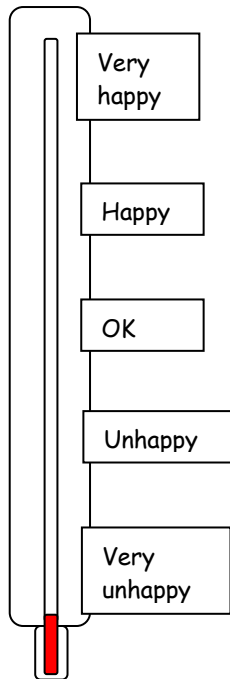
We are trying to find out more about what helps children learn to read and enjoy reading. To do this we would like to invite you to join a pupil research group which will learn about some different research techniques, plan a research project, carry it out and then report back. I am also interested in understanding whether this is a good way to work to improve learning at the school so I plan to ask you some questions about how we do the research, both before and after the project. It would be really helpful for me to be able to record our sessions using a very small digital tape recorder. I may need to play the recording to other people who are interested in what I have learned. Sometimes it will be helpful to take photos of the group or the research you are doing. I will sometimes be making notes about the research.

I hope you will agree to take part but it is your choice. If you have any worries or questions please let me, (headteacher) or (deputy head and class teacher) know.

Thank you for your help

Mrs Dodd

<p>Please colour in the thermometer to show how you feel about taking part in the research group.</p>	<p>Please colour in the thermometer to show how you feel about me playing the digital Dictaphone recording to people who are interested.</p>	<p>Please colour in the thermometer to show how you feel about me showing photos to other people.</p>
---	--	---



Name:

Appendix Q Questions for initial discussion with pupil research group.

Welcome to the group.

Why did they agree to take part? What made them think it would be a good thing to do?

What are you looking forward to? Is there anything that you are concerned or worried about?

What do you think research is?

What do researchers do? What don't they do?

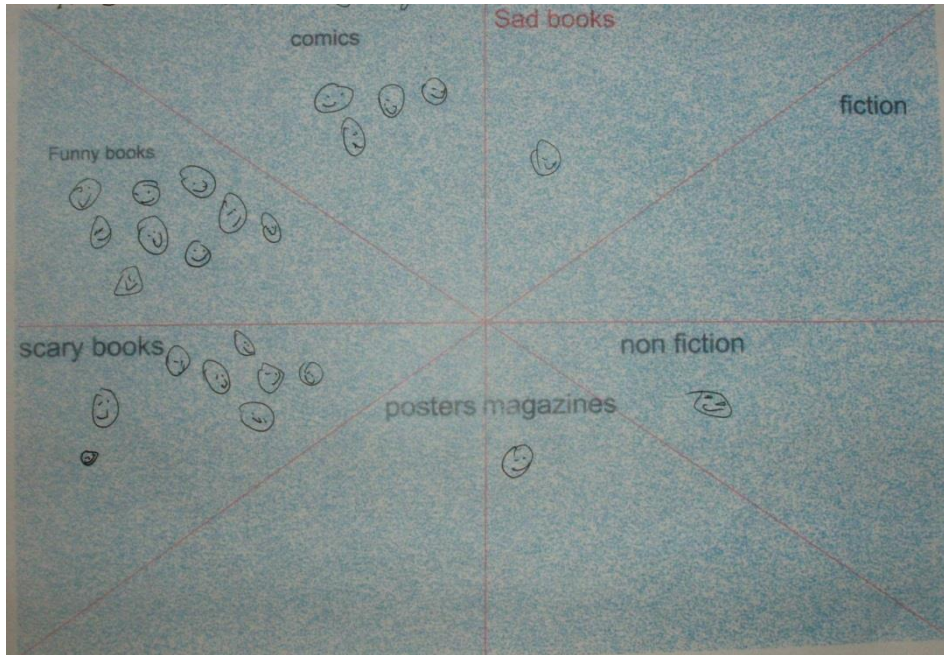
Why do we do research? Who do you think will be interested in our research?

