

Embedding Thinking Skills in professional practice: Can teachers' utilisation of CPD opportunities be explained by a Meta-Activity Framework?

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Abstract

This study sought to understand the processes by which teachers utilise Thinking Skills Continuing Professional Development (CPD) opportunities. A case study in an independent school in London, the research was split into two parts: one-to-one CPD with the researcher, focused on integrating Thinking Skills strategies into the classroom, then small group CPD, part of an Assessment for Learning school initiative. This was included as part of the Thinking Skills approach due to some important overlaps in pedagogical stance. The main data was collected as Field Diary, semi-structured interviews and recordings of the dialogue in one-to-one CPD sessions and small groups.

Following a Grounded Theory perspective, themes emerged initially that were linked to a Social Dynamic approach to understanding the organisational influences which impact utilisation of CPD. However, as the study progressed, it emerged that this approach had limited use as a specific analytical tool. A stronger theme emerging was the concept of a Meta-Activity (engaging in the CPD) as well as an Object-Activity (integrating the CPD into the classroom). This was formalised into a framework utilising Vygotsky's Triangle of Mediation, doubled to represent both the Meta-Activity and the Object-Activity.

The Meta-Activity Framework explains the process of teacher interaction with the presented opportunity and the way in which dialogue subsequently evolves to characterise the emerging paradigm. The Meta-Activity framework offers an understanding of boundary brokering of the new paradigm, identifying the specific point at which failure or success in embedding Thinking Skills in professional practice occurs. The extent to which teachers engage in the Meta-Activity process forms patterns characterised as Activity Engagement, Activity Refusal and Activity Sabotage. Of particular interest is that teachers who appear to obstruct engagement with the Meta-Activity tend to have unresolved problems in implementing CPD, stemming from systemic priorities and social dynamics of the school.

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

Signed:

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CHAPTER ONE

INTRODUCTION

- 1.1 Researcher Background
- 1.2 Encountering the ‘Burning Question’
- 1.3 Developing the Research Question

1. 1 Researcher Background

My background is eclectic. I was educated in a wide range of educational contexts, starting with kindergarten in South Africa, followed by one year in a mixed English comprehensive primary school in the early seventies. I then spent three years (aged six to nine) in an English language classroom as part of a Dutch School in Saudi Arabia, followed by a year in a small village school back in the UK. From age 10 to 18, I boarded at a single-sex public school in Hertfordshire while my family lived in Texas. My first memory of an interest in pedagogy occurred in Sixth Form when I started to draw links between my different A-level subjects and wondered whether that would be a more interesting way to teach them.

My undergraduate degree was in Psychology (University of Cambridge) and I did not re-enter the field of education until nine years later when I took a distance learning Master of Education from the University of Newcastle-upon-Tyne’s Centre for International Studies in Education, offered in Hong Kong. At that time I was working with adults with disabilities, a role which focused more on community integration than teaching. My thesis was based on the Hong Kong Government’s Service Performance Monitoring System of social-service organisations and the extent to which it promoted social inclusion (Roberts, 2002, p. 2). In particular, I was interested in the organisational structures which allowed individuals (both staff and service-users) to flourish within the context of an organisation that considered itself to be continuously evolving.

Additionally, I was deeply impressed by the theoretical perspective of the Person-Centred approach, as it related both to education and the social services (Rogers and Freiberg, 1994). As my interest in pedagogy grew, I attended an additional module on Thinking Skills run by Dr. Baumfield, who was then the Director of the Thinking Skills Research Centre and a key figure in early Thinking Skills research.

I was particularly interested in how Thinking Skills approaches in the classroom seemed to provide a platform for the same type of social inclusion and respect which I had come to seek in social service agencies. It seemed that certain teaching strategies facilitated a person-centred approach, compared to others which heightened academic differences and reinforced a lack of student engagement. For example, giving a large Venn Diagram on a sheet of A3 paper to a group to explore the similarities and differences between a car and a person (in the context of exploring Life Processes) enables learners to discuss and consider a wide range of interesting possible answers. The framework and question provides an opportunity for first stimulating and then listening to a wide range of ideas which encourages an interest in diversity and enables all participants to feel that they and their thoughts could be valuable. At around the same time, I undertook a short course in collaborative learning (Doig, 2001) and was struck by the impact of utilising social dynamics to foster learning. The focus here was on varying the type of group contact available within a single lesson, by including a variety of arrangements such as small group investigation, pair work, peer presentation, teacher led discussion and individual work. Moreover, I was struck by the apparent practical and theoretical overlap between Thinking Skills and Collaborative Learning, which I will explore in greater depth (Chapter 2.1.2)

1.2 Encountering the ‘Burning Question’ (Bell, 2005)

After obtaining my MEd, I experimented with Thinking Skills techniques in Primary, Secondary and Tertiary classroom settings. Since I was still in Hong Kong, my lessons were conducted in English which was usually not the students’ mother tongue. The Thinking Skills strategies proved extremely helpful, partly because they enabled creativity in a culture dominated by a transmission pedagogy (Pratt, Kelly and Wong, 1999) and partly because in small group discussions students could discuss material in their mother tongue (Cantonese) rather than in English, which facilitated both their learning and motivation.

The most dramatic example occurred when I was teaching an ‘Introduction to Psychology’ course to performing artists at the Academy of Performing Arts. None of my students spoke English as their primary language, many were disaffected academically and as Psychology was a compulsory course, a considerable proportion were generally uninterested in the course content. Moreover, the class size exceeded fifty and was taught in a screened-off props storage corridor. My first course was taught

prior to my introduction to Thinking Skills and collaborative learning and I naively believed that the content would carry the course. In practice, I had barely ten seconds of whole class attention before my students would erupt into talking and movement in a show of utter non-interest. Students regularly fell asleep, began discussing productions amongst themselves or simply left the classroom for extended cigarette breaks. I would walk back to the front of the class at a total loss, knowing beyond all doubt that despite my best intentions I was not meeting any of my students' needs.

The following year, I was armed with Thinking Skills strategies and ideas for stimulating group work and the experience was totally different. I created stimulating activities which involved peer collaboration in small groups or pairs, enabling the use of Cantonese to discuss psychological issues. One such activity required each group to draw an example of a given stereotypical role, such as a drug user or street sweeper. The initial drawings included an unkempt teenager with needle marks and a dirty man in a shabby street with an old brush. After small group discussions based around structured questions, the group were required to re-draw their picture in light of their discussions about stereotypes and social value. The aforementioned pictures became a smart business woman with a glass of wine and a trendy young man with a shiny state-of-the-art road sweeping machine and walkie-talkie.

I arrived back in the UK in 2004 after ten years away and spent one full year in a Year 4 classroom, supporting a child with moderate SEN to enable her to access the curriculum. The school was a London primary prep school (ages 5 -13) which was subsequently to become my research context. I had assumed that Thinking Skills would be well integrated into daily classroom practice, particularly as this was known to be a good school (Ofsted, 2006). My informal observations showed that the teaching, while extremely proficient, was still fairly traditional. I visited several other schools as part of my role and spoke to teachers and found that this was not unusual. Moreover, in my physical position in the classroom (on a small chair next to my pupil, much like another child), I could see that while teacher-talk could not be accessed at all by my pupil, it was also by-passing many of her classmates as well.

I noticed that most children actually picked up the key concepts when asked to do seat-work activities. Some concepts were acquired in the short term, but quickly lost when there was a change of topic. There were a large number of occasions when a simple,

even spontaneous, Thinking Skills activity could have been substituted for a worksheet or a lengthy teacher-led explanation, without any additional resource or extra time being needed. I was convinced that Thinking Skills had much to offer both teachers and pupils (McGuinness, 1999). This led me to the fundamental curiosity which triggered my ‘burning question’, namely that initial problem, not the final research question, but part of the journey towards it:

‘Why, when Thinking Skills is such a good way of teaching, is it not more firmly rooted in the classrooms I have seen?’

This interest, in combination with my aforementioned interest in organisational structures that support ongoing and reflective improvement, led to the focus on exploring the change process in teachers exposed to Thinking Skills strategies in the context of their continuing professional development (CPD).

1.3 Developing the research question:

The Thinking Skills approach to teaching and learning embodies a cluster of key educational concepts, supported by a range of practical classroom activities from which teachers can build tailor-made resources. Loosely, I describe it as teaching by stimulating learners’ wide range of thinking potential, using such faculties as their opinion, experience, creativity, critical thinking etc. Core concepts include a social constructivist approach to learning (Williams and Wegerif, 2006), with an emphasis on building knowledge through dialogue; student-centred learning (Rogers and Freiberg, 1994) and the awareness of the importance of naming and structuring thought processes (Dewey, 1997). Thinking Skills can be perceived in an overly narrow fashion (the add-on, commercial programme) or in an overly broad way (‘surely all education involves thinking?’ (Cowley, 2004)). This dichotomy and its implications will be explored more fully and a more complete definition given in Chapter Two.

Despite the inevitable difficulties of proving the effectiveness of teaching thinking skills (Nisbet, 1990) it tends to be described enthusiastically. A summary based on reviewing fifty-six documents (Cotton, 1991) asserts that this approach *‘promotes intellectual growth and fosters academic achievement gains’* (p10) but warns that due to the efforts and time involved in order to achieve efficacy *‘administrative support and commitment are necessary for program success.’*

Thinking skills may offer particular advantages to children with special educational needs (Baumfield and Devlin, 2005) but should not be seen as ignoring the needs of more traditionally able pupils. *'All children (the high fliers as well as the poor performers) have the opportunity... to become more active, hence more effective, learners'* (Lake, Needham and Lealan, 1996, p. i Introduction). Indeed, many programmes for Able and Talented children include examples of Thinking Skills strategies.

The use of a Thinking Skills approach has a documented effect on teachers' sustainable change in the context of professional development (Fennema *et al*, 1996; Franke *et al*, 1998). There is an important and integral link between positive change as stimulated specifically by a Thinking Skills framework and the advantages of undertaking a collaborative action research project:

'From the outset, it was our belief that when teachers are actively engaged in deconstructing and constructing their professional activities with their peers and experts from the field, the conditions for reflective and more effective practice are then furthered, fostered and supported.'
(Tinker-Sachs, 2002, p. 30)

Despite the importance of both teacher-led research and effective continuing professional development (CPD), there is currently an insufficient body of research in the tools and mechanisms of effective CPD. In the National Foundation for Educational Research, described as *'the UK's leading independent research organisation carrying out research in the field of education'* (NFER, 2010) 200 research projects are typically carried out per year, yet in 2007 only four were specifically focused on teachers' professional development. Given that much of the success of facilitating evidence-based change is reliant upon teachers and their professional skills, the research interest in teacher CPD seems woefully small.

The current educational climate feels overburdened with imposed initiative, leaving many teachers feeling cynical and resistant (Rebore and Stollenwork, 2001) and contributing to the *'reduc(ing) of the teacher's role to that of technician, turning flair and creativity into a teaching-to-the-test mode.'* (Ollerton, 2004, p. 5). In a survey of 10,000 teachers (Sturman, Taggart and Woodthorpe, 2004, p. 2), an *'overwhelming majority'* wanted to strengthen their classroom practice, many felt that their professional development needs were not met and that a greater emphasis on their *'professional*

creativity and informed judgment’ was *‘unlikely to happen*’. In this current climate, which some have described as a ‘Discourse of Derision’ (Forde, 2006) of teachers and the teaching profession, it seems hardly surprising that teacher motivation in general, and a commitment to professional development in particular, seems at all-time low.

In a recent review conducted by the Thinking Skills Review Group for the EPPI-centre (Baumfield *et al*, 2005b) on the effects on teachers of implementing Thinking Skills programmes, the authors state, *‘Studies which have sought to investigate the link between thinking skills and professional development point to the significance of such approaches in stimulating pedagogical inquiry.’* (p. 38) While this is undoubtedly true for some teachers, the effect is not consistent overall (Franke *et al*, 1998). Teachers’ trajectory of change can vary hugely between individuals, even those engaged in the same research project (Fennema *et al*, 1996). In addition to the varying individual response to Thinking Skills CPD is the difficulty in changing overall school culture, even when a body of committed teachers exists within it. This is evidenced by problems of sustainability when key staff members leave (Adey, 2006), suggesting that whole-school infusion of pedagogic strategies is both difficult and time consuming and the expertise tends to remain located within individuals and small groups rather than permeate into a wider group or whole school. This phenomenon is well documented:

“The history of the implementation of thinking skills programmes demonstrates the difficulty of sustaining commitment from staff...”
(Baumfield and Oberski, 1998, p. 45)

Yet some schools clearly succeed in developing a whole school Thinking Skills culture. There seems to be a Thinking Skills dichotomy here. The variation in individual teachers’ response to Thinking Skills CPD is perhaps not surprising given the wide range of individual variation which exists. The puzzle is why some schools achieve cross fertilization with greater ease than other schools. There is the enthusiastic success of Thinking Skills in some classrooms, schools and even counties, yet a lack of an overall wide-scale adoption in day to day teaching in the classrooms of many, perhaps even most, schools (explored further in Chapter Two).

This led to a research question which not only focused on teachers’ processes of embedding Thinking Skills strategies as part of ongoing professional development and how those processes are affected by the school context, but also the way in which these teachers impact on the school culture as a whole. A key part of understanding the

success or otherwise of changing practices in classrooms lies with understanding the relationship between individual teachers' responses to their professional development opportunities and their subsequent impact on the school context. Patterns emerging from the data halfway through the research (outlined in Chapter 5) led to the acknowledgement of the importance of social dynamics in this complex process. This was later refined into a Meta-Activity model which embraced the social complexities within the school community, yet offered a dynamic, sequential framework with particular emphasis on the processes which might contribute to a sustainable paradigm shift in classroom practice. This led to the final research question:

'To what extent can a Meta-Activity Framework explain teachers' utilisation of continuing professional development in the context of a Thinking Skills pedagogy?'

CHAPTER TWO

LITERATURE REVIEW

2.1 *Why Thinking Skills?*

- 2.1.1 Definitions, Cognitive Dissonance and Metacognition
- 2.1.2 Pervasiveness and crossovers of concept
- 2.1.3 Core criteria associated with embedded use of Thinking Skills
- 2.1.4 Effecting paradigm shifts in schools

2.2 *Social Dynamics and Activity Theory in the context of CPD*

- 2.2.1 Activity Theory
- 2.2.2 A Social Dynamic Model

2.3 *Teachers' Continuing Professional Development (CPD)*

- 2.3.1 Thinking Skills CPD
- 2.3.2 Models of Professional Development

Why Thinking Skills?

2.1.1 Definitions, Cognitive Dissonance and Metacognition

Finding an apt and comprehensive definition for Thinking Skills is surprisingly challenging:

'Thinking Skills initiatives have been used in schools in the UK since the early 1980s and have been in existence for somewhat longer, but the term itself is ambiguous and there is disagreement about how it relates to aspects of pedagogy more broadly (Higgins and Hall, 2004, p. 2)

'Thinking skills ... there remains some uncertainty as to what the term means' (EPPI-Centre, 2009) Website

The term 'Thinking Skills' is badly served by the fact that in its broadest colloquial sense it is simply a key part of teaching and learning, applying to every part of the curriculum, but without a specific strategic focus:

'Learning how to think is, surely, what education is all about.' (Cowley, 2004, p. xi)

Cowley writes an accessible, teacher-friendly book, filled with useful teaching strategies, but does not posit a specific definition of thinking or Thinking Skills, although she refers to the importance of metacognition for both teachers and learners and provides seven examples of types of thinking, including evaluative, creative, critical and philosophical thinking (p. 3). The biggest difficulty with a very broad, all encompassing definition is that it offers neither concision nor pedagogical direction. In

the quest for ongoing professional development, a generic view of thinking skills is a little like the phrase ‘good teaching’ – full of noble intent but of little practical value.