Appendix R Children's research tools in Part 2

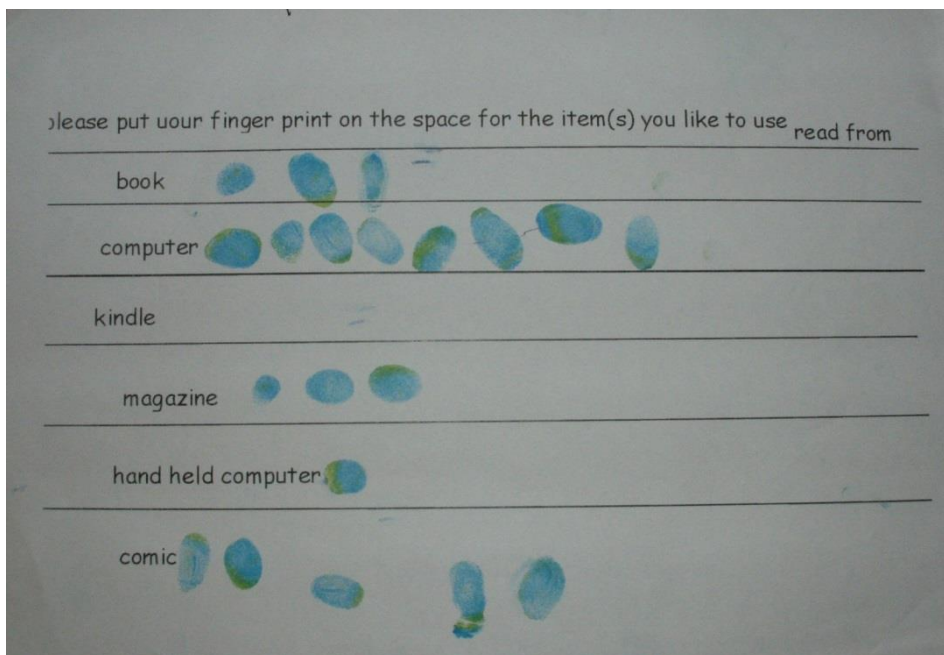
These show the questions and formats chosen by the children for Part 2

Blank versions are included where the handwriting might have been identifiable. All were A4 size.

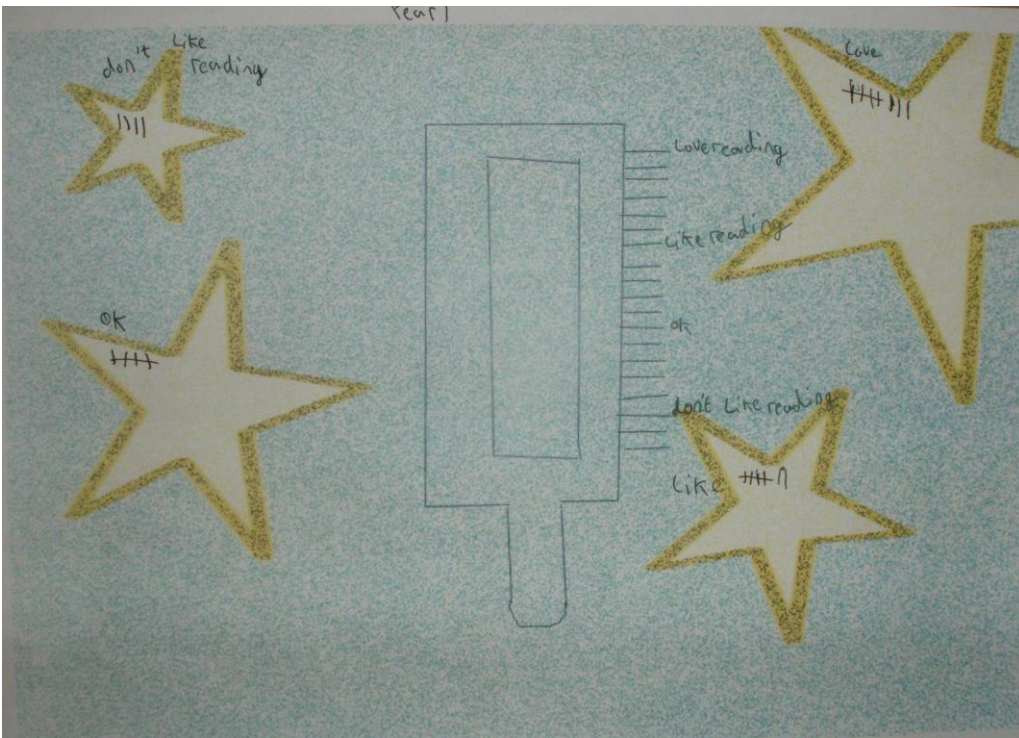
What is your favourite book to read?