The term ‘Thinking Skills,’ in its broadest sense, includes our understanding of ways in which children think. However, the focus of this research, in keeping with the Newcastle school of thought, is to focus on the pedagogic processes to enable such thinking to occur. This narrower definition is focused on what teachers do to encourage thinking, i.e. the focus becomes the raft of pedagogic strategies which develop and promote thinking and dispositions to thinking (Glevey, 2006), such as courage, team spirit/co-operation, confidence and motivation.

‘Thinking Skills approaches are supported by theories that see learners as active creators of their knowledge and frameworks of interpretation, so that learning is about searching out meaning and imposing structure. Thinking is an affective as well as a cognitive process, and developing Thinking Skills has as much to do with creating dispositions for good thinking as it has to do with acquiring specific skills and strategies.’ (Butterworth and Connor, 2006, p. 2)

Such strategies can be applied to any curriculum area, including PE (devising team-building co-operative strategies to solve a physical puzzle or challenge), drama (creating performance pieces relevant to cultural issues) and art (such as using an Odd-one-out to compare different artists and elicit children’s thinking on themes such as technique, artist’s intention and personal response to art). The term ‘Thinking for Learning’ (discussed in greater detail below) makes explicit the use of Thinking Skills strategies as a pedagogic tool and may prove to be a useful term to avoid confusion but for reasons of historicity and more prevalent usage, this research continues to use the moniker ‘Thinking Skills’.

The term ‘Thinking Skills’, as pedagogic intervention, is also used to denote specific, add-on programmes, with no intrinsic relationship to core curriculum topics, but which focus on the honing of different types of thinking processes. There are a number of well composed and useful ‘add-on’ programmes which stand alone, aimed at stimulating key cognitive functions that will prove transferable to both curriculum and life. ‘Top Ten Thinking Tactics’ (Lake, Needham and Lealan, 1996), ‘Thinking through School’ (de A’Ecchevarria and Leat, 2006), ‘Somerset Thinking Skills’ (Blagg, Ballinger and Gardner, 2001) and Feuerstein’s Instrumental Enrichment (Feuerstein, 1980) are all well-researched programmes which claim a powerful impact on cognition overall, but

which require specific timetabling to effect the intervention. The main drawback here is the exact opposite of the generalized definition above; that it is so specific that Thinking Skills may be perceived only as a specific topic or course which schools and teachers may be reluctant to add to their already overburdened curriculum.

This echoes criticisms made of the 3-lesson cross-curricular learning cycle intended to introduce Thinking Skills to the English National Curriculum (Glevey, 2008):

'One of the long-term difficulties with creating separate lessons for promoting thinking is that it may lead to the untenable view that lessons outside these special thinking skills lessons are irrelevant to promoting thinking'. (p. 117-118)

The 3-lesson notion, while well intentioned, seems to fall short of an infused approach to Thinking Skills due to its brevity of scope. It is neither a complete 'add on' programme nor a consistent and concerted attempt to revitalize the curriculum. While its introduction may encourage teachers *'to work collaboratively in powerful new ways'* (p123), sustained benefit is otherwise unlikely.

While acknowledging the use and benefits of many add-on programmes which teach thinking as an addition to existing curricular areas, this research has not focused on stand-alone programmes. This is partly because, for ethical reasons, I did not want to advocate a particular programme, but more importantly because I wanted to model Thinking Skills as an intrinsic part of all curriculum areas, as a specific pedagogy to underpin classroom practice.

The key component in a Thinking Skills strategy is cognitive dissonance (Feuerstein, 1980). Cognitive dissonance is the successful activation of ambiguity in the mind of the learner, often stimulating a desire to discuss the problem or venture an opinion amongst a peer group. Cognitive dissonance can be seen as the stimulus which engages the individual, but then compels interaction within a group. When successfully achieved, the learner, either as individual or group participant, is likely to engage past experience to further understand the problem and is therefore actively engaged in making meaning for him/herself thus constructing their own learning.

This, then, is my working definition for the purposes of this case study:

‘Thinking Skills is the use of pedagogical strategies and approaches such that cognitive dissonance may be activated to stimulate interest, encourage discussion, increase motivation and promote metacognition to enable significant learning’.

Metacognition has been deliberately downplayed in this definition because while its importance is crucial when considering transfer of Thinking Skills into new contexts, this author will argue (see below) that not only is it not crucial to the introduction of Thinking Skills into specific lessons, but that to do so too early may be detrimental to dialogue and learning.

Thinking Skills as defined in this way is a versatile but specific approach which can be infused across the curriculum. This combines both the broad and the narrow aspects of its nature; the strategy is broad because it is relevant to all areas of the curriculum, but narrow because it promotes a specific pedagogical approach. Ironically, this seeming paradox of breadth and narrowness which makes the definition so problematic can be seen as a strength when attempting infusion of Thinking Skills in the classroom. Infusion within the curriculum can be facilitated by a specific curriculum-based programme or seen as part of a pedagogic strategy that can be adapted by a teacher to fit the needs of an individual classroom. In both cases, a Thinking Skills pedagogy utilises a raft of specific strategies designed to stimulate cognitive dissonance in the classroom.

The formal, often commercial programme typically covers a specific subject area and provides resources, lesson plans and teacher professional development designed to stimulate thinking within that area. Cognitive Acceleration through Science Education, ‘CASE’ (Adey, Shayer and Yates, 2001; Shayer and Adey, 2002) is one well known example, which will be explored further in the context of its professional development programmes (see below). Philosophy for Children (Lipman, 1983; Lipman and Smith, 1981) is another example of a specific programme which supports infusion because of its ease of integration into existing curriculum areas, such as within the Literacy and Language domains.

The infusion approach does not require the use of specific commercially available programmes. One example of the infused approach using a broader range of strategies was adopted by the N-RAIS (Northumberland – Raising Aspirations In Society)

approach (Williams and Wegerif, 2006). N-RAIS implemented a variety of cross-curricula approaches such as a range of visual frameworks and other investigative strategies to stimulate cognitive dissonance. This project in many ways resembled what I was trying to do in my case study, using many of the same strategies (Appendix Section Two) and illustrates the positive localised impact that Thinking Skills can have. However, the project coined another phrase ‘Radical Encouragement’ to emphasise the importance of encouragement in effective learning:

‘... the N-RAIS project involved high levels of encouragement targeted at the development of the kinds of dispositions, skills and self-images that are fundamental for continued learning. For this reason the N-RAIS team adopted the term ‘Radical Encouragement’ to give coherence to its work and to provide a guide for the development of future strategies.’
(p. 7)

Unfortunately, to my mind, this compounds the existing difficulties of achieving recognition for Thinking Skills in schools. The term ‘Radical Encouragement’ is hard to understand without specific knowledge of the N-RAIS project and lacks an intuitive frame of reference, causing it to be alienating rather than embracing. Inaccessible naming could perhaps limit the spread of the effective and valuable pedagogy advocated by the N-RAIS project.

The infusion approach to the use of Thinking Skills was largely inspired by the Thinking Skills Research Centre at the University of Newcastle, with their influential book ‘Thinking through Primary Teaching’ (Higgins, Baumfield and Leat, 2003). This book outlines a pedagogical stance which could underpin any lesson and is characterised by powerful pedagogical strategies such as ‘Odd-one-out’, ‘Mysteries’ and ‘Fortune Lines’. All of the suggested strategies support investigative learning, problem-solving, open questions, rich starting activities and peer-led dialogue.

Instead of a definition of Thinking Skills, the authors offer this series of stimulating strategies and four ‘levels’ of application, aimed at the teacher wishing to experiment with Thinking Skills in the classroom. These levels are focused on teacher professional development and the journey from trial of a new idea to a whole school adoption of an infused pedagogical stance. This highlights the emergent nature of the infusion of Thinking Skills into the classroom and eventually, potentially, to the whole school.

The four outlined stages are important because they describe the progressive nature of introducing a new pedagogy, in particular suggesting the point at which the use of metacognition in the classroom is introduced. Level One is characterised by trying out some of the strategies as presented. Level Two involves adapting those strategies to fit other contexts. Level Three focuses on exploring metacognition and Level Four refers to total infusion with a whole school, cross curricular approach. These four stages can be seen as:

- trialling
- adapting
- metacognition
- infusion

In this progression, metacognition is linked to Level Three, after Thinking Skills strategies have been used in the classroom and as a precursor to whole school infusion. This is absolutely right because metacognition offers a common language for teachers to think about thinking and to talk about what is happening in the classroom. This would be crucial for planning Thinking Skills lessons and discussing key elements of the pedagogy with colleagues. Yet for a class to be stimulated into thinking about a curriculum topic, the Thinking Skills strategies stand alone without the need at first to be aware of the types of thinking which are happening. The debate about the role of metacognition is extremely important as it seems that introducing consciousness about the processes of learning too early could actually dampen the excitement of the learning process which is stimulated through cognitive dissonance in the classroom.

Cognitively Guided Instruction (CGI) in Maths (Fennema *et al.*, 1996) demonstrates a very subtle and effective form of metacognition. CGI stimulates children into thinking about a problem, but does not proffer solutions, relying on the learner's ability to make sense of confusion. The confusion is seen as an important part of the learning process, provided that the confusion is articulated, explored and resolutions obtained. The subtle shift in the emphasis on metacognition is that the 'thinking about thinking' involves the teachers' careful attention to the way in which a child is contemplating mathematical problems, rather than the imposition of vocabulary or thinking structures being transmitted to the learner. This distinction is an important one.

The Thinking Skills Research Centre, now called the Centre for Learning and Teaching (CfLaT, 2008), currently defines Thinking Skills using Moseley's work (Moseley *et al*, 2005) (discussed further below).

'Teaching Thinking Skills involves 'courses or organised activities which identify for learners translatable (as opposed to directly transferable) mental processes and/or which require learners to plan, describe and evaluate their thinking and learning' (Website)

This seems overly narrow in that the emphasis here is all on metacognition and generalised Thinking Skills, with no focus on cognitive dissonance. It also seems to suggest approaches which focus on thinking in isolation rather than as part of subject-specific teaching. Metacognition here is described as something that is 'identified for' learners, not identified 'by' them. It also creates the impression that metacognition forms part of the early curriculum, rather than perhaps being seen as part of a whole school infusion, after stimulating, subject related strategies have already been used to promote investigation and dialogue during lessons.

'There is considerable debate about metacognition in the research literature. ... Some researchers enthuse about its importance and potential, others question the meaningfulness of the concept.'
(Higgins, Baumfield and Leat, 2003, p. 124)

Moreover, if metacognition is seen as the key aspect in Thinking Skills, then this would imply that the use of the Thinking Skills strategies as described in the Level One and Two stages above are not really using Thinking Skills. If a teacher begins a lesson with an Odd-one-out, using the open-ended nature of the strategy to stimulate interest, structure discussion and elicit potential themes and prior knowledge, but does not ask children to identify the types of thinking that they are doing, a metacognition only definition would preclude this from being a Thinking Skills activity.

'A thinking skills approach therefore not only specifies the content of what is to be taught (often framed in terms of thinking processes such as understanding, analysing or evaluating) but also the pedagogy of how it is taught.' (Higgins and Hall, 2004, p. 6)

This illustrates an important distinction worth extrapolating. Metacognition has a key part to play, but it must be seen as part of an evolving pedagogical stance. It may prove to be productive to consider metacognition as even more important when intrinsically entwined with the learning process of teachers wishing to use Thinking Skills in the

classroom. In the classroom, particularly in the early stages of implementation, the greater emphasis should be on activities which stimulate cognitive dissonance rather than prematurely attempting to use metacognition. This sense of progression is crucial when considering that the successful embedding of Thinking Skills by teachers usually requires several stages.

Hall and Higgins make a point of distinguishing two types of Thinking Skills in their review on the impact of Thinking Skills:

‘There is certainly mounting evidence that adopting approaches which make aspects of thinking explicit or which focus on particular kinds of thinking are successful at raising attainment (particularly metacognitive approaches (Marzano, 1998) or cognitively demanding interventions such as problem solving and hypothesis testing or those that enhance surface and deep learning...’ (Higgins and Hall, 2004, p. 11)

The ‘cognitively demanding interventions...that enhance...learning’ are crucial for two reasons. Firstly, these interventions can be used to enhance most curriculum areas, making them versatile. They add a dynamic and engaging aspect to a lesson. In addition, their basis within the subject specific curriculum coupled with the effect of raising attainment is particularly relevant to our current concerns about raising student academic achievement.

Secondly, Feuerstein’s concept of ‘cognitive dissonance’ is contained therein (Feuerstein, 1980). Cognitive dissonance is characterised by a stimulus which presents an intellectual ambiguity which challenges the learner while stimulating interest. This is a key component of Thinking Skills, yet an over-emphasised focus on metacognition as part of the lesson can lead to this crucial component being overlooked. Cognitive dissonance must be at the forefront of a Thinking Skills pedagogy because it acts like an ignition key, stimulating motivation and self-engagement within a given subject area which is a pre-requisite to other types of thinking. Ambiguity, investigation, discovery and mystery are all approaches to teaching which utilise cognitive dissonance. It is also seen as a core component of Accelerated Learning (Bates, 2002). The vital role of cognitive dissonance in stimulating thinking makes it a crucial element in an integrated Thinking Skills pedagogy. Misdirecting metacognition into the lesson is dangerous, not just because of the risk of reducing the emphasis on cognitive dissonance, but because it detracts from the crucial role which metacognition plays in enabling infusion to occur

across curriculum areas. The critical role is that of metacognition as a language, a denominator of mutual understanding, which enables teachers to find common links in their pedagogy beyond that of curriculum. It is this type of whole school infusion which enables pupils to understand metacognition, not because it is specifically taught, but because it has evolved as part of their teachers' understanding and vocabulary and therefore appears as an embedded part of their school experience.

There is thus a danger that the role of cognitive dissonance can be overlooked altogether, with potentially disastrous results for lesson planning, even by researchers with an extensive knowledge of Thinking Skills frameworks and origins. 'Frameworks for Thinking' (Moseley *et al*, 2005) is a thorough literature search of a substantial number of theories of thought and intelligence (over 100) which shows with clarity and rigour the range of ways of conceptualizing human thought. It identifies a number of common features and proposes a 'meta-model' of Thinking Frameworks consisting of:

- *self-engagement*
 - *reflective thinking*
 - *productive thinking*
 - *building understanding*
 - *information gathering*
- (Moseley *et al*, 2005, p. 4)

There is a fundamental step missing in this meta-model. Moseley et al have outlined, in my view, the *outcomes* of a Thinking Framework, not the components of the Framework itself. Characteristics of a Thinking Framework should embrace the notion of education based activities designed to promote the outcomes listed above, rather than listing the skills in isolation from the dynamic processes required to achieve them.

This begs another key distinction. On pages 14-15, Moseley et al state:

'...the huge interest in the teaching of thinking has seen such work proliferate in everyday educational practices. ...This has led to a search for new curricula and pedagogies that will stimulate more productive thinking.'

While I do not think this statement is as true as it could be in many UK schools (an issue that I address in Chap 2.1.4), my concern here is that no distinction has been drawn between '*the teaching of thinking*' and '*pedagogies that will stimulate more productive thinking.*' The implication in the first phrase is that the thinking itself is a

topic for instruction, whereas in the second, our understanding of the thinking processes is used to inform pedagogy in general.

Attempting to ‘teach’ thinking undoubtedly has a role, such as in study skills and self-regulated learning, yet the distinction must be made clearly that this is not the same as using Thinking Skills to develop pedagogical strategies. An over-reliance on ‘teaching of thinking’ could result in little more than instruction on how to approach tasks and it loses the crucial component of cognitive dissonance linked to curriculum content. To some extent this is visible in the final pages of Moseley et al’s work (2005, pp. 317-318). In Table 7.1 ‘*Problem solving with young children*’, which concludes the volume, are a number of instructions such as ‘*Adapt your strategy*’ and ‘*Reflect on what you are learning*’ which could all too easily be used to tell children what to do, rather than aid the teacher in creating the type of stimulating and interactive lesson which has become the hallmark of a Thinking Skills pedagogy.

Pintrich’s well respected work on self-regulated learning is a case in point (Pintrich, 1995). Self-regulated learning uses metacognition and self-reflection to enable learners to understand their own cognitive, affective and motivational processes. It is seen as Thinking Skills because it utilises our understanding of thought processes and makes these explicit to help the learner. Where it differs from Thinking Skills as explored here is that these skills are not intrinsically bound to course curriculum and teaching methods; they are in a separate domain, relevant to the learning of subjects but not infused into the teaching of those subjects.

‘... self-regulation of motivation and affect involves controlling and changing motivational beliefs such as efficacy and goal orientation, so that students can adapt to the demands of the course. In addition, students can learn how to control their emotions and affect (such as anxiety) in ways that improve their learning.’ (Pintrich, 1995, p. 7)

Explicit focus on these ‘*general aspects of academic learning*’ does have a place in supporting study, yet if the initial teaching had employed strategies known to encourage motivation, self confidence and self-efficacy, the student may have been able to avoid many of these problems in the first place. Very recently (February 2008), I was offering student support to a 13 year old boy who, through a combination of poor reading skills and debilitating anxiety, was finding it difficult to attend classes in Year 8. A teacher had set him four pages of reading and questions on classification of species in a Science

textbook. The text was dense and the combination of the student's affect and low self belief led to a catastrophic meltdown. Yet had the work been presented in a stimulating way, such as an 'odd-one-out' between a dolphin, duck and bat (Higgins, Baumfield and Leat, 2003, p. 13), the ensuing discussion would probably have elicited most of the key concepts and vocabulary, while building self-efficacy, reducing negative affect and increasing subsequent motivation. This example illustrates my position, which is that the use of our understanding of the processes of thinking to underpin pedagogical strategy is more powerful than the use of that knowledge to teach students mechanisms for more effective learning. Pintrich does acknowledge the role of the classroom in supporting affect, motivation and a strong sense of self-efficacy (Hagen and Weinstein, 1995), but as a desirable adjunct rather than the cornerstone of self-regulated learning. For this research, the emphasis is much stronger. Thinking Skills must be embedded in the pedagogy and curriculum rather than seen as a discrete topic.

This view is echoed by de Corte (2003) who offers as an aspect of design theory a way of integrating theories of thinking and learning into the classroom. With a specific interest in both self-regulated learning and a problem solving approach to learning mathematics, de Corte states that:

This component of the learning environment converges with the design principle described earlier, that the acquisition of cognitive and metacognitive skills should be facilitated within the subject-matter domains. (De Corte, 2003, p. 260)

Perhaps in an attempt to reclaim the importance of locating thinking back into pedagogy, R. Peers (2004) and colleagues have coined the phrase 'Thinking for Learning' which emphasises the functional role of Thinking Skills in the classroom.

'Thinking for Learning is an umbrella term that includes recent influences promoting conscious and active thinking about the learning process. Currently, these include Thinking Skills, Accelerated Learning and Philosophy for Children.' (Peers, 2010) (electronic resource accessed in June 2008)

The phrase also has the advantage of linking 'Thinking for Learning' with 'Assessment for Learning', which emphasises the role of formative assessment. The link between Thinking Skills and Assessment for Learning, and their dynamic role within the classroom, will be explored further below (Chapter 2.1.2).

2.1.2 Pervasiveness and Crossovers of Concept

‘...research also supports the use of several teaching practices effective in fostering the development of thinking skills...’ (Cotton, 1991, p. 5)

The aim here is not to present an exhaustive study positioning Thinking Skills within all other pedagogical theories, but to explore some areas of particular relevance. This will focus on the prevalence or otherwise of Thinking Skills in theories on Collaborative Learning, Cognitive Acceleration, Learning Styles and Assessment for Learning.

Collaborative Learning and Thinking Skills have major crossovers and, while not identical, have strong pedagogical similarities. Often, the language used in describing cooperative learning is very similar to that found in the Thinking Skills literature. Gillies (2007) describes cooperative learning as *‘pedagogical practices that promote thinking’* and discusses the role of justifying ideas to peers in developing thinking (p. 68). Moreover, many Thinking Skills strategies are recommended for collaborative group work, such as ‘Mysteries’ (Higgins, Baumfield and Leat, 2003).

Adey outlines three key components for Cognitive Acceleration: cognitive conflict, social construction and metacognition leading to transferability of concepts to analogous situations (Adey, 2006, p. 50). Clearly, the emphasis here on cognitive conflict is the same as cognitive dissonance, suggesting in many ways that the pedagogical structure underpinning Cognitive Acceleration is the same as that underpinning Thinking Skills.

Coffield et al conducted a comprehensive review of theories of Learning Styles (2004). Learning Styles are considered as part of this review because many of the teachers in the research viewed Learning Style theory as almost synonymous with Thinking Skills, despite the fact that theories of Learning Styles tend to focus on the learner as an individual, rather than on the social processes of learning as emphasised by Collaborative Learning and Thinking Skills. Coffield’s study divided theories of learning styles into five families, ranging from fixed constitutionally based learning styles (which includes the VAKT learning styles mentioned in 2.1) to learning strategies and approaches which can be encouraged and taught, such as self-regulated learning as discussed above. In covering such a broad field, they identified some theorists as having a fairly valid research base, while others escaped as little better than charlatans:

'A thriving commercial industry has also been built to offer advice to teachers, tutors and managers on learning styles and much of it consists of inflated claims and sweeping conclusions which go beyond the knowledge base and the specific recommendations of particular theorists. ...Some theorists do make extravagant claims for their model, which reflect badly on the whole field of learning style research.'

(Coffield *et al*, 2004, pp. 36-37)

That said, the authors recognize that for some teachers, the use of even flawed learning style models can result in dramatic change in their classrooms. In particular, the authors note that teachers who spoke at conferences describe how their attitude towards challenging pupils changed dramatically and they were able to modify their teaching and approach in a way that contributed enormously to both behavioural and academic changes. It seems that while the face validity of many of these models is in doubt, there is a catalytic validity which leads to improved classroom practice:

'The positive recommendation we are making is that a discussion of learning styles may prove to be the catalyst for individual, organisational or even systemic change.' (p. 44)

The authors conclude that, despite this, the research basis for other pedagogical stances is more powerful and that resources might be better spent in pursuing more academically rigorous initiatives:

'Our role is to point out that the research evidence in favour of metacognition or assessment for learning is more robust and extensive than the evidence we have reviewed on learning styles, regardless of whether they emerged poorly or relatively unscathed from our evaluation.' (p. 53)

In spite of my personal agreement with this statement, I remain puzzled as to the popularity that learning style theories have achieved among teachers. While I thoroughly advocate models with strong research foundations, I am mystified that it seems to be the theories with a flimsier research background which have had a greater influence on classroom practice.

In an attempt to relate the practice of learning style theories to Thinking Skills, it seems as if teachers who are using a learning style model are focused more on how children learn and less on the content of the lesson. This seems to steer them away from a transmission pedagogy, consequently reducing teacher talk and contributing to a more

interactive and hands-on classroom. As long as a teacher does not pigeonhole a student as one type of learner and not another, and attempts to use a variety of interesting strategies, cognitive dissonance and metacognition are likely to be part of that lesson. It seems as if an interest in learning style theories can lead a teacher into creating a Thinking Skills lesson.

Marzano's impressive work on a meta-analysis of educational interventions utilizes his framework of three 'Representational Modalities' to explore not only the effectiveness of learning interventions, but also the manner in which they might work (Marzano, 1998). His work seems to link Thinking Skills frameworks with motivation, seeming explicitly to refer to the role of cognitive dissonance in activating student interest. He suggests that low motivation is caused when the lesson objective or activity is not desired by the individual's 'self-system' in the context of their peer group or self interest:

'There is no discrepancy between the desired status and the perceived status. This occurs when the desired status for an attribute, peer group etc has been met.' (p. 60)

This could explain the role of cognitive dissonance in a lesson because a 'discrepancy' is created between what a student thought they knew and the stimulus with which they have been presented. Marzano (1998) measures an effect size of 0.54 (equivalent to 21 points on a percentile) when a teacher uses problem-solving in a classroom and an effect size of 1.14 (37 percentile points) when experimental enquiry is used:

'When a teacher utilizes problem-solving to enhance students' understanding of content students are presented with a situation relative to specific information or a specific skill and then presented with obstacles relevant to that information or skill. Such activities require students to think about content in unusual ways, thus deepening their understanding.' (p. 93)

The focus on children's thinking is another key pedagogical strategy which links Thinking Skills to other frameworks. Perhaps one of the best known is 'Assessment for Learning' which challenges the role played by Summative Assessment on two grounds: the impact of such assessment on learning in general and the validity of such assessments as a measure of learning. There is a clear overlap between Assessment for Learning and Thinking Skills:

‘..as we have introduced more and more teachers to these ideas, we have become better at communicating the key ideas. A case in point is that we have each been asked several times by teachers, ‘What makes for good feedback?’ – a question to which we had at first no good answer. Over the course of two or three years we have evolved a simple answer – good feedback causes thinking.’ (Black and Wiliam, 2003, p. 631)

Assessment for Learning highlights instead the role of Formative Assessment in understanding and supporting learning. Strategies include:

- Open questioning, including longer waiting time for answers
- Giving specific feedback instead of or as well as a grade or mark
- Using peer/self assessment
- Establishing transparent criteria to measure attainment
- Greater focus on children’s thinking and expression of ideas, individually, in pairs or in group contexts

Kirton et al (2007) emphasises the broad links between Assessment for Learning and other pedagogical structures, coining the term ‘Trojan Horse’ to describe how formative assessment could be used to trigger an increased awareness of good teaching and learning. In this respect, the focus on the child as social learner, rather than the recipient of a transmissive pedagogy, links AFL with Thinking Skills. Additionally, eliciting children’s thinking is an important aspect of Assessment for Learning, enabling the teacher to understand how a pupil is constructing meaning about a topic and what type of vocabulary is being used (Leat and Nichols, 2000). The role of higher order thinking, cognitive dissonance and metacognition are, however, emphasised more strongly in Thinking Skills, whereas the role of structured feedback and clarity of assessment criteria are more emphasised in AFL. Additionally, the focus on assessment inevitably encourages the teacher to consider the learner individually, even if the theoretical stance of Assessment for Learning places greater emphasis on collaborative learning.

Thinking Skills conceptually necessitates the use of cognitive dissonance, which may be absent from some Assessment for Learning strategies. In some respects, some Thinking Skills Strategies may benefit current AFL tenets, such as ‘no hands up’ and ‘increased wait time’. Rather than posing an open question and then waiting (which can be challenging for both teachers and students), the use of a stimulating starter presented to small groups of children can eliminate both the desire to raise a hand and the awkward

gap between question and answer, because pupils are discussing the question in the context of a puzzle, with the expectation that their views will be sought by the teacher in the near future.

Like Thinking Skills, Assessment for Learning is challenging for schools to adopt because it necessitates a broad scale paradigm shift in teachers' thinking about education. There needs to be flexibility within the curriculum, for example, to allow a teacher to modify plans and schemes in the light of the learning that pupils are doing. It requires a teacher to focus on how a child is conceptualizing a topic, rather than be content with their ability to reproduce material adequately under test conditions. When, however, the school focus does not shift away from particular summative assessments, such as GCSE or Common Entrance results, the teacher may be left in an ambiguous position:

'The more they (teachers) accepted the theorists' view of learning and teaching, the more they were frustrated - alternately wanting to understand individual children better, and feeling that such understanding might actually get in the way of the job they have to do in the classroom.' (Lampert, 1997, p. 97)

'Such a tension between summative and formative assessment needs to be resolved so that the dominance of assessment for accountability does not drive out assessment for learning.' (Kirton *et al*, 2007, p. 624)

One of the characteristics this raft of pedagogical initiatives share is that, despite compelling evidence to demonstrate the positive outcomes of their use, the process of implementation is difficult and often at odds with other aspects of school culture.

'For us the question was not, therefore, "Does it work?" but "How can we get it to happen?"' (Black and Wiliam, 2003, p. 629)

The answer lay, not only in a series of research projects in schools (KMO Formative Assessment Project (Black *et al*, 2006)) but in a series of 'Black Box' booklets, journal articles and over 700 talks and lectures as well as persuading policy-makers of its value:

'Of course, working ... with 24 teachers couldn't possibly influence more than a small fraction of teachers, so we have given considerable thought to how the work could be 'scaled up'. We are working with other local education authorities ... to develop local expertise, in both formative assessment and strategies for dissemination. In Scotland, formative assessment has become an important component of the Scottish Executive's strategy for schools... Assessment for learning has also

become one of the two key foci (along with thinking skills) of the government's Key Stage 3 Strategy for the foundation subjects.'
(Black and Wiliam, 2003, p. 632)

Perhaps partly as a result of this campaign, Assessment for Learning has achieved a greater foothold in UK schools nationwide than Thinking Skills. It is also possible that this may be because teachers see Assessment as something which is a crucial part of their job description, something that teachers must do, whereas Thinking is something that children do naturally so it does not require such focused intervention. Until fundamental changes have occurred, however, in schools' accountability measures and core social 'raison-d'etre,' both Assessment for Learning and Thinking Skills struggle to be at the heart of current teaching and learning.

2.1.3 Core criteria associated with embedded use of Thinking Skills

Several themes emerge consistently when teachers talk about using Thinking Skills.

'...they stressed repeatedly how important it was for the pupils and for themselves as teachers to enjoy the work and not to become bored with it.'
(Baumfield and Oberski, 1998, p. 44)

In a multi-study review by the Thinking Skills Review Group (Baumfield *et al*, 2005a, pp. 27-28), changes in pedagogical practice were grouped into three distinct areas. Changes in pedagogical practice included teacher questioning (stimulating and open-ended); grouping (particularly an increased focus on mixed ability groupings) and changes in planning and assessment. Changes in attitudes towards pupils included changes in perceptions of pupil ability and facilitation of increased pupil responsibility and autonomy. Changes in approaches to professional development included a greater focus on collaborative CPD and forging greater links with researchers.

When listening to teachers talk about CPD, embedded practice might include references to some of the following:

- Listening to children
- Notion of lessons being 'fun'
- Providing opportunities for children to think and speak
- Use of rich, stimulating lesson starters (cognitive dissonance)
- Use of multi-sensory teaching methods

- Number of ‘Thinking Skills’ strategies mentioned, compared to other strategies
- Sense of wonder/engagement with concept of ‘Community of Enquiry’
- Generation of own ideas/materials
- Tone (enthusiasm/engagement with topic)

There are a broad range of pedagogical approaches which contain substantial elements of Thinking Skills core principles.

‘These include the promotion of cooperative learning (with talk playing a significant role), promotion of challenge in learning, the development of foundation concepts in subject domains, the encouragement of transfer and stimulating pupils to think about their learning (metacognition).’
(Leat and Lin, 2003, p. 386)

This research is intended to embrace these broader areas. Thus, if a teacher is using collaborative learning and problem-solving techniques, but not referring to them as Thinking Skills, for the purposes of this study and in keeping with the definition postulated above, I would consider them to be Thinking Skills. This is important because the broad research problem is intended to embrace all approaches based on the core pedagogical principles outlined above. This is explored in the following section. This basic foundation of sound pedagogical principles also emerges later in many of my recorded conversation with teachers, but is often referred to in the vaguest of terms such as ‘the kind of stuff you are talking about’. This is interesting for two reasons. Firstly, it implies a common understanding of what is meant by ‘the stuff’ and secondly, it highlights perhaps a slight reluctance to use the term ‘Thinking Skills’ to convey this pedagogical raft of effective interventions.