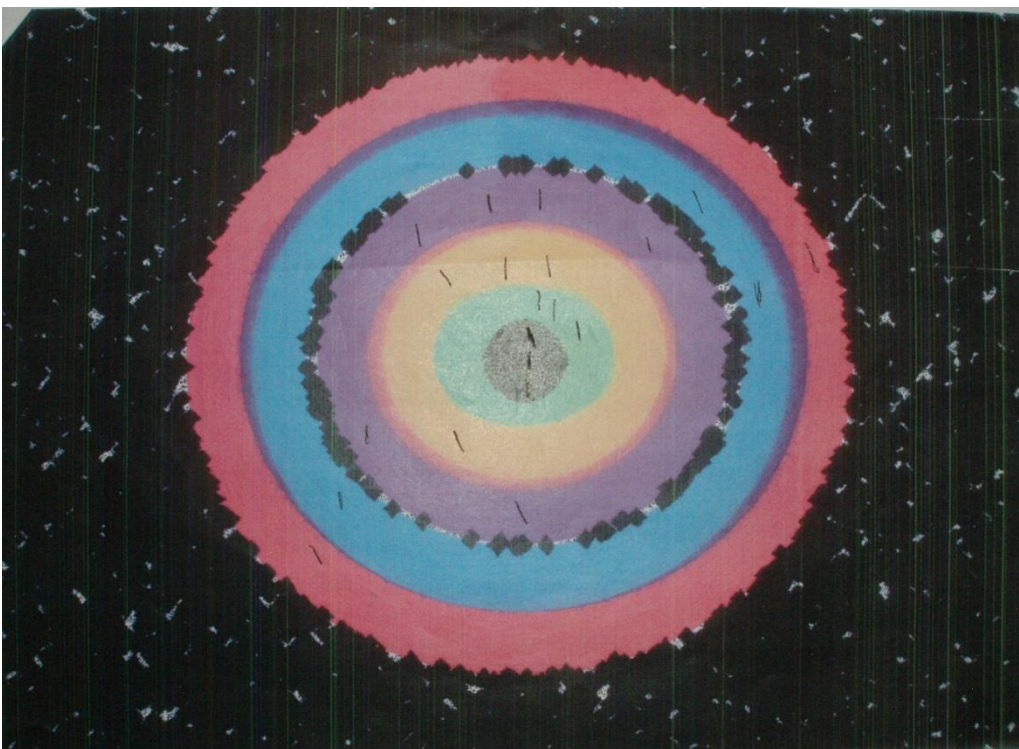
What do you like to use when reading?



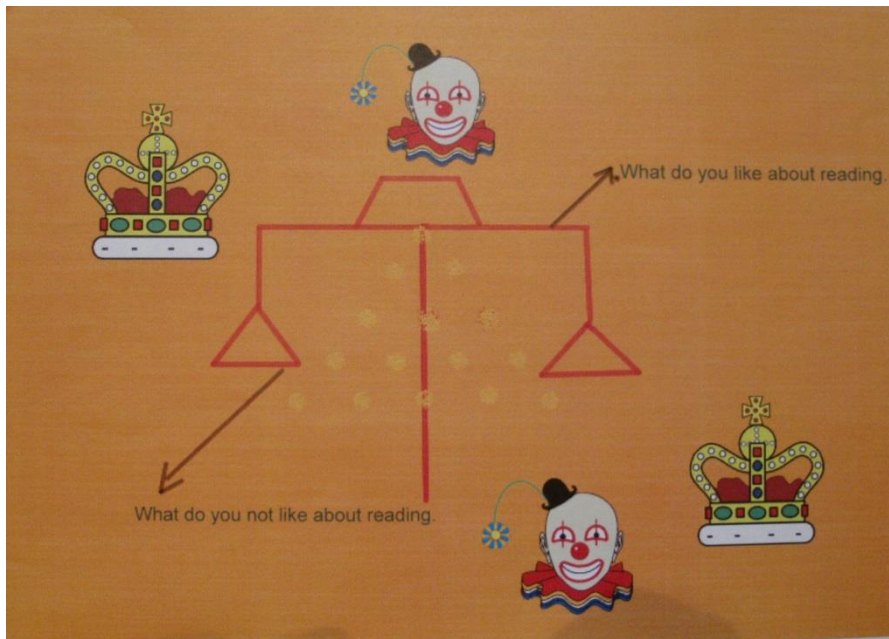
How much do you like reading?



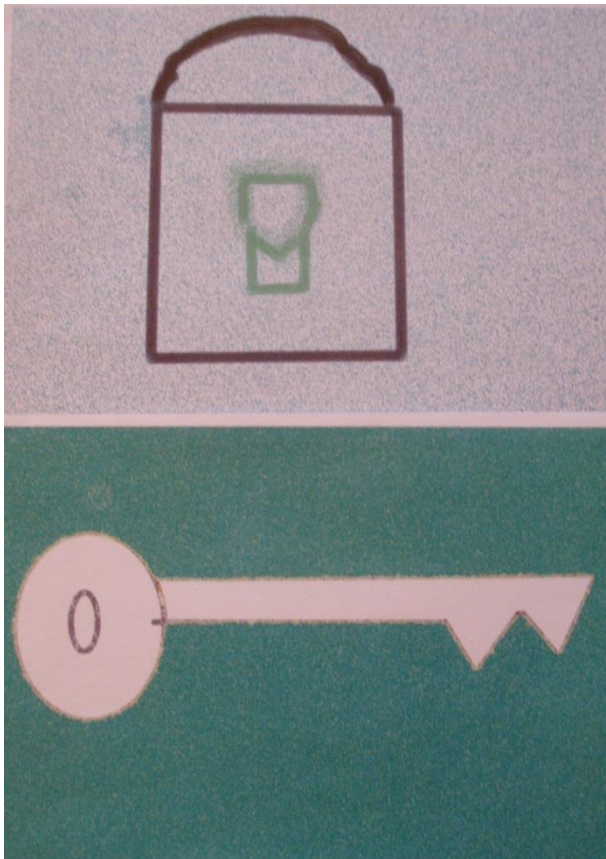
How good do you think you are at reading?