2.1.4 Effecting Paradigm Shifts in Schools

‘It is evident that teaching Thinking Skills can be very effective in raising attainment. It excites some teachers, most pupils are enthusiastic, especially when it is taught well and it can transform classrooms and outcomes. So why is it not transforming educational outcomes?’
(Website for CfLaT, 2008)

This comment is indicative, both of the mood perhaps surrounding the name change of the ‘Thinking Skills Research Centre’ to the ‘Centre for Learning and Teaching’ and of the frustration which underpins my own initial ‘burning question.’ The subsequent, tentative, reply which follows on immediately after the above quote is somewhat surprising in a number of ways:

‘There are three big reasons:

- 1. Teacher issues – lots of teachers find it hard to do as it requires a different knowledge base and teaching skills from more routine teaching;*
- 2. School level issues – for example a subject-based curriculum, which emphasizes content, with little linkage between learning experiences militates against transfer of thinking;*
- 3. System level issues – assessment regimes do not immediately encourage such an approach, there is a tendency to play safe and not take risks.’*

There is something quite depressing about the tone of these three points. It is almost an admission of failure, with blame placed in broad, sweeping statements at the foot of the teacher, the school and the government. Each of these points merits deeper discussion:

- To what extent has the use of Thinking Skills failed nationally?
- Do teachers find it hard to implement?
- If they do, does the fault lie with curriculum design and assessment methods?
- Are there other school level or government level issues which need to be identified?

There have been a number of large scale reviews of the role of Thinking Skills in the classroom, undertaken by a variety of reputable bodies, spanning a period of about a decade. This suggests an enduring interest in Thinking Skills. The EPPI-Centre Thinking Skills Review Group undertook four main reviews: considering the impact of Thinking Skills on pupils in general (Higgins *et al*, 2004), pupils’ learning (Higgins S *et al*, 2005; Higgins, Baumfield and Hall, 2007) and the impact on teachers (Baumfield *et al*, 2005a), with largely favourable outcomes in each one.

‘The results suggest that the development of learning skills and capabilities should be embedded in the curriculum, as well as being taught explicitly to pupils, with supportive discussion of the effectiveness of strategies and approaches in different contexts.’

(Summary Higgins, Baumfield and Hall, 2007, p. 1)

It is worth noting here, however, that there has been a slight ‘watering down’ of ‘Thinking Skills’ becoming ‘learning skills and capabilities’. The danger here is that such a generalised phrase runs the risk of being so all encompassing that it becomes almost meaningless. Additionally, this seems similar to the type of instructional approach devoid of cognitive dissonance discussed in Ch 2.1.1. Regarding the overall impact on pupils:

'The majority of studies report positive impact on pupils' attainment across a range of non curriculum measures (such as reasoning or problem-solving). No studies report negative impact on such measures.'
(Higgins *et al*, 2004, p. 4)

The National Curriculum now includes Thinking Skills as a core part of the curriculum.

'Since the review by Carol McGuinness in 1998 and the explicit inclusion of thinking skills in the National Curriculum, interest in the teaching of thinking skills has burgeoned in the UK. Thinking skills approaches are emerging as a powerful means of engaging teachers and pupils in improving the quality of learning in classrooms.'
(Website for DfCSF, 2008)

The Standards Site (Website for DfCSF, 2006) recommends 57 different books or programmes specifically related to Thinking Skills and offers a history and research base with extensive references. The overwhelming impression from the government website is that Thinking Skills is well established within the mainstream.

This illustrates the curious dichotomy which afflicts the Thinking Skills movement; that although the use of Thinking Skills has been far from a failure, its appearance in the average classroom is still surprisingly small. This begs an answer to the earlier question of whether or not teachers find Thinking Skills hard to implement.

The National Union of Teachers (NUT) undertook a review of Thinking Skills in 2000, involving a range of schools including primary and secondary, large and small, urban and rural (NUT, 2000). The NUT sent me all 23 original reports. Although some of the comments suggest that teachers can find aspects of Thinking Skills difficult to implement within their various contexts, no teachers found this difficulty prohibitive overall, appearing to find that the benefits outweighed the difficulties. Examples of quotes include:

'Infusing the skills into every day subject teaching became easy when both teacher and children had identified them through the community of enquiry.'
(Evans, 2000)

'Carrying out the research has been hard work and time consuming. However the process has developed me professionally and I have benefited greatly from working with colleagues from other schools.'
(Davis, 2000)

'The most astounding result of the research is undoubtedly the fact that as a knock on effect of the work on thinking skills there have been no behavioural problems with the group whatsoever.'
(Meek and Jordan, 2000)

'This small-scale investigation into thinking skills and GCSE work has proved to be of enormous benefit to the teachers immediately involved, our classes, our department and our work in key stages 3 and 5.'
(Price and Mountford, 2000)
(reports were unpublished and unpaginated)

These are illustrations of the key driving force behind this research; that teachers who encounter Thinking Skills as a structured part of their professional development, ideally as part of an Action Research project, tend to be enthusiastic about the strategies (Jones, 2008), yet the cross pollination of these strategies into other educational contexts has been slow. It is almost as if the tools offered through Thinking Skills are available to certain members of a keen club of advocates, but membership to that club is somehow unwittingly exclusive.

There is very little mention of Thinking Skills, for example, in 'Mapping Futures of Teaching and Learning' (Rudd, Rickinson and Benefield, 2004), which is intended as a broad overview of the directions teaching and learning should be taking. Similarly, in the Core Principles, a DCSF initiative, there is no real mention of Thinking Skills nor its pedagogical stablemates (StandardsSite, 2008). While Thinking Skills has had a big impact in some areas (eg Northumberland) and is represented in the national Standards Site, it has not succeeded in spreading to most schools or to being discussed as a matter of course in staff room parlance or government initiatives.

'...implementation of TS programmes is a difficult process. ... Undoubtedly many schools in Britain have experimented with one programme or other. Yet in very few of these schools would the innovation survive the departure of the key members of staff...'
(Leat, 1999, p. 389)

Our understanding suggests that the problem does not lie in the quality or efficacy of Thinking Skills initiatives nor is there an absence of need for stimulating pedagogy in our classrooms. This hints that the root of the problem may lie in the processes of teachers' Continuing Professional Development (CPD).

2.2 Social Dynamics and Activity Theory in the context of CPD:

In order to evaluate models, frameworks and insights into the processes of CPD, it is important to consider elements of the social and cultural context in which all CPD inevitably takes place.

2.2.1 Activity Theory

Vygotsky's influence has been acknowledged in Thinking Skills literature (McGuinness and Nisbet, 1990), but the role of Activity Theory is applicable to a wide range of social contexts due to its nature as epistemological theory. Understanding the mechanisms of the interaction between the individual and the social context owes much to Vygotsky's work on the role of social activity. Kozulin in Daniels (2000) describes how such activity plays a transformative role in the creation of change:

The origin of this concept can be found in the early writings of Lev Vygotsky ... who suggested that socially meaningful activity (Tatigkeit) may serve as an explanatory principle in regard to, and be considered as a generator of, human consciousness.' (Kozulin, 2000, p. 99)

This places the role of Activity at the core of both human learning and the creation of paradigm shifts. Vygotsky was concerned with analyzing aspects of the social environment to identify both how people change and are changed by it. This combined with the role of tool or artifact, alongside discussion within a social and cultural context is crucial to the processes involved in teachers' development of their professional practice throughout their school career. Activity Theory is explored further in the context of the analytic process (Chapter Five).

2.2.2 A Social Dynamic Model

A social dynamic understanding (Reeves and Forde, 2004) builds on Activity Theory, in particular with the notion of competing Activity Sets, to embrace many of the elements affecting utilisation of CPD. Reeves and Forde establish a set of categories to form a descriptive and explanatory framework for factors which impact on the implementation of CPD:

'In this paper we develop a socio-dynamic account for the impact of CPD in practice.' (Reeves and Forde, 2004, p.85)

These categories emerged from studies of schools involved in the Scottish Qualification for Headship, yet have a broader appeal seeming to apply to both a wider range of schools and a greater variety of types of CPD:

'The model we propose for changing practice challenges the essentially individualized explanation of practical learning...'
(Reeves and Forde, 2004, p. 85)

In addition to the model's application within the school context, there is the suggestion that the model could also be used for exploring the way in which CPD impacts on the wider environment:

'It also offers a basis for exploring the micro-political realities of changing practice.' It is *'a model that allows for tracking the influence of discourses in relation to teacher reprofessionalism...'* (Reeves and Forde, 2004, p. 85)

Reeves and Forde outline seven categories (p. 90) which capture the context and influences which impact on teachers' ability to integrate CPD effectively. These can be summarized as: Identifying Activity Sets; Discourse and Artefacts; Embodied Perspective and Values; Membership and Identity; Permeable/Overlapping; Inclusion and Exclusion; Bounded in Time and Space.

Identifying Activity Sets: *'It centres around the pursuit of a particular objective or activity'*

This is characterised by identifying what a school and its teachers do. Different Activity Sets include, but are not limited to: which parts of the curriculum are taught; what types of pedagogy are employed; what types of assessment are used; what gets discussed most frequently and in which meetings; what types of CPD are undertaken and what constitutes the pattern of the school day and the school year for teachers and pupils.

Discourse and Artefacts: *'It has its own discourse and artefacts that are used by members of the set'*

This refers to the common vocabulary and tools used by people engaged in a specific and identified group activity. In the case of people using Thinking Skills, certain strategies or artefacts (such as 'Odd-one-out' or 'Fortune Lines') are classics of the

genre, whereas other discourses, such as peer dialogue or investigations are indicative of the pedagogical concepts which Thinking Skills promotes. Conversely, some types of pedagogy (such as a transmission pedagogy) are less indicative of the teaching and learning structures promoted by the Thinking Skills approach and this might be characterised by discourse about testing and learning key facts.

Membership and Identity: *‘Membership is acknowledged by the people involved and forms an element, however minor, in defining their identities’.*

Membership of certain groups convey aspects of identity and could include teachers with similar objectives, such as from the same department or Year Group (Day *et al*, 2006). Memberships of groups with shared identity could also develop from other, less discrete shared characteristics, such as shared priorities or analogous experiences.

Embodied Perspective and Values: *‘It embodies a particular point of view and hence a set of values’*

These perspectives and values may have percolated down from national, local or school management mandate, but become the priorities of teachers whose goals and professional achievements will be evaluated in the light of these directives. Thus the embodied perspectives expressed by an individual cannot be extricated from their context.

Overlapping/Permeable: *‘It is permeable so that the members of the set also belong to others’*

I narrow the original framework given by Reeves and Forde, which is a more practical focus on specific social groups occupied by teachers, including both the *‘participant’s professional role’* and *‘unrelated areas of her social life’*. In order to transfer the concept of overlapping groups more readily to describing teachers’ professional development, this concept is applied only to social groupings which relate in some way to a teacher’s professional practice. In particular, the term ‘drip-feed effect’ is used to convey the overlapping and layering effect that different contexts have on the absorption of CPD.

Inclusion and Exclusion: *‘It exercises the means for inclusion and exclusion in terms of membership’*

This refers to an aspect of the micropolitics in the school and relates to the degree of power individuals feel they have in determining the extent of their commitment to CPD and the extent to which those decisions were made implicitly or explicitly by others.

Bounded in Time and Space: *'It is bounded in terms of time and space'*.

This concerns the extent to which the opportunities or 'spaces' for continuing professional development were kept protected. This applies to meetings ear-marked for professional development which were or were not protected from other school commitments and includes, to some extent, the time and space available to teachers to integrate their learning into planning and preparing for classroom practice.

These seven categories organise our understanding of the multi-layered impact that the school environment plays on the possibilities available to teachers when exploring their teaching practice and ongoing professional development. A poignant illustration from a young teacher is offered by Wink and Putney (2002) in their book, 'A Vision of Vygotsky':

'1996: First year of teaching: ... I came with a generative/constructive perspective. I was full of fresh, new ideas.

1997: Second year of teaching: Reading Recovery is introduced ... Instruction and testing are standardized. All teachers, myself included, are mandated to use a district-approved method of teaching and material.

1998: Third year of teaching: ... I am required to use a highly scripted, heavily formatted method of teaching reading. ... The fun in teaching is getting harder to find.

1999: Fourth year of teaching: The pressure is on schools ... being held to strict standards. Whose standards I wonder? Fun, interactive classroom activities are almost non-existent. Students' poor behaviours are escalating. ... I find that I have become the teacher in the school that I hated so much as a child. I have moved from generative to transmissive.'

(Wink and Putney, 2002, p. 71)

This illustrates the sometimes devastating effect the imposition of an opposing organisational culture can have on individual teachers, ultimately forcing them into acting in a way which does not reflect their personal and professional values. Yet, as detailed above there are groups of teachers and groups of schools who have managed to hold onto their teaching identity and permeate it back through their environment, rather than remain passive recipients of a status quo.

2.3 Teachers' Continuing Professional Development (CPD)

2.3.1 Thinking Skills CPD

A substantial majority of Thinking Skills CPD follows an action-research format, more focused on the teachers' response to the effect of their strategies in classroom, than their response to the CPD itself, an account of their utilization of CPD over time or its subsequent impact on their school. A recent study (Barak and Shakman 2008) used semi-structured interviews to elicit themes through which to understand how Science Teachers differed in their use and conceptualisation of higher-order thinking in their classes.

'The findings highlighted a diversity among the teachers in four areas: meta-strategic knowledge of the concept of higher-order thinking; practical utilization of instructional strategies related to fostering higher-order thinking in the classroom; beliefs about students' abilities to acquire higher-order thinking skills; and self-perception regarding teaching towards higher-order thinking.' (Barak and Shakhman, 2008, p. 192)

They go on to assert:

...only a minority of the teachers see the fostering of higher-order thinking as an important objective of teaching physics.

The first of the four categories, '*meta-strategic knowledge of the concept of higher-order thinking*', indicates a sophisticated insight into pedagogy and metacognition which would be most likely to be evident in teachers working within a school culture which was strongly committed to a community of enquiry approach. It is difficult to imagine an individual teacher displaying such a level of skill if he/she had not been immersed for some length of time within such an environment. The second, '*practical utilization of instructional categories related to fostering higher-order thinking in the classroom*' relates to the type of strategy or tool which the teacher has been given or created for use in the classroom in order to stimulate the required activity. '*Beliefs about students' abilities to acquire higher-order thinking skills*' is one example of many perceptions that a teacher may have and '*self-perception regarding teaching towards higher-order thinking*' could refer either to a judgement about the value of such teaching or an indicator of self confidence issues surrounding ability to teach higher-order thinking. Each of the four categories can be seen to be an example from the seven categories of the social dynamic framework outlined above and therefore are an

incomplete and fragmented framework for understanding teachers' differences in their utilisation of Thinking Skills CPD.

A more complex understanding may be needed:

'The lowest level of meta-strategic knowledge has to do with teachers who showed a state of confusion, embarrassment, or bewilderment when talking about fostering higher-level thinking in physics lessons. For instance:

"What does it mean through thinking... under the pressure of time in the class... you don't have all the time you need..."

"If we had more time... but presently it is very difficult... if you want to drill the subject matter... the number of teaching hours is unrealistic".' (Barak and Shakhman 2008, p. 197)

The authors go on assert, with partial justification:

'When a teacher was unfamiliar with the subject, he/she shifted the discussion to general difficulties, such as the shortage of teaching hours.'