What do you like about reading? What don't you like about reading?

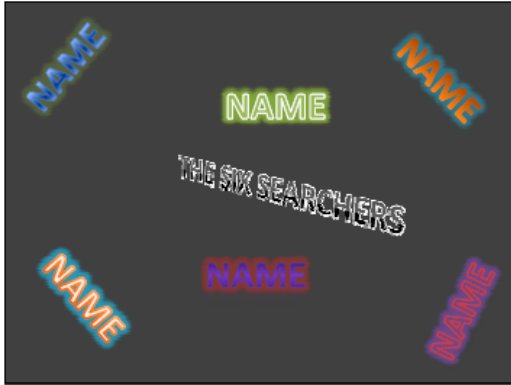


What do you find difficult about reading? How can you improve your reading?

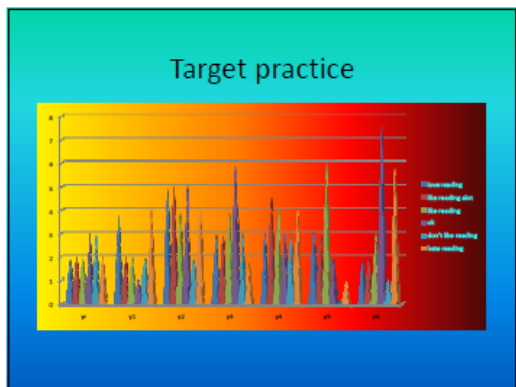
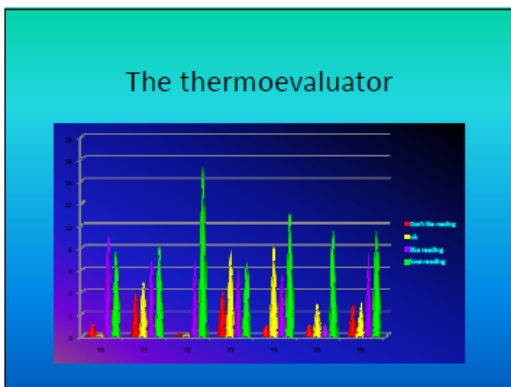
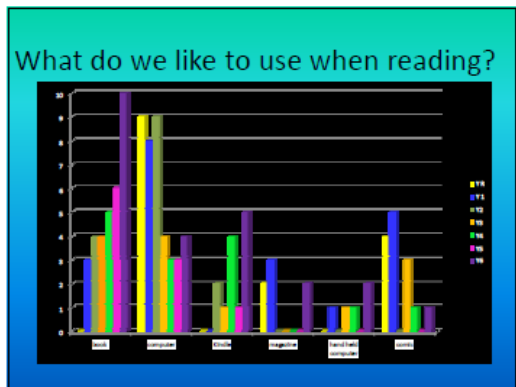
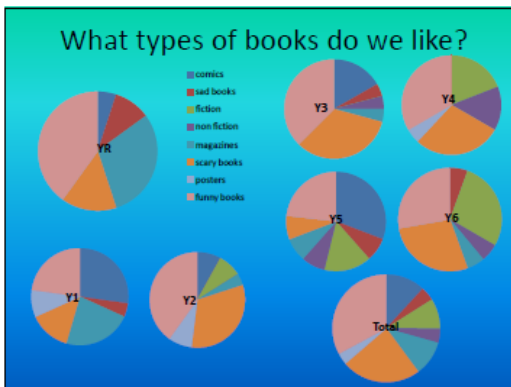


Appendix S Staff meeting PowerPoint slides

These were the PowerPoint slides used for the children’s presentation to staff and governors. The names have been replaced to protect the children’s anonymity.



All the names on the first slide were chosen to work in this group.
To start with Mrs Dodd told us that we were researching reading.
Then we all decided what kind of research technique each of us would use.
We went out to different classes and surveyed them.
Here are our results ...



Pandas: -	Ladybirds -	Dragonflies Boring story books Happy, funny books Scary actions in the story	Badgers Boring stuff
--------------	----------------	---	-------------------------

What do you not like about reading?

Dolphins Boring bits Pictures	Otters Sad endings Boring	Owls Children's books Nothing Boring books Adventure Unrealism ?
-------------------------------------	---------------------------------	--

Pandas: Fairy tales Funny stories and pictures Sad stories Scary stories No tricky words	Ladybirds Scary stories Funny stories Sad stories comic books	Dragonflies Funny stories scary stories pictures learn words	Badgers Fun and exciting information everything
---	---	--	---

What do you like about reading?

Dolphins Fun Quiet Intresting	Otters There funny Like reading comics Like action	Owls Imaginative Action Realism Horror excitment
--	---	---

YR

PHRASES THAT CAME UP WERE

Keeping on target
Some words x2
Tricky words x2
Reading stories

Sounding out words x2
By practising x3
By taking away tricky words

Y1

Phrases that came up were...

Long words x2
Hard words
Some words
Spelling of words
Couple of words
Tricky letters

Keep looking at books
Sounding it out x2
Keep practising x2
By splitting words up
Mum help

Y2

Phrases that came up were ...

Expression
Long words x2
Understanding
Hard words x3
Words

Concentrate
Try hard
Sounding words out x2
Practising x3
Understand words

Y3

Phrases that came up were...

Long words x2
Some words x2
Short words
Words

Braking up words
Skipping and coming back to them
By practising
Some reading a day
Reading everyday
Sounding out words

Y4

Phrases that came up were...

- Difficult words x4
- Big words x 2
- Long words
- Books you don't like

Reading it often x3
Get better books
Get faster
Practise

Y5

Phrases that came up were...

- Reading out loud
- Understanding it
- Hard words

Reading a lot x 2
Doing lots of spelling

Y6

Phrases that came up were...

- To understand
- Tricky words x 3
- Way too many things going on at once
- Harder words x 2
- Complicated words

Reading more x 4
Stick to one book x 2
Read the blurb
Read a dictionary

Conclusions and recommendations

- Most of the younger children said that they need to sound out the words.
- Lots of children found long words hard.
- Most of the children like reading.
- Most of the children like funny books and scary books.
- Comics are popular
- The computer is very popular for reading and we think there should be computers for guided reading.
- As children get older they seem to have less time because there are other things to do and so don't like reading as much.
- Children like information and imagination in books.

NAME

NAME

NAME

NAME

NAME

NAME

THANK YOU FOR LISTENING
ARE THERE ANY QUESTIONS?

Appendix T Code groundedness for PRG analysis

CODES-PRIMARY-DOCUMENTS-TABLE (CELL=Q-FREQ)

Report created by Super - 01/01/2014 13:40:24

"HU: [C:\Users\mirandadodd\Documents\Miranda - home\PhD\atlas file...\PhD analysis PRG only.hpr6]"

Code-Filter: All [73]

PD-Filter: All [12]

Quotation-Filter: All [504]

CODES	Totals
GT coding process	4
P arrangements	28
P childhood	30
P children's views	46
P children leading	28
P ethics	19
P facilitator	15
P fun	13
P helping	13
P improvements	8
P interruptions	11
P learning	7
P methods	65
P missing lessons	7
P name choosing	8
P negatives	11
P non-cooperation fr	5
P opportunity	1
P positives	9
P power relationship	63
P scepticism	6
P talking	4
P tech	33
P timekeeping	13
P truth	14
P understanding abou	47
P unwilling	16
RM atlas negatives	2
RM atlas positives	3
RM audio	1
RM games	1
RM Interviews	2
RM narrative	1
RM observations	1
RM quant v qual	3
RM video	1
T developing practic	2
T facilitator	3

T parents	2
T prioritising chn	2
TR aims	8
TR balance	4
TR balancing demands	3
TR change	15
TR collaborative	10
TR consent	1
TR ethics	11
TR future	2
TR individual	4
TR internal external	5
TR messy	4
TR offputting	1
TR other demands - c	2
TR other demands - h	1
TR other demands gov	4
TR other demands sch	6
TR participatory - c	9
TR personal developm	10
TR power	7
TR practical	8
TR risktaking	5
TR self	20
TR time	4
TR trust	5
TR widening	6
TR writing	2
unsure of coding	2

Totals	707

Appendix U Code groundedness in dialogue analysis

CODES-PRIMARY-DOCUMENTS-TABLE (CELL=Q-FREQ)

Report created by Super - 29/08/2013 22:03:34

"HU: [C:\Users\mirandadodd\Documents\Miranda - ...\analysing narrative restored 6.8.13 for merging.hpr6]"

Code-Filter: All [94]

PD-Filter: All [1]

Quotation-Filter: All [1665]