However, they downplay the influence of the context in which the teacher is working. In the absence of a culture of enquiry-led science teaching, in the face of an extensive curriculum and in an environment dominated by summative assessment, the teacher may well be in a difficult and ambiguous position. Separating the teacher out from their social domain leads to a simplistic conclusion which considers the effectiveness of embedding higher-order thinking skills into science lessons to be defined solely by teacher belief:

'In summary, we have identified three types of teachers in terms of their use of instruction that could foster thinking skills: teachers who try to think for their students, teachers who perceive the development of thinking as a means of improving the learning of physics, and teachers who regard the development of cognitive skills as an important part of their teaching duty'. (Barak and Shakhman 2008, p. 200)

The authors conclude by acknowledging some of these limitations, including *'teachers' knowledge and beliefs are not necessarily reflected in their practice'* due to *'contradictory beliefs'* and problems with *'contextual factors, such as lack of time, large classes, or mandatory exams'*. Ultimately, the categories suggest some interesting features about teachers' perspectives and values, but fall short of answering the questions around the difficulties of embedding a Thinking Skills pedagogy into the classroom.

While a great deal of work has been done to understand how teachers use Thinking Skills in the classroom and while a number of different analytical approaches have been used to achieve a framework for greater overall insight, very few have attempted to understand the process of Thinking Skills CPD as a whole. Adey is one of the few.

2.3.2 Models of Professional Development:

Adey (2006) was well aware of the importance of effective professional development in the implementation of CASE, not just initially but in order to maintain any momentum gained. When gains due to professional development were lost, key factors included key staff turnover and lack of a whole-school supported structure, including integrated schemes of work.

'No matter how sophisticated the print, graphic, video and other resources, there is no substitute for human interaction in helping teachers to shift their attitudes and beliefs.' (Adey, 2006, p. 51)

Adey suggests a model for professional development (which he refers to as PD), focused on categories used for assessing the quality of professional development packages (p. 55). These include 'The Nature of the Innovation' and 'Quality of the PD Programme'. He then stretches the model to include components associated with the maintenance of initiatives in schools, such as Department Collegiality and Unity of Vision in Senior Management. Without disputing the importance of these components, they cannot, however, have a place in a professional development model aimed primarily at assessing the provision of the professional development, simply because school environment factors are outside of an external providers' control. It is almost as if Adey is combining a model for assessing the external provider of PD with a model for assessing the environment of a school; both important endeavours but perhaps better conceived separately.

Adey does, however, highlight a frequently overlooked issue which indeed may be crucial to the establishment of an effective school environment: *'What attention is paid to encouraging social construction among teachers?'* (p. 56). This mirrors his concern that the teaching methods of the PD provision should mirror the methods being advocated in the training programme itself and illustrates the tendency for teacher PD

not to transfer knowledge of effective learning strategies into the use of those strategies to enhance effective teacher learning.

There are a number of reports on CPD comprised of overviews of research, but these tend not to postulate models of CPD, preferring instead to offer a synthesis of responses to CPD; recommendations for effective CPD and an assessment of the impact of undertaking CPD in general on teachers' practice. Cordingley et al (2003) make the point that CPD cannot be considered in isolation of school-wide support to secure lasting change:

'Collaboration was important in sustaining change. Time for discussion, planning and feedback, and access to suitable resources [is needed].' (p. 4 Cordingley et al 2003)

The report makes suggestions for types of features of CPD linked to greater success in effecting change, such as teacher choice in identifying CPD needs and encouraging opportunities for professional dialogue. Pedder et al (Pedder, Storey and Opfer, 2008) consider some of the blocks to uptake of CPD:

'Barriers to accessing CPD reported by the teachers were:

- *time constraints*
- *a limited budget for CPD activity*
- *the wide range of other responsibilities and professional tasks to be undertaken*
- *children left to work in class with a substitute or untried supply teacher when their class teacher was elsewhere.'* (p.4 Pedder et al 2008)

These barriers refer to problems with accessing CPD at all, whereas this study is more focused on what happens once the CPD opportunities have been undertaken. It is therefore important to examine research on what is happening for teachers who are actually engaged in a CPD opportunity.

Meirink et al (Meirink, Meijer and Verloop, 2007) explore configurations of teacher learning within a collaborative setting. Their work focuses on a fine-grained view of learning activities occurring as part of group dialogue and includes types of experimenting, types of reflecting and types of dialogue, such as discussion and brainstorming. The nature of the study, however, is such that it views teachers somewhat in isolation from their context and does not explore this interaction, other than as an aside in the discussion:

'Why, then, did the teachers report only a small number of practical applications of the methods they had got to know during their collaboration with colleagues? A possible explanation is that teachers do not experiment with colleagues' methods because of year plans they have to follow.' (p158, Meirink et al 2007)

This directs us back to one of the fundamental difficulties of embedding CPD into professional practice, explored above in the context of the Social Dynamic Model, that of conflicting Activity Sets. No matter how useful our understanding of teachers' learning processes during the CPD process, the problem of creating sustainable paradigm shifts lies at the centre of this study. One of the key paradoxes at the root of this study is that teachers frequently learn a great deal from colleagues as part of Thinking Skills CPD and are excited by the results of their experimentation in the classroom, yet the paradigm still fails to embed successfully over time.

In a later paper (Meirink *et al*, 2010), teacher learning is situated in the context of educational reform in Holland:

'... teachers were encouraged to introduce a new pedagogy fostering students' active and self-regulated learning (ASL) into their classrooms ... The new pedagogy involved teachers becoming facilitators of students' learning processes and assisting them in developing their own strategies for learning.' (Meirink *et al* 2010 p. 162)

The paper also examines teacher collaborative groups more explicitly within the existing school context, focusing more precisely on the role of the group in solving problems:

'Teams in which teachers exchanged ideas for alternative teaching methods and discussed experimenting with these alternative methods, and in which teachers started from shared problem identification, show a large number of learning results.' (p. 175)

Although the study does not develop a specific model for teacher CPD, it highlights the importance of group alignment and shared problem solving in the quest for sustained implementation of 'reform'. This perspective is explored further in Chapter Eight as part of the discussion.

Clarke and Hollingsworth (2002) postulate a four domain non-linear model of teacher professional growth, highlighting the way in which changes in each domain are interconnected. The domains are (p. 951):

- External domain (source of CPD)
- Personal domain (teacher knowledge and beliefs)
- Domain of practice (location of teacher's experimentation)
- Salient outcomes (consequences)

The impact of the teacher's context on possible change is acknowledged:

'Change in every domain and the effect of every mediating process are facilitated or retarded by the affordances and constraints of the workplace context of each teacher...' (p. 965)

The study seems to view teacher and context as largely separate entities, co-existing in varying states of harmony, rather than viewing the teacher's learning potential as intrinsically entwined within their context:

'One teacher ... considered that at her school there was a lack of co-ordination and leadership ... little collegial activity and no obvious commitment to professional development... While (the teacher) was obviously concerned about this situation, it did not appear to constrain her involvement in the ... program in any way.' (p. 963)

I would contend that teacher and school context are much more interrelated and that a model of CPD needs to incorporate a much stronger emphasis on the teacher as situated within their specific environment.

'... we argue that differences in the generativity of the group discourse cannot be attributed to the individual teachers' personal and professional dispositions but should be seen as resulting from each group's collective orientation and its contextual resources and constraints.' (Horn and Little, 2009, p. 211)

Despite this, the four domains offered by the Clarke and Hollingsworth model are valuable and will be examined further in Chapter Eight in comparison with aspects of the Meta-Activity framework. Perhaps the most powerful aspects of this model, however, are the links between the domains when change is seen to occur: enactment and reflection. These two components are critical to subsequent embedding of CPD and are perhaps underplayed in this paper in terms of their critical importance in the change process. Both enactment and reflection emerge as fundamental components of the Meta-Activity framework and this link will be highlighted in the final discussion.

Pickering et al develop a model based on the new MTeach programme at the Institute of Education, focusing particularly on the concept of teacher-learner communities (Pickering, Daly and Pachler, 2007). They identify five component aspects of teachers necessary to building such a community: Ready (possessing vision), Willing (having motivation), Able (both knowing and being able 'to do') Reflective (learning from experience) and Communal (acting as a member of a professional community) (p. 4). The key difficulty with these aspects is that they sound like pre-requisites before successful CPD can occur rather than the type of outcome one might aim to achieve as a result of good CPD. This links to the issue which arose from Moseley's work, that in an

attempt to develop an understanding of a complex set of processes, whether for Thinking or CPD, the temptation is to arrive at a set of desirable outcomes rather than a framework which outlines the processes whereby the set of desirable outcomes may be achieved. Additionally, this list of component aspects sound too similar to the teacher competencies which underpin the philosophy of much current teacher training (Yandell and Turvey, 2007).

'The model of teachers' professionalism as a set of isolable individual attributes, measurable against a fixed set of competencies or standards is one that has gained considerable currency in the discursive arena of educational policy.' (p. 535)

Their argument springs from the work of Lave and Wenger (1991), that the *'intention was to develop a fully social, situated theory of learning in opposition to the theories which located learning in the individual and which conceptualised the process of learning as the individual's acquisition of context-free knowledge.'* This contextualised learning is particularly characterised by the *'legitimate peripheral participation'* which is seen as *'the citing of learning within the dyadic newcomer-old timer relationship.'* (p. 547) For CPD, this dyadic relationship is not necessarily sited in Wenger's *'newcomer-old timer'* relationship but more in a *'new paradigm-traditional practice'* dialogue.

The key point here is that teacher-learning, as much as pupil learning, benefits from being not only an activity *conducted* within a social grouping, but *understood as being intrinsically part* of that social event.

'... the concept of legitimate peripheral participation provides a framework for bringing together theories of situated activity and theories about the production and reproduction of social order. ...there is common ground for exploring their integral, constitutive relations, their entailments, and effects in a framework of social practice theory, in which the production, transformation, and change in the identities of a person, knowledgeable skill in practice, and communities of practice are realized in the lived-in world of engagement with everyday activity.' (Lave and Wenger, 2000, p. 143)

Although Lave and Wenger emphasise the person to person nature of transforming knowledgeable skill, it is the concept of situated learning which is so important here. Legitimate peripheral participation is seen as the boundary brokerage, not between individuals, but between a desired paradigm and the existing organisational norms. The subtle interplay between the person, their environment and the various groups in which

they engage within that environment combine to form an elaborate and complex dynamic structure in which CPD sometimes becomes embedded and sometimes not.

'One way to think of learning is as the historical production, transformation, and change of persons. ...given a relational understanding of person, world, and activity, participation, at the core of our theory of learning, can be neither fully internalized as knowledge structures nor fully externalized as instrumental artifacts or overarching activity structures. Participation is always based on situated negotiations and renegotiation of meaning in the world'. (p. 145-6)

The negotiation and renegotiation of meaning in a shared context is the point at which change does or does not occur. Thus in the complex web of social interaction of which a school is comprised, there may exist specific, observable areas where possible change is negotiated.

'Legitimate peripheral participation is intended as a conceptual bridge – as a claim about the common processes inherent in the production of changing persons and changing communities of practice. ...This in turn raises questions about the sociocultural organisation of space into places of activity and the circulation of knowledgeable skill...' (p. 148)

If the point at which boundaries between old practices and new paradigms can be established, and the distinctions between successful and unsuccessful negotiations clarified, the questions raised concerning the '*organisation of space*' into places where activity and knowledge can thrive may become easier to answer. In specific terms of Thinking Skills CPD, insight into the way in which the new domain within a community of practice starts to become a community of enquiry rather than a community of transmission pedagogy may enable us to plan for more effective embedding of CPD.

CHAPTER THREE

RESEARCH DESIGN

3.1.1 Use of Case Study design

3.1.2 Role of Grounded Theory

3.2 Analysing Speech

3.3 The Pilot Study: Investigating feasibility and refining the role of the Social Dynamic Model

3.3.1 Ethics

3.3.2 Basic Design

3.3.3 Result of Pilot Study

3.3.4 Linking Reeves and Forde's Social Dynamic Model to a Grounded Theory Approach; changes to method as refined by the Pilot Study

3.4 Purpose of Research

3.1.1 Use of Case Study design

A case study was chosen to investigate the research question because the question itself was initially open ended, involving a variety of interlocking factors in a complex social environment.

'A case study is an empirical enquiry that:

- *investigates a contemporary phenomenon within a real life context, especially when*
- *the boundaries between phenomenon and context are not clearly evident.'*

(Yin, 2003, p. 13)

Moreover, it was important to hear teachers' spoken perspectives as well as studying their response to continuing professional development in context. Therefore recording teachers both in a more formal interview setting and in the less formal, naturally occurring group discussions was important since it elicited teachers' conscious viewpoints as well as their less formally constructed responses.

Type of case-study chosen to fit key features of context and research question:

This case study follows an embedded case-study design with several units or 'cases' within the school context. While it could be argued that the school was itself the 'case', I think it is more useful to consider the five individual teachers who make up the 'core' of this study, as the 'cases.' Other teachers also exist within the case study in a less

complete form, such as not participating over the two year period, or not being involved in recorded group discussions.

Types of evidence:

Yin identifies six sources of evidence commonly utilised in a case study. This study uses all six, three as a core component of the study, one to add contextual information and the other two to enable commentary on the ‘embeddedness’ of certain types of pedagogy in teachers’ practice.

Table 1: Types of evidence

Yin’ evidence sources	Data collected in study	Purpose
Documents	Sample lesson plans	(Peripheral) Explore ‘embeddedness’ of CPD
Archival Records	Curriculum Policy	(Peripheral) Establish context in which CPD was being undertaken
Direct observation	a) Lesson observations b) Reflective Field Diary	(Peripheral) Explore ‘embeddedness’ of CPD (Core) Establish individual teacher’s relationship to 1:1 CPD opportunities prior to group CPD sessions
Interviews	Recorded in 1 st and 6 th school term of 2 year study	(Core) Supplement understanding of teachers’ formal opinions of their CPD learning process and the overall research process.
Participant observation	Recorded ongoing CPD meetings, both individual and group, during 2 nd – 5 th terms.	(Core) Analyse teachers’ patterns of talk during CPD opportunities
Physical artifacts	Sample resources made by teachers	(Peripheral) Explore ‘embeddedness’ of CPD

It was the intention of this study to examine the processes of CPD and assess the extent to which a culture of Thinking Skills was being formed. The evaluation of the emerging paradigm was achieved mainly through discussions with teachers, rather than by a specific study of their classroom practice. Although some classroom observations were carried out, these were not seen as the central theme of the study. A systematic, critical evaluation of the extent to which teachers did or did not use Thinking Skills in their

classrooms was not carried out. Partly, this was to avoid placing the researcher in the position of judging teachers' effectiveness. This might have affected the relationship between researcher and teacher and perhaps impacted the number of people who wished to participate. Partly, too, this would have forced a much more detailed understanding of the individuality of each teacher; his/her background and personal motivation in order to comment on different trajectories of change. Where classroom observations took place, they were at the request of the teachers as part of the CPD process or to consolidate background understanding of teachers' classroom practice in this context.

Understanding the overall extent of subsequent embeddedness after Thinking Skills CPD was therefore achieved by a focus on the way in which teachers discussed classroom practice and childrens' thinking, supported by samples of lesson plans, work achieved in class and resources used.

Validity

Yin (2003, p. 34) describes three types of validity in a case study: construct validity (establishing the correct model); internal validity (relevant only to case studies which investigate causal relationships) and external validity (which refers to the accurate establishment of the domain to which the case study results can be generalised). Yin argues that a different type of generalisation than that used in statistical analysis enables case-studies to establish their validity.