CODES	1	Totals
academic/practitione	16	16
access	2	2
adult/child	32	32
age	36	36
alternatives	40	40
analogy/metaphor	12	12
analysis	18	18
audience	11	11
authenticity	4	4
background	6	6
balancing	56	56
caution	11	11
change	46	46
children training fo	11	11
choices	18	18
classroom demands	52	52
coding process	3	3
collaboration	24	24
communication	29	29
complex and simple	15	15
connections	46	46
contextual issues	40	40
copying	8	8
depth	37	37
dialogue	9	9
different groups	8	8
difficulties	51	51
diversity	13	13
engagement	41	41
equality	15	15
ethics	41	41
evidence	49	49
excitement	7	7
explicit	31	31
group dynamics	12	12
home/school	23	23
honesty and integrit	25	25
ideas	14	14
impact	29	29
insider/outsider vie	50	50
jargon	4	4
learning - achieved	37	37
learning - aims	25	25

narrative	14	14
participatory resear	91	91
political	17	17
potential difficulti	17	17
power - more general	19	19
power - others to me	9	9
power - teacher/pupi	52	52
practicality	53	53
practitioner researc	40	40
process v product	8	8
quality - negative	23	23
quality - positive	23	23
questioning	65	65
reader	9	9
reading	7	7
reflection	51	51
relationships	23	23
relevance	32	32
research approaches	26	26
respect	31	31
responsibilities	35	35
rights of children	27	27
role of the research	22	22
role of the teacher	37	37
SDP	23	23
self	47	47
skills	48	48
superficial	7	7
teachers	34	34
technology	57	57
time - negatives	51	51
time - positives	19	19
trust	10	10
truth and reality	31	31
values	19	19
voices	78	78
writing	8	8

Totals	2531	2531

Appendix V Changes made to thesis (to be removed once checked)

Point to be amended	Page number	Outline of amendments NB Please note all additional material should show up in red type. Where more than a few words have been omitted this is indicated here.
1. Locate practitioner research in the history of teacher research (pre TTA) in this country and, as part of this, conduct a thesis search of practitioner research theses.	Main additions: 10, 12, 20, 21 onwards (substantial changes to Chapter 2) 25, 41, 184, 194, 198	To inform this point I read: Kemmis and McTaggart 1982 Kemmis 2001, 2012 Kemmis, McTaggart and Nixon 2014 Sikes and Potts 2008 (selected chapters) Somekh 1994, 2009, 2010 Anderson et al 2007 Thomas et al 2014 Zeichner 2001 Reason and Bradbury 2001 (selected chapters) Noffke and Somekh 2009 (selected chapters) Rudduck and McIntyre 1998 I reread Elliott 1991 and looked back at Stenhouse 1975, Stenhouse et al 1985 and various other practitioner research readings. These have helped me gain a fuller picture of the development of practitioner research around action research, in the UK and beyond, especially in the 1970s to 1990s. As a result of this and my readings and reflection for point 3, chapter 2 has had considerable additions and has been reorganised. In Chapters 11 and 12 I have also reflected this reading and the reading for action point 3.
	26, 157, 195	Additionally I conducted a number of theses searches through ProQuest which are written up and referred to within the thesis. I was interested to note that so many came from the University of Leicester (with a distance learning PhD programme) and the University of Limerick (where Masters dissertations have also been uploaded.)
2. Make a short, succinct description of each research project with children and the findings (perhaps best positioned at the beginning of each chapter discussing the projects)	45	Introduction to Chapter 3 adapted and extended to summarise the main elements of data collection and analysis and signpost these for the chapter
	75	Introduction to Chapter 5 extended to outline the main elements of Part 1
	129	Introduction to Chapter 9 extended to outline the main elements of Part 2

3. Include more up-to-date references about qualitative research and writing as research. It might be helpful (and economical of time) to look at the 2005 and 2011 editions of the <i>Sage Handbook of Qualitative Research</i>	14 onwards, 41, 41, 194, 201	I read Denzin and Lincoln's introduction to the 2011 Handbook and from this gained an overview of the current situation in qualitative research, in particular the quant/qual debate. Creswell (2011) and Teddlie and Tashakkori (2011) helped me explore mixed methods, which I later linked to Preissle (2011) and her analogies for Qualitative research, and Ellingson's (2011) continuum. This has helped me place my 'crystallisation' within this. Later I have linked Ellingson's questions to the framework developed in this project.
	21, 36, 113, 152, 199	Reading Brydon-Miller (2011) added to this further as I considered PAR and social justice, participatory methods, power relationships and the impact of these.
	21, 199	Levin and Greenwood (2011) helped me reflect on theory and praxis within a climate of evidence-based pressures. I connected with their vision for the development of democratic thinking.
	203	In relation to future ethical dimensions I was interested to read Christians (2011) and Cannella and Lincoln (2011).
	42, 50, 157, 162, 203,	Reading Charmaz (2011) and St Pierre (2011) enabled further reflection on grounded theory and how I have used it. Davidson and di Gregorio (2011) supported further reflection on the use of software and IT, including some of the challenges and ways forward.
	10, 12, 16, 42, 104, 104, 188, 189, 201, 200	Pelias (2011), Chase (2011) and St Pierre (2011) helped me locate my view of writing as a process to explore ideas, and the relationship between the reader and the writer. Chase (2011) also reminded me of the different ways in which narrative can be used. Holly (2009) contributed to similar points.
	33, 55, 173	Floyd and Arthur (2012) helped with further consideration of the dilemmas facing insider researchers, albeit working with adults in their studies.
	78, 132, 143, 165, 170	Bourke and Loveridge (2014) gave further insight into informed consent when working with children.
	46	Silverman (2013) presents a helpful critique of the place of interviews in qualitative research.
	10, 23, 25, 44, 190, 197	Fox and Allan (2014) and Thomas et al (2014) helped me consider how others have used narrative and reflected on the research process.
4. Rephrase the underlying methodology to state that	n/a	Sections on ethnography/autoethnography and case

what you have undertaken is a self-reflexive in depth research journey drawing on Ellis and Bochner's article as a means of/model for representing the journey. Perhaps omit references to autoethnography		study removed
	42	Reference to autoethnography omitted
	44	Material added at end of Chapter 2 explaining about my self-reflexive journey
	45	Introduction to Chapter 3 adapted and extended to take the self-reflexive journey forward. Autoethnography omitted
	157	Text adapted at start of Chapter 11 to reflect the self-reflexive journey
	197	Text adapted at start of Chapter 12 to summarise self-reflexive journey
5. In several places a general statement is made that looks as though it is unsubstantiated. It is then followed by several points different authors have made. Rewrite these paragraphs to link what the authors have said in relation to the general statement.	35,47,64,65, 67,69,71,72, 126	As on Helen Simon's notes, linking words have been added, references rephrased or paragraphs reworded on these pages to show how points are connected. These page numbers refer to new version.
	23, 48, 49, 52, 63, 65, 67, 67, 68, 71, 123, 124, 133,	Additional examples where the same principle was applied
6. Temper claims made about anonymity.	55	Additional text added in section discussing potential to identify children using facial recognition software
	59	Additional phrase added at end of chapter to reflect point made earlier
7. Throughout please make explicit how the research proceeded as for an outside audience. Sometimes assumptions are made that the reader knows certain points. In particular offer an explicit reflective summary on the research journey over 7 years in the last chapter.	Please also see the points listed under action point 2	
	101	Additional text added to first sentence of Chapter 6 to explain this
	117	Additional text added to first paragraph of chapter outlining main content
	147	Sentence added at start of Chapter 10 to explain key points
	197	Additional material added at the start of Chapter 12, headings added to help with clarity and considerable extra detail added through the chapter to explain my research journey. Also please consider the final section in Chapter 11 'Setting this study in the wider context'.
8. In the last chapter also make a brief reflective conclusion on the questions the research raised and where it might lead in the future.	202 onwards	Considerable additions/adaptations made to 'Priorities' and phrased more strongly.
9. Please pay attention to the few typos and suggested grammatical and stylistic amendments noted by the examiners on the text and on the separate sheet.	Throughout	These have been attended to throughout and are all identified in red 'Edited' text (please note this does not apply to appendices where red text was already used for some interview probes). In a few instances words have been omitted. See annotations against a few notes below in red.

Additional actions following on from the viva:

As discussed in the viva and having checked with my supervisor, I have removed all numbering for text apart from the chapter numbers and those for tables and figures, and the letters for appendices. Where necessary cross-references in the text to e.g. section 11.2 have been rephrased with page numbers given. These have not been highlighted in red, but can easily be found if wanted by searching for the word 'section'.

I have inserted a screen shot from Atlas.ti as suggested near the start of Chapter 11 to give an example of the coding (Figure 11-1).

Miranda Dodd Thesis April 2014

Stylistic points to correct and amend

Numbers in red are hyperlinks to points in the resubmitted thesis

Ch 1

In several places throughout the thesis there is the odd use of tense (mostly singular and plural It would be helpful if these could be made consistent.

In several places also the word quote is used: in formal work, quotation is more appropriate, e.g. p55, line 3 **61**;

p161 11.3 line 1 **170**

P.7 suggest would more appropriate here, not should **7**

Ch 2

P 12 2.2. line 3 Maybe need to insert 'objective before reality. Researchers other than positivists aim to get a grasp of reality (co-constructed, for example or different realities). **12**

P13 lines 2/3 is it many people or many researchers? Be a litle careful about 'Popper thought we were looking for true knowledge through scientific inquiry'.

There are different kinds of science and scientific inquiry. **13**

P 15 line 3 appropriate 'to' not for **16**

P17 l ine 3, there are two thats, delete one - **not found and have searched document**

P 18 five lines up from bottom. 'There has been a dramatic increase...' since when? **25**

P19 'There are... line 2' there are para 3; Quite often general statements are made and it is not always clear that the references which follow refer to this general statement. It may be preferable to say after a general statement, see, for example A and B and then go on to explain. **See action point 5**

P19 last para It is not [just] a question. Query just not needed. **27**

P21 lots of its (important to know what it stands for - often need to repeat the issue) **29**

P23 third line sec para. need to insert 'external research' for clarity of meaning
31