'The external validity problem has been a major barrier in doing case studies...this analogy to samples and universes is incorrect when dealing with case studies'.(Yin 2003, p. 37)

Instead, Yin describes an 'analytical generalisation' with different features than the more traditional 'statistical generalisation'. In this case, the quality of the analysis rather than the representative nature of a sample size is the determining factor in establishing case study research validity. In this case study, the analysis will be on a process rather than a fixed or guaranteed outcome, that is, the manner in which teachers use continuing professional development opportunities. If the analysis is adequate and well supported by other research, a model of teachers' responses may emerge, ready for further exploration and testing in other environments. This, as a piece of analytic generalisation, is likely to be more useful and more applicable to other contexts than an

attempt at a predictive account of a given outcome, such as how another set of teachers would behave in another school.

Can one generalise from a Case Study?

There are still sustained assaults on the ability of case study research to be meaningful in other contexts. Some authors take the view that generalizations happen instinctively on the part of the reader, if the study is well chosen and well defined. Stake (Hammersley and Gomm, 2000) claim that the value of case-study research lies in its illustrative and illuminatory effect on the reader, such that while the researcher may not make generalizations from the unique context, the case study *'may be epistemologically in harmony with the reader's experience and thus to that person a natural basis for generalization.'* (p. 19)

Stake is of the opinion that while a case-study can contribute to the building of a theory, its best use may in fact be more descriptive, *'adding to ... descriptive understanding.'* (p. 24) The power of *'experiential understanding'* is that the generalizations are made more naturally by the reader, rather than being 'proven' by the researcher. This allows for a degree of subtlety in that different aspects of a case study will vary in salience according to the context of the reader, who will be applying their own selection criteria to those aspects which are of most importance, and hence most applicable to their own context.

Another role of theory is in archiving and describing case studies. Tripp's article (Tripp, 1985) on Naturalistic Generalisation outlines four distinct steps in how to link the vast quantities of case – studies into a body of work *'so each case-study would not only exist in its own right, but would also contribute to a cycle of progress in scientific understanding of education'*. The implication is that the theory is proved, not through a rigorous testing in a much larger population but through a very clear definition of the boundaries of the 'case' in which it is true. The value of theorizing is seen as the ability to link a large number of discrete and diverse case studies together and enable ease of access. Theory here is akin to sophisticated coding because it provides a semantic framework and common vocabulary to access and examine collections of related case-studies. Without a theoretical framework, it would be very difficult to identify common features in studies, thereby keeping them hidden.

Alexander (2000) in his international comparative study on primary education draws a distinction between ‘*surface differences*’ and ‘*deeper, more abiding similarities,*’ (p. 267) and comments:

‘To generalize is not only to derive a universal statement or proposition from a particular one, but also to construct a principle or theory that has a general application.’

This is supported by Yin’s view (Yin, 2003) that ‘*analytic generalisation*’ (p. 32) is the mechanism used to construct a theory which can be used as a template for exploration in other contexts. Additionally, the role of a theoretical understanding is to offer, not only a framework for academic understanding, but also a guide to informed decision-making in educational contexts:

‘A theory does more than provide understanding or paint a vivid picture. It enables users to explain and predict events, thereby providing guides to action.’ (Strauss and Corbin, 1998, p. 25)

3.1.2 Role of Grounded Theory

Grounded Theory (Glaser and Strauss, 1980) is a process whereby emerging data is used to develop and formulate theory via a three-step process: open coding, selective coding and theoretical coding:

- Open coding is the researcher’s initial detailed responses to the data and attempts to describe, code and categorize initial findings. This stage of the process occurred in the Pilot Study and is seen in the first set of semi-structured interview questions (Appendix 3), which were based on my Field Diary observations and were intended to elicit and expand on areas of interest which had arisen through the early contact with teachers.
- The second stage, the selective coding, occurred when there were sufficient strands for a cohesive set of themes to emerge. These themes seemed at first to be linked to a Social Dynamic understanding of the complexity of factors impacting on teachers’ engagement with CPD, but ultimately aspects of the selective coding highlighted a different core concept, that of the double activity involved in CPD. This led to the third stage of theoretical coding.
- The third stage, the theoretical coding, is where the core concept emerging from the selective coding was constructed into a theoretical model. It is then evaluated

in the light of the research data and other literature and modifications made where necessary. This corresponded to the actual analytic process in which the usefulness of the Social Dynamic framework as an analytic tool was questioned and the new framework, the Meta-Activity Framework, was developed and implemented as the analytical tool.

This study relies on the basic principles of grounded theory in allowing themes to emerge first from observed and experienced data and then using a framework for coding. However, this is not intended to be a sophisticated example of the systematic use of later developments in the field of grounded theory; merely that it owes much to the principles which grounded theory have established.

3.2 Analysing Teachers' Speech

At first glance, any use of speech as data must fall under the aegis of Discourse Analysis. However, Discourse Analysis is a field which has developed a wide range of complex, specific, theoretical structures. It is often used, very effectively, to investigate micro-political realities and power struggles within social domains. Due to the intensive nature of the analysis, often relatively small chunks of text are used. Moreover, the Discourse Analysis researcher is often not embedded in the context from which the discourse was taken. In some respects, Discourse Analysis has become a methodology of its own, rather than remaining a tool in the service of other methodologies:

'Discourse analysis has been criticized ... for its emphasis on the linguistic construction of a social reality, and the impact of the analysis in shifting attention away from what is being analysed and towards the analysis itself, i.e. the risk of losing the independence of phenomena. Discourse analysis risks reifying discourse'. (Cohen, Manion and Morrison, 2004, p. 300)

In addition to these reasons, the analysis of teachers' discussions did not deploy the specific techniques honed by the Discourse Analysis field due to these practical considerations:

- The study took place over a two year period and involved over 60 recordings of different types (interview/dialogue/group discussion). This made it unsuitable for the intensive scrutiny required by some models of discourse analysis.

- The researcher was embedded as an active participant in all of these recordings, often affecting the direction of the group talk. Also, the full time participation in the school context for three years would have given me access to a rich contextual exposure, while at the same time limiting my ability to highlight some organisational ambiguities due to over-familiarity with the context.
- The research is explicitly looking at the face value of teachers' words in the context of their undertaking of the CPD activity, the implication at this stage being that there is plenty of avowed and conscious material available and requiring scrutiny, such that an exploration of the deeper or semi-concealed layers of meaning is not within the scope of this study. This also allows the data to remain 'teacher-driven.'
- Another form of coding was used, the Meta-Activity model, which argues against the imposition of an additional methodological framework. The Meta-Activity model is explained in Chapter Five, because it emerged during the initial analysis of the data, and shaped the second phase of the analytical process.

Orland-Barak (2006) analysed teacher speech in the context of mentoring, focusing particularly on professional conversations '*viewed as social contexts for the co-construction of meaning*' (p. 16). The '*focus on participant's shared perspectives and activities in conversation spaces supports the case for examining the process and content of professional conversations in spaces where participants share a common professional context...*' (p. 17).

Orland-Barak, however, appears to assume that there is an inherent shared context and does not explore differences in perspective or different priorities when determining activity sets. This is apparent in her subsequently emerging three types of dialogue: convergent dialogues (solving a problem); divergent dialogues (theoretical discussion) and parallel dialogue (reflective self talk). These three types of dialogue all assume that the speaker has engaged in the activity and become involved in the group discussion. Yet when considering the success or otherwise of embedding CPD, analytical attention must be paid to those instances when teachers do not become involved as well as attempting to understand and code the ways in which they do.

3.3 The Pilot Study: Investigating feasibility and refining the role of the Social Dynamic Model:

3.3.1 Ethics:

In order to establish methods for the Main Study, a Pilot Study was undertaken in the same school context in the Michaelmas Term 2005 (September – December) . As this was seen as an intrinsic part of the research as a whole, ethical considerations needed to be dealt with early in the research journey. These considerations are split into eight parts (IOE, 2009, p. 43):

- **Gaining Access:** I had been working full time in the school as part of a learning-support programme for a Year Four pupil. In this capacity, although I was not employed directly by the school, I was known to teachers and senior staff and had been engaged in a number of informal discussions about Thinking Skills and CPD. The Special Educational Needs Coordinator initially spoke to the Headmaster on my behalf, after which I wrote a short proposal which was circulated to key staff members (Appendix 1). There was then a formal meeting with the Headmaster after which permission to conduct research was formally granted. I was then invited to give a short presentation to both the Middle School and Upper School during their weekly staff meeting, to explain the research and invite participants.
- **Confidentiality:** All participants were given pseudonyms in the final write-up. One area of ambiguity concerns participants' right to be acknowledged as part of the research which contradicts the notion of complete anonymity:

'Conversely, researchers must also respect participants' rights to be identified with any publication of their original works or other inputs, if they so wish.' (BERA, 2004, p. 8)

At the Headmaster's request, the school wishes to be so acknowledged and therefore has been identified formally in the acknowledgements. Due to the relevance of context in the exploration of teachers' use of CPD opportunities, teachers are still identifiable by gender, year group or subject leadership. This means that if the reader knew the school and read a full copy of the thesis, some individuals can be recognized. This has been discussed with every participant

whose recorded conversations were subsequently used and there have been no requests for enhanced obscuring of identity.

- **Dual relationships in the work context: professional and researcher:** There was a natural distinction between my work as researcher and work within school, enhanced by not being directly employed by the school. All roles within the school have been focused on behavioural or academic support work with pupils, while the research has focused on teachers and their professional development. As a precaution, none of my five key teachers in the main study were connected with children with whom I was working during the data collection period.

There was, however, one particular area in which conflicts arose. The research was focused on teachers' responses to CPD which I was providing. Thus I had two conflicting aims. One was to observe teachers' responses to this provision, the other was that the CPD itself should be useful and effective. This became particularly apparent in some Assessment for Learning group meetings. As CPD provider, I found myself becoming irritated with teachers who were not engaging with the process or who appeared not to take the sessions seriously. As researcher, particularly when later scrutinizing these transcripts, it became clear that the responses of these teachers was tremendously important to the research. Reminding myself of the research aim enabled me to value the responses of these teachers. With hindsight, the irony is that what was a problem to me as CPD provider became immensely valuable to me as a researcher.

One particular example illustrates this conflict. Recorded in the Field Diary as part of the Assessment for Learning initiative, is my concern that the Director of Studies (who initiated the project) was not present at some of the meetings. The following e-mail illustrates that my involvement in these CPD meetings and my desire for their success superseded my role as researcher:

Hi H,

... Where possible, I think your presence lends a leadership sanction to the meetings and gives them higher status. This is probably more crucial at this early stage; later teachers will need less support, I think.

And a reminder about cover - perhaps if a teacher has a CPD meeting with me or an AFL meeting, they should not be considered available as it makes their professional development needs secondary to the practical needs of running the school. A bit of a 'can of worms' this one, as one

could also argue for teachers' planning/reflection time to be sacrosanct, too!

Looking forward to a proper chat soon,

Amelia Roberts

I am clearly making suggestions to Senior Management while still in the midst of my data collection. In this case, my own priority for CPD is at odds with the School's priorities regarding day-to-day management.

- **Dissemination:** Due to the extended period of immersion in the research school, much dissemination occurred informally as I was on hand to answer queries or to communicate ideas or themes of which I was becoming aware. A more formalized example is in the semi-structured interview questions (Appendix 2) after the Pilot Study, in which some emerging ideas were used to shape subsequent questions. One example, lifted directly from the interview script: *'Some areas that interest me and on which I would love to have your views: Does the willingness to discuss the processes of teaching and learning with pupils (metacognition) help teachers feel more satisfied with their class?'* This was in response to two teachers who had both enjoyed a more meta-cognitive dialogue with their pupils, so I fed this back to other teachers for their comments. I also intend to bind a short special report for the school, in which a brief summary of the findings will be presented. Although some illustrative teacher talk will be used, the identity of specific teachers will be completely obscured because the report will be kept within the school library.
- **Giving feedback and reporting (critical) findings:** Although classroom observations were a minor part of the research, supportive feedback was always a part of the debriefing which occurred afterwards. More formally, a summarising e-mail was sent to all participants at the end of the pilot project (unfortunately this was deleted unwittingly from the email system), an interim report sent on June 20th 2006 and a final feedback sheet was given at the end of the main study, not only to participants, but to all teachers and senior staff members (both in Appendix Section 1). This feedback sheet specifically invited comments. The feedback sheet was also given to the Headmaster and a recorded meeting occurred during which he commented on that sheet in some detail (a partial transcript and commentary is in Chapter Four). After more thorough analysis of the data had occurred, the Meta-Activity framework was discussed

with teachers (Field Diary 14th March 2009) ‘*Spoke to teachers informally about the MO framework (9th – 25th February) and it received a warm response. They said it would be easy to remember ... and was simple, but seemed clever. I am wondering whether to gather some more formal data - short interview, group chat, brief questionnaire. I’m leaning towards short semi-structured interviews.*’ I subsequently formalised the response of the five key research teachers when I returned in November 2009 (see Accountability below).

- **Conflict of values:** The nature of the research included an interest in conflicting values (included as part of the Social Dynamic model in ‘Perspective and Values’). This meant that I was often interested in differences because they highlighted important themes in the research. This, however, became more difficult to disentangle when teachers expressed those values in the context of group CPD, thereby impacting on other group members and their ability to engage in the CPD being offered. The conflict for the researcher highlighted the ambiguity between the personal involvement of desiring the CPD to be successful and the more detached research stance of observing the way in which teachers interacted with CPD provision. This matter was discussed in supervision with Dr. Houssart. Subsequently, the dynamics of this type of group formed an important and interesting contribution to the development of the Meta-Activity framework.
- **Accountability:** All teachers who were recorded were asked to sign a Research Protocol (Appendix 3). This detailed the control that a teacher had over his/her recording and the use to which it would be put. It also assured participants that any recordings which were subsequently used in the thesis would be shown to them. This opportunity was offered to teachers in November 2009, and the opportunity was taken to discuss the Meta-Activity framework in further detail with those teachers who responded.
- **Protection of participants:** Protection of participants is perhaps most important in this study in the stage of the final analysis. Some aspects of teacher talk are more engaged with CPD than others and it is important that this is not deemed to be a criticism of those individual teachers. The final analysis must be clearly drafted to avoid that impression.

Additional ethical considerations (BERA, 2004) include informed consent and the right to withdraw (p. 6). Both of these were covered in the Research Protocol. In practice,

some teachers did withdraw from the research simply by not making new appointments to continue with the one-to-one CPD opportunities. Twice, while recording a teacher, there was a request to turn the recorder off; this was immediately done. BERA also mentions an overall ‘ethic of respect’ (p. 5) which the study was at all times intended to reflect.

3.3.2 Basic Design:

The pilot project was undertaken as a feasibility study to tackle the following underlying questions:

- Do teachers agree that ‘Thinking Skills’ is a useful pedagogical tool?
- Is ‘Thinking Skills’ their preferred area of working with me?
- Is there enough teacher interest to make the study viable?

Like the Main Study, a case study paradigm was used, with key data collected via semi-structured interviews and a field diary. Unlike the Main Study, no individual discussions were recorded. Initially, teachers were offered a choice of three types of focus: Thinking Skills, Behavioural Management and Teacher Reflection. The third group was intended to offer minimal intervention, by way of exploring the difference in teachers’ response, if any, between active strategies offered for professional development and the effect of reflection and researcher engagement on teachers’ practice. The second group, Behavioural Management was intended as an alternative to Thinking Skills.