P24 middle para, question 'not generalizable in the positivist sense of the word, but could mention other ways of generalizing e.g. 'situated generalization' (Simons et al 2003; Simons 2009) 32

P25 Elliot quotation is not stated correctly What is referred to here is actually from Simons (1985) omitted for better flow 34

P26/7 2.3.4 Last line meaning of 'were challenging for some.... where? in what research? 35

PP Places where there are lots of authors quoted following a general statement without connection e.g. lines 26, 27; 28 (last para); p43 second para; pp 58/59, 6, 63, 65, 66, (first para) 120. See action point 5

P27 Rather undervalues your contribution in last few lines. I think you can claim a little more for your research. 15

P28 why quote Middlewood et al when you are talking about your research unless you say as Middlewood found... 20

P28 second para 'There is broad agreement'... from whom? Or 'Cain (2010) notes that there is broad agreement'... omitted as result of rewriting chapter

PP29-31 Suggest you are not doing case study or autoethnography here omitted

P35 There are other values I hold dear which I think will influence what I (not you) will do as a researcher 40

P37 Suggest not they but 'These authors suggest....' 41

P38 line 4 auto ethnography and grounded theory not techniques but approaches 42

P39 This (not that) would make it more immediate, as you have just been talking. 44

Ch3

P43 Hallidayan principles - does this need an explanation and a reference? It came from Jewitt and Kress. I have omitted it as I felt it did not particularly add anything.

P 47 The BERA code identifies..52

P50 informed consent form video but not photographs? 54

Ch4

P56 para2 line 3, no comma needed at banking omitted

P57 last para correct tense. Stake between the researcher and reader of his/her research (not their) tense 63

P58 third para Many writers such as... 64

P60 Several writers, (see, for example....) 66

P64 second para Alexander and Murphy also suggest 70

P65 where you mention 'pedagogical content knowledge' you might also consider Shulman's work 71

Ch 5

P70 4th para. make clear. Do you mean to say 'Much as Thorne, (1993) and Clark (2003) found, I was becoming aware of the language I use to help understand the children's ' views and feelings. 77

P70 'Some children that I asked'... should read 'some children whom I asked' 77

P71. Sec para Do not need 'and' after hear, rather a semi colon or full stop and start a new sentence with The power relationships etc., 77

P71 sec para five lines up from bottom. Instead of 'Clark suggested that smiley faces were limited'..... (as this statement is not in relation to your research which you have just described) , rather it should read 'Clark suggests smiley faces are limited 78

P 74 in the middle you are describing what you did with the children and then suddenly reference Claxton and Greany and Rodd) Why? did they suggest something similar? 80

P85 last para -middle. You are discussing the process with the children and then suddenly drop in Gass and Mackey (2000).Did they find something similar? 92

Ch 6

P96 When I did manage to make the time, there was always a gap

When I had managed to make the time there had always been a gap. 102

P99 first line Query From all the research'... Reads more correctly as' From the research noted by Cordingley ...' 105

P99 second teacher entry refers to 'my journal'. Was it a teacher journal or a research journal or both? Need to clarify where you mention journal in methodology. Clarified in 'journal writing' in methodology - teacher and researcher.

P99 last para. You are producing knowledge, practical knowledge, though maybe be not knowledge as identified by Foster.106

P102 Third teacher comment 'Foster 1999 would argue cannot say what Foster would argue but can say 'Foster might argue... or If you take Foster's view, it may be possible to argue that what I am doing is not proper research etc... 108

P101 places where the plural reads oddly: p101 second para 'our project'; 107

p113 first teacher comment line 1 where there is 'we' when it should perhaps be I, 119 and Ch 8 where it mentions in the first teacher comment 'There are implications for both of us' (omitted) In other places such as on pp 103, 105 114 this tense difference is less noticeable

Ch 8

P111 is the example at bottom of page in Todd's research? Make clear. 118

P112 first line rephrase as sentence Greene has raised the question whether participation in research is another adult initiated etc... unless it is a direct quotation 118

P113 fourth para, what evidence is there for 'explosion in participatory research methods' omitted to give better flow 119

P117 'What is happening in schools is changing the power relationships -rather strong unsubstantiated statement 123

Ch 9

P124 last para first line insert 'similar process as in part 1 131

P126 Link between first two sentences? The rest of the paragraph develops this point across the whole paragraph 132

P127 first line 'With the PRG, as Alderson (2001) said..... doubt Alderson said this. Need to rephrase to something like 'As Alderson has commented children do have experience of doing research in school and the same was true here'. 133

CH 11

P158 Last para line 5. Suggest not a 'must' 167

P161 main para 'None of them seemed to find the change in relationship hard'. This sounds like you are reporting your research but in brackets you put (l'Anson and Allan). Maybe (l'Anson and Allan found the same in which case you need to say this. 170

P162 First few lines need some editing. This is a quote from a memo so has not been edited, but the words 'in a memo' have been added in front of it. 170