At first, as part of the Pilot Project, there was some attempt to formalise some assessment criteria to help teachers to evaluate the effectiveness of the strategies in their own classroom in an attempt to encourage an action-research approach:

“Discussed criteria to measure effectiveness:

- *Subjective response of teacher (recorded in reflective journal)*
- *Asking children if they would recommend activity for other children (Abi’s suggestion)*
- *Observe ‘on task’ behaviour of whole class.”*
(Field Diary, Sept 20th 2005)

Teachers were also asked to keep a reflective journal. Although I received some feedback from two or three individuals, it proved difficult for teachers to maintain a written account of their experiences, so this expectation was largely dropped at the end of the Pilot Project. At this stage it felt as if, operating as an individual with ‘hands-off’ university involvement (University of Newcastle being far geographically from the research context; I transferred to the Institute of Education later) meant that I lacked the gravitas and manpower to co-ordinate and motivate action-research projects for each individual teacher.

Table 2: teachers’ choice of group in the Pilot Study

	Behavioural Group	Thinking Skills	Reflective Group (control)
Outset	4	6	3
By first ½ term	2	9	2
By second ½ term	1	12	0

Early on, it became apparent that teachers who had chosen a behavioural or reflective role were changing their focus to a ‘Thinking for Learning’ approach. Possible reasons for this are given in ‘Thoughts at half term – October 2005’ (Appendix Section 1). In itself, this cannot be taken as a comment on teachers’ view of Thinking Skills compared to a Behavioural or Reflective focus, because there was such a clear Thinking Skills stance on the part of the researcher. All that can be surmised is that, with this particular researcher, Thinking Skills was the preferred area of focus for 12 out of 13 of these teachers. By giving teachers a choice of three groups, this design was successful as it demonstrated a clear preference towards the Thinking Skills group from the outset and by the end of the term almost all participants had migrated to this group.

Semi-structured interviews

The Pilot Study concluded with a series of semi-structured interviews. The first part of the interview was intended to establish teachers’ initial response to the Pilot Project and included questions designed to elicit teachers’ perspective of the advantages and disadvantages in the strategies being tried in the classroom. Question 3 (How would you describe what we have been doing differently in our planning?) was intended as a checking question, designed to explore teachers’ understanding of the pedagogical

processes inherent in a Thinking Skills approach. If there proved to be a widespread misunderstanding of Thinking Skills, this would have profound implications for the continuing of the study in its current form.

Some of the questions were developed from thoughts emerging from the Field Diary. As I recorded my thoughts after meeting with teachers, sometimes ‘bigger questions’ were recorded in bullet point form at the end of the reflective writing. For example, on Oct 18th:

- *To what extent does using a thinking skills approach encourage metacognitive dialogue between teacher and pupils in the classroom?*
- *Does this type of dialogue impact teacher fulfillment? (Both Nancy and Abi have mentioned it in the context of their research)*

Some of these questions were used as a basis for questions at interview. The example above was evident in the second part of the interview, in the section devoted to more tentative questions.

3.3.3 Result of Pilot Study:

The interviews were not fully transcribed, but a compilation of answers in response to each question was compiled.

The first question was answered via the semi-structured interview.

- Do teachers agree with ‘Thinking Skills’ as a useful pedagogical tool?

All of the teachers interviewed who had worked with me in the first term said that they had found the strategies useful.

- Is ‘Thinking Skills’ their preferred area of working with me?

Based on Table 2 above, it seemed as if Thinking Skills was a popular area of focus for teachers.

- Is there enough teacher interest to make the study viable?

Teacher numbers remained stable and showed a gradual rise as time went on. Overall, the pilot study indicated that the case study seemed to be an appropriate design for the research context. Thinking Skills was considered useful by teachers and sufficient enduring teacher interest existed to progress onto the main study.

The results from the pilot study highlight some limitations of the methodology. The key purpose of the pilot study was to establish if there was enough teacher interest in Thinking Skills to make the whole study viable. Both the grid and the sample answers to the questions indicated that this was so, and the Main Study was able to be completed.

Notwithstanding this, the use of sample answers seemed to give a misleading impression of teachers' actual utilisation of CPD. At this stage, teachers had been exposed to just one term of CPD, yet some of the responses imply an embeddedness of CPD which is misleading. For example, one teacher says in response to a question, *'Some teachers would say an ordered classroom environment is good practice. I would say a thinking classroom environment is good practice for me and if there is some chaos in there, so be it'* yet before the interview questions hints at a less open approach to teaching, *'If they are not willing to do what you want them to do, how are they supposed to gain the knowledge you have to convey or go through the process you have designed?'* In terms of finding the right methodology to understand teachers' thinking about CPD, the interview questions themselves seem to be of limited value in eliciting the ambiguities and nuances of teachers' thoughts. This highlights the value of the later recordings which were of meetings which occurred over an extended period of time rather than specific questions which were answered in response to researcher stimulus.

Although I was unaware of it at the time, in the free flow of speech prior to the questions, this teacher powerfully illustrates the importance of 'Membership and Identity' in implementing good practice. Although not specifically related to Thinking Skills (in fact, more related to Assessment for Learning), in tape count 178 when discussing reducing the curriculum to increase learning in a lower ability group, the impact of roles is made very clear, *'...threw half the syllabus out the window....that was*

fabulous, but I was fairly conscious when I left, that ... Now what happens? You can't do that for a whole year, you can't get away with it. And it is very interesting because as a head of department, I would never do that. We've got to fit the syllabus in; it isn't fair to ask the children to sit an exam, a Common Entrance exam that isn't determined by me, when they haven't been given all of the material. If we were sorting out our own assessments it would be a different story.' This articulates not only the conflicts that face a teacher, but the effect that their role has on managing those conflicts.

I have therefore extended the analysis of the pilot interviews for the five core teachers into the results of the Main Study and plan to document and comment on any other informal talk which occurred during the Pilot Study to support or challenge my subsequent analysis.

Another emerging point seems to be that when a teacher is engaging in core concepts of pedagogy their speech relates to many of the Social Dynamic Model categories. This suggests that there is a role for exploring the relationship between those categories and the development of CPD within the school context. This relationship is explored further, both below and in Chapter Four.

3.3.4 Linking Reeves and Forde's Social Dynamic Model to a Grounded Theory Approach; changes to methodology as refined by the Pilot Study

Reeves and Forde (2004) identified in their model possibilities as a research tool:

'This notion of competing activity sets based on different points of view expressed in different forms of discourse and practice gives us a new tool for investigating what is changing for whom and how. The progress the 'new' practice is making against the 'old' can be tracked by investigating how those involved are making up their own minds both as individuals and as a collective.'
(Reeves and Forde, 2004)

They outlined seven 'broad characteristics' found in activity sets, which I initially considered using as a framework for analyzing the data recordings. Each characteristic was correlated to key features which seemed to identify critical components of teachers' response to CPD and these were presented back to participants for their feedback.

Table 3: interpretation of Reeves' and Forde's seven characteristics:

<i>Characteristic as defined by Reeves and Forde (p 90)</i>	<i>Summary Title (Identified Category)</i>	<i>Contextualised heading (as seen by teachers)</i>
<i>'It centres around the pursuit of a particular objective or activity'</i>	Identifying Activity Sets	Choosing a specific focus for continuing professional development
<i>It has its own discourse and artefacts that are used by members of the set</i>	Discourse and Artefacts	a) Thinking Strategies used in the classroom b) Discussion and Materials
<i>It embodies a particular point of view and hence a set of values</i>	Embodied Perspective and Values	Priorities
<i>Membership is acknowledged by the people involved and forms an element, however minor, in defining their identities</i>	Membership and Identity	Support Systems and Colleague Networks
<i>It is permeable so that the members of the set also belong to others</i>	Permeable/Overlapping	Overlapping ideas (the drip-feed effect)
<i>It exercises the means for inclusion and exclusion in terms of membership</i>	Inclusion and Exclusion	Decision-making and Spheres of Influence
<i>It is bounded in terms of time and space.</i>	Bounded in Time and Space	Opportunities to put CPD (Continuing Professional Development) into place

In all cases, 'the set' refers to the group of teachers actively involved in furthering their professional development as indicated either by meeting with me, or by attending one or more of the professional development group meetings (whether in relation to the Thinking Skills project organised by me or the Assessment for Learning project instigated by the Deputy Head, but in which I was involved).

The redrafting of the categories was then subjected to four different types of scrutiny. Firstly, they were shown to my first supervisor, Dr. Vivienne Baumfield. Secondly, all seven categories were presented at the IOE Doctoral School Summer Conference. I asked, as part of the presentation, for audience feedback as to the appropriateness or otherwise of my categories. Thirdly, I submitted a full written copy of my presentation to the Chair of my session, for written feedback. Fourthly, I used the categories explicitly in both the final round of interviews and the 'Final Feedback' sheet and asked

each teacher whether the categories seemed appropriate and whether I had missed anything out. At this stage, the feedback received was broadly positive, reinforcing the view that the framework had something to offer an investigation into teachers' changing practice.

However, when I began to analyze the data according to these categories, it became apparent that this was not going to be successful. Feedback from supervisions, the Upgrade panel and Doctoral work-in-progress meetings combined to reinforce this opinion. There were concerns that the data was being 'forced' into a framework, rather than being scrutinized in its own right. Also, the interconnected nature of the Social Dynamic Model categories, a strength in its conceptualization of the dynamics of the school community, proved to be a weakness in terms of its analytic usefulness. Even while still trying to use the seven-part framework, the dominance of the role of Activity, in more than one guise, kept emerging from the data to make its presence felt in a manner more akin to the grounded theory perspective. This extract is taken from the Analysis section from the draft submitted for upgrade in May 2008, from a final exit interview with one of the five key teachers. This is followed by a short discussion, also submitted as part of the draft:

'The Maths was very different this year. The new numeracy that's coming in has a lot more thinking skills...I'm getting to grips with the top set which is nice; a lot more problem solving. ... It's changed a huge amount. ... Have you seen the interactive whiteboard stuff' ... only it's got problem solving stuff in it that is really quite good. Cambridge Hitachi.... Mult-e-maths' (shows researcher an ICT programme on laptop) Here they discuss strategy ... so here they do their working out and then they compare it to the working out that's here ... here's a problem solving one, they have to be systematic.....work out a system....then talk about a pattern ... record your solution so others can understand it ... they can see their working out as they are going ... really very nice indeed.'

Discussion: *This interview was the last one of the study. The teacher's attention is fully on the strategies themselves, fully absorbed in what she is doing and what she is asking the children to do. She uses metacognitive phrases totally unwittingly as she draws the researcher's attention to why she likes this resource: 'work out a system, record a solution so others understand it etc' and the shift has moved almost totally to the mathematical processes that the children are using. Perhaps even more interestingly, she is imparting knowledge – ICT resources and new frameworks – to the researcher, demonstrating a shift in the roles over the two year period. It may be that the SDM needs to incorporate an element of directionality ie here the teacher is imparting new strategies, rather than simply discussing ones suggested by the researcher.*

*The talk here is dominated by the following two categories: **Identifying Activity Set and Discourse and Artefacts, which are the two categories most strongly linked to fully embedded CPD.** Although the exit interview was divided into these categories and therefore structured in a way that elicited these themes, it is interesting that the teacher above has included 'Discourse and Artefact' categories in her talk before that question had been asked.'* (Bold type added subsequently)

In this extract, despite the fact that the researcher's attention has been prematurely harnessed to a seven-category model (the SDM), the important role of Activity and Activity Sets emerges as an overwhelming theme in the context of this teacher's response. This links, too, to a much earlier theme which had emerged during the pilot study, the role of resource-based CPD. This charts the beginnings of the emerging Meta-Activity model, which although being significantly broader than just considering a resource-based structure for CPD, highlights the concept of tool. Resources form a central role and, even early on, had emerged as being a key component in creating successful CPD, alongside the role of 'human interaction' (Adey, 2006).

Field Diary Nov 4 2005:

- *Not sure that books are best medium for teachers. Resources, discussions with other teachers and lesson plans seem to have more impact in self sustaining generative change.*

I therefore returned to the data and embarked upon the process of open coding, completely transcribing several sample recordings, taken from a variety of stages in the research process and from a selection of different types of grouping, including one-to-one CPD, small group CPD (where teachers attended voluntarily), small group CPD (where teachers had been required to attend) and large group CPD. I recorded themes informally as I transcribed. These themes were discussed in supervision.

As a result of this process, it became apparent that there were multiple layers of Activity relevant to teachers' level of engagement with the CPD process. This realization was initially prompted by Liz, who was very interesting and outspoken and gave me plenty of one-to-one time, but would be very reluctant to work on resources/lesson plans or to discuss pedagogy. When trying to understand the differences between her use of the CPD opportunities compared to other teachers, the difference seemed to lie in the simple act of engagement or non-engagement with the offered CPD Activity. This led to the recognition that there seemed to be two distinct types of Activity when engaging in

Thinking Skills CPD: achieving greater cognitive dissonance in pupils within the classroom setting by use of a classroom-based activity or strategy (Object-Activity) and the acquiring/choosing/creating/modifying of that strategy by the teacher prior to the lesson (Meta-Activity). Effective Thinking Skills CPD is seen as requiring both components. The majority of the work done during CPD will inevitably focus on the Meta-Activity: introducing, understanding and thinking about relevant classroom strategies. This led to the more detailed formulation of the Meta-Activity Framework (detailed in Chapter Five), which was subsequently used to analyze the group discussions in the Main Study.

3.4 Purpose of Research:

The research began with an interest in understanding the differences between individual teacher's utilisation of CPD as they were exposed to a Thinking Skills based pedagogy and was subsequently expanded to focus on the relationship between group CPD and individual teachers.

The implications of an established framework for explaining teachers' utilisation of CPD could be very far reaching, relating to:

- assessment of school success in teacher support
- conditions necessary for effective teacher CPD
- deepening understanding of the process whereby teachers learn and grow professionally
- exploring the impact teachers have on their professional environment

The suggestion here is that an explanatory framework could perhaps be used to change the way in which CPD is arranged in schools. If so, there needs to be clear evidence that such a structure will enhance professional development, clear specification of which contexts will be benefited by the structure and precise understanding of how the model adapts into a practical framework.

CHAPTER FOUR

CONTEXT

4.1 Introduction

4.2 Professional theoretical dialogue with Deputy Head: March 1st 2006

4.3 Recorded practical discussion about Assessment for Learning groups with Deputy Head: 1st November 2006

4.4 Concluding interview with Headmaster based on Final Feedback Sheet: May 5th 2007

4.5 Emerging themes

4.1 Introduction

The purpose of this chapter is to illustrate the research context and explore aspects of the school in terms of categories within the Social Dynamic Model: Identifying Activity Sets; Discourse and Artefacts; Embodied Perspective and Values; Membership and Identity; Permeable/Overlapping; Inclusion and Exclusion; Bounded in Time and Space.

4.2 Professional theoretical dialogue with Deputy Head: March 1st 2006

This first interview was recorded in the Spring term, 2006, with the Deputy Head who was involved in improving teaching and learning in the Upper School. I was simultaneously involved in working with individual teachers on developing Thinking Skills in their classroom practice. Although we were later to work together on an Assessment for Learning initiative, this interview was recorded while our projects were separate. Helen illustrates the difficulties of working within this context when attempting to achieve a paradigm shift, despite the fact that she has both authority and a clearly defined role within the school community. As well as the culture of the school context as a whole, she highlights the variety of ‘domains’ which exist within the Upper School, most notably as specialist subject departments (Visscher and Witziers, 2008), each of which has a different set of expertise, priorities and sense of identity. This illustrates some parallels between aspects of the school culture which were impacting on my own CPD project as well the school-mandated CPD.

R: You and I have had many discussions, but you are not a part of my research project per se. Would you mind, therefore, outlining your role?

Helen: I've been given a very specific brief by (the Headmaster) which was to achieve a consistency in planning and assessment in the Upper School. Evidently pretty unrealistic in terms of an objective, I think. It was agreed that the role I'm fulfilling this year isn't a genuine Director of Studies. That would entail a lot more hands on management of checking standards of teaching and learning and a lot more ... knowledge of individual pupils. Really, I'm stepping further back ... and the cycle we are trying to embed in the school, formative assessment informing planning, teachers become increasingly aware of individual's learning styles and the needs of the pupils balanced with the requirements of delivering their syllabus for the exam requirements. Not easy.

Here Helen mentions the ubiquitous 'learning styles.' In this context I think it can be said to denote an awareness of the learning process as distinct from a transmission pedagogy, rather than any particular intent to identify the contested 'learning style' of each pupil. Even in this broader sense, the concept still places the individual in the centre of learning rather than placing the individual learner in a group context, which has implications for changing teaching practice. Early on in the interview, Helen identifies the conflict between pupils' needs and meeting the summative assessment criteria (in this case the Common Entrance Exams). This is an important part of the school's role, and is a key defining factor in positioning the school in terms of the Social Dynamic Model. The focus towards the Common Entrance Exam impacts each of the seven categories when considering changes to professional practice: Identifying Activity Sets; Discourse and Artefacts; Embodied Perspective and Values; Membership and Identity; Permeable/Overlapping; Inclusion and Exclusion; Bounded in Time and Space.

R: How's it going? Because what you've just described isn't the same as what I'm doing, but it's really almost identically mapping some of the issues I've come up against in terms of being a resource for continuing professional development and seeing how teachers use it given their context. So, how has that been going? What's been going well, what's been more difficult?

Helen: It's a very, very patchy set of results, in some areas it's going really well, in other areas it's not going at all well. It's a very personal effect of teacher's performance I find. ... One really needs an awful lot of time to manage change in those er.. well this

is quite challenging and not very welcome. ... I've not made nearly as much progress as I would have liked. ... Where there's already been, because the initial process started 4 years ago; when the Vice-Principle, I was instrumental in helping (the Headmaster) to get the Upper School Department Heads to write their department handbooks. And right back then, we were talking about the need to improve assessment, to have a cycle of assessment informing planning, and not just be recording achievement. ... So there were several departments who took that on and they are well on course, just needing help tweaking the management of it. And the way forward, the improvements we've managed to achieve with them, are looking to streamline systems, and be more effective at setting and analysing targets from the data they've got.

Despite the over-riding aims of the school, Helen identifies a difference in different departments' utilisation of formative assessment. This illustrates the way in which the Social Dynamic Model's categories do not remain consistent between departments. In this way, the membership and identity of a particular department may afford different values and priorities, enabling different choices to be made when considering school-based initiatives.

R: You mentioned something earlier which I found to be very much the case, which was an unwillingness. I don't think you used the word unwillingness, you said it wasn't wanted. Let me show you a couple of things which I found in my project which I think you'll find quite interesting. In the initial uptake, of Middle School teachers, 73% of academic teachers had joined the project from the beginning, whereas 25% of Upper School teachers joined the project. ... The other interesting thing is that Middle School ... have gone into group meetings which I see as a strong sign of change when teachers are meeting together to discuss their curriculum development. Nobody in Upper School has expressed an interest in that.

This commentary refers to the pilot project. What is interesting is that many of the difficulties that occurred later in group CPD regarding involvement in the CPD activity involved Upper School teachers (Chapter Seven). There is evidence to suggest that these teachers bear a greater burden of conflict when attempting to balance the conflicting demands of the child and the final exams (see the Headmaster's interview below).

R: ... I'm really interested in what you think.

Helen: I would suspect there are two possibilities. One is, um, this is very politically ... incorrect, one I think is that in the Upper School, there are a number of well-established older teachers and I do think age has got quite a lot to do with it. So I think this is a generational thing, the style of teaching they were exposed to as children, the expectations in a school like this, up until maybe ten years ago and simply, the longer you've carried on doing something, the harder it is to change, particularly when you see that you are being successful. ... The other one is in terms of accountability. The Upper School teachers very much see the demands of the exam as the Year 8 final hurdle, ... achieving certain standards with those children. They have to pass it. ... I think there is a real anxiety that any tampering with established teaching methods and teaching strategies risks failure. They think that if they deviate from tried and tested methods, it may be better, but it may not. And they daren't risk it, risk tampering with a very finely honed apportioning of their time and resources. They know that in Years 7 and 8, in most subjects, they have got to cover that ground in those weeks because that's the only time they have to do it. They will not have the opportunity to go back and do it again. I'm sure that's a major part of it and that comes either from a real anxiety or from a confidence, almost an arrogance, that my methods work, I've proven it over the years, why should I change at this point?

Helen identifies here two different ways of establishing priority; one based on an individual's embedded experience and the other based on the demands of a prescribed curriculum within a finite amount of teaching time. This reduced opportunity to take risks when exploring new approaches in teaching exemplifies one of the more intransigent obstacles facing Upper School teachers.

Helen: There is another (aspect), I'm sure this is where our two areas of interest overlap, is that all we're asking the teachers to do is to look with fresh eyes at the content of what they're teaching, how they are delivering it and what they're asking the children to do. That means planning afresh, and an awful lot of these teachers ... are not going to willingly enter into writing a whole new set of plans and, or then ... consider every lesson ... whether I can or should employ a different strategy to accommodate this group of children, is this going to be appropriate for the whole class; it is just extra work!

R: Yes. If one wanted to bring in school context changes, cultural changes, structural changes, to make that happen, because to me that's an implementation issue as much as anything, what would you recommend from a school-based perspective to help teachers to do that?

This exchange illustrates a divergence in emphasis between the researcher and Helen. My emphasis is on the whole school environment compared to Helen who is highlighting the differences in teachers' motivation. Helen's emphasis on a leadership mandate, the force of administrative will, underestimates the powerful nature of the existing cultural priorities which militate against such changes.

Helen: (Long pause, then laughter). This sounds horribly cynical! That after all these years, I think that one of the most effective ways is saying 'You've got to do it!'

R: So, a leadership mandate?

Helen: Absolutely. Obviously, providing underneath that, a whole raft of support and training and extra time and admin support and all of that, but I really think that if you've reached the stage when you've spent four years saying 'This would be a good idea, this would benefit the pupils, why don't you try this', there comes a time... and sometimes I think if you are the management of an institution, you make the decision that this is the best for the people, what the children need, you have to bite the bullet and say, yes, this is how we are going to do it from now on. And therefore, you will have written this term's plans, in this way, by the end of this term.

R: Yes, sometimes a strong leadership mandate can effect change if it is well supported, just as you say. Coming in as a slight outsider, I'm curious as to what you think of it, but there seems to be a lot of quite little school projects, like there's a book week, or a charity week, a concert, lots of things which take up a lot of energy. I think they might detract from being able to put more into their curriculum, because a lot of energy is going on things which I think are lovely and exciting, but essentially a bit superficial in terms of the full educational bent. Do you have any thoughts on that at all?

I attempt to re-emphasise school context, in particular the prioritising of the broad curriculum.

Helen: It has always been a mark of the school and some will argue it's a strength, some will argue it's a weakness, that the public face and the extra dimension afforded by the things you mention has been what makes the school what it is. And every year or couple of years there will be rumblings about how we do too many little or big things, the Drama events are always too many and too big, the Sports fixtures are too many, these other bits and pieces...

R: Because I see busy teachers...

Helen: Yes. (long pause) I've lived with that as a problem within the school ever since the school began. It's woven in the very fabric of the place. I think you're absolutely right, it tires teachers and it takes their attention and energy away from development in curriculum areas which are probably more worthwhile, but that would take a huge commitment to policy shift from the very top. And I don't see that happening without a lot of evidence. And one of the things about the history of the place, because it's family owned, because the parents who started the thing up were the ones who saw this busy school doing lots and lots of things as the ideal ... not going to be the ones to destroy that, you know, so it might take another generation before we begin to...(laughs. R: Yes)

Helen: So it's an interesting, it's an interesting slice of the school, but I don't think we can withdraw it without the whole thing taking a real dent.

The identity of the school is clearly described here, along with the essential ambiguity it entails. This identity is precious and thus well-guarded, despite the inevitable impact such prioritising has on other aspects of school life.

R: I'm going to be a bit controversial here and just leap straight in, but do you think it's possible that it's the continuing professional development as a cultural norm/cultural expectation that has suffered, ... in terms of the school culture, ... do you think that could be improved, woven back into the fabric?

Helen: I think it needs, I've always thought it needs to be better planned, better organized, and that was always very much part of the thrust of the School Development Plan ... (a) culture of monitoring and evaluation that was set in place and rigorously used. That was an aim of the School Development Plan two years ago, that the Heads put in place monitoring and evaluation and a pyramid structure and that out of that monitoring and evaluation structure the identification of professional development needs emerged, whether it was whole school, departmental, whatever. That we would then plan the way forward with professional development in a way that was not just hit and miss or pick and mix...

The way Helen describes the intentions of the School Improvement Plan shows that it is still aspirational, rather than embedded in the same way that the busy curriculum or the Common Entrance Exams are embedded: *'that was an aim'* and *'we would then plan the way forward.'*

R: Which is a huge part of why you're here, to lend the necessary expertise to this particular school ... So what would you personally like to see in place, in terms of CPD?

Helen: I would like to see a member of the Senior Management Team taking overall responsibility, I think probably Middle School and Upper School together ... I think that every one of us, the Heads, Senior Management Team, Department Heads, lacks skill in being rigorous in project planning. We're not very good, any of us, at saying: By this time, we will have done this. ... (We start a project) and then it goes flat because nobody is actually terribly good at picking it up and saying, OK, we'll set the next deadline and the next target.

R: So it's good on initiation, but it's the follow through...

Helen: The follow-through. Absolutely. None of us is very good at the follow-through to get to, to get to ...

This is interesting, as Helen can't quite articulate where the place of 'arrival' would be. Her comments here are a predictor of what does actually happen with the Assessment

for Learning initiative, which did run into difficulties, with meetings being cancelled (see below).

*R: Do you have any thoughts on what is affecting that sustainability? (Long pause)
Because it cannot be the fault of one individual.*

Helen: Well part of it is coming back to what we were saying about too much going on. And again, I absolutely agree with you, because I see it now with the Heads of Schools at the moment, every year we set ourselves targets in a very serious professional manner ... and we never achieve them because we run out of time every day, every week, every month, every term. As a Head your time is taken up, not necessarily with events so much, but with parents, dealing with everyday issues. Perhaps in other schools the Heads don't have so much hands-on contact with parents and with sorting out minor issues. I think we don't delegate very well and I think we do fill up our time with organizing and attending events that have nothing to do with our actual main function. So, time is one and change is another. We still feel and function a lot as a new school, still finding itself, still changing. ... change is time-consuming.

R: And draining.

Helen: Yes. What else? I don't know what else would affect this. Maybe part of it is the skill level required to deal with some of the more recalcitrant staff members. It is draining. You go on and on with the same encouraging message and because of the kind of profession it is, it doesn't sit comfortably to do this leadership thing, one wants it to be consensual, because it's the nature of the work. And without a clear, clean 100% willingness to go along with you, you're not only battling with your own need to be disciplined and well organised, you're battling to get other people to the deadlines with you. (Pause) Quite depressing, really! (Laughs).

This theme is picked up in Chapter Eight, which explores in some detail the role of the 'recalcitrant' individual when attempting to implement teacher CPD.

R: To change it from depressing, of what you've achieved so far, what are you pleased with? What do you see as sustainable, productive?

Helen: Yeah. What I'm pleased with so far is a good 50% of the subject areas ... have genuinely taken on board the idea of teaching ... as helping to improve the individual step by step rather than imparting knowledge and skills. ... for the child's benefit, not for the school's. Some of the very basic things like it's better to tell a child what they need to do to improve than tell them what mark out of twenty they've got. It's such a simple little thing, but in terms of the relationship between the teacher and the child, it's been a massive step.

R: In terms of now seeing it regularly in teaching practice (Helen: Yes) it's also a massive step. I mean, having people say, Yes, I agree with you, is not the same as seeing it occur again and again...

Helen: ... The standard of planning has improved hugely...and the fact that we are working to a School Improvement Plan, planning for change...

The School Improvement Plan represents a unity of vision in policy planning from the Senior Management Team.

Helen: The benefit of having good policy in place is that it's only good policy if it has been thoroughly pulled apart, discussed and agreed on. Certainly at Senior Management Team level, we've got to have a school-wide agreement that that is what the school stands for. ... Over time, your staff, as long as you are consistent in giving out the right message, you gather round you staff who buy in to that particular ethos, so staff recruitment is an essential part of that. So out of policy, springs everything. ... The school has an oral tradition. It seems to me that where things work best in the school is where there's lots of discussion. It results in an agreed policy where things have to be written down, but it is explained orally and it is sustained orally. The structures that are put in place don't work if they are dependent on written instructions ... the structures need to be well organized and well thought through, the meetings, whether whole staff meetings or structured departmental meetings – I think we don't do enough departmental meetings that are properly structured and that could be where the beginning of the breakdown of the development and the policies being put into action, begins to fall apart perhaps, if it does/when it does fall apart.

The interview ends but the tape is turned back on as the discussion continues informally:

Helen: ... an ICT workshop, and there was this 'chicken and egg' about having the Interactive Whiteboard in the class and the theory behind it, fantastic, you put in this marvelous resource in the classroom, but the experienced, hands on, frontline teachers in that group were saying: But where will we ever find the time to research the software or what this thing can do or how we integrate it with our planning? Where's the time? And that was my immediate thought. I mean, you can give the teachers a core resource or you can give them in-service training, but without the follow-up support in terms of time more than anything, it just all, it's frittered away, before it has time to become embedded anywhere.

R: Exactly. It's reflection time, research time, looking up resources and making it fit a lesson.

This exchange encapsulates some of the issues essential as a pre-requisite before teachers are able to embed CPD into their professional practice.

Helen: And one of the other barriers, I mentioned change, I know, and it's not just about change in this institution, it's about change in curriculum, teaching, type and number of resources available, so much to keep up with. You just get your head around using one new piece of technological wizardry and all the resources linked to it and along comes something else. And you don't just have to have time to look at the implications of that piece of wizardry, you then have to consider what it means in a very specific way to your teaching and your subject. It's a massive, massive job.

Helen talks here perhaps more as a teacher, illustrating the feeling of overwhelm experienced by many teachers who are exposed to a number of new initiatives before previous initiatives have had a chance to become embedded.

Helen: I'm not sure the extent other schools have the same difficulties. But certainly one knows if you want to bring about change in curriculum, assessment, teaching methods, whatever, it's going to be a long hard slog. I don't know why it should be that way. There should be a culture of... (Pause).

Interestingly, again, Helen doesn't quite have a word for what the 'desired state' would be.

R: If you want a quick snappy answer, I think if something new is coming in, you have to actively get rid of something to make room for it. My perception is that new things come along on top of and not instead of. And I think that's where the load just becomes bigger and lots of things all get done a bit less well.

The interview concludes. This conversation with Helen is particularly valuable because it describes the progress of previous attempts at paradigm shifts in the school, as well as Helen's own perspective on why initiatives had only partially succeeded. It therefore predicts to some extent the difficulties which the new Assessment for Learning initiative would subsequently face.

4.3 Recorded practical discussion about Assessment for Learning groups with Deputy Head: 1st November 2006

This meeting occurred eight months after the dialogue above. It has a practical focus, in that Helen and I are trying to structure large-group and small-group AfL CPD meetings into the school timetable. Some meetings have already taken place, but others have been cancelled due to other school priorities. An extract from the Field Diary two weeks earlier (Oct 18th) illustrates some of these difficulties:

Also interesting is that the AFL mini-meetings are running into difficulties, one more than the other, as people are busy and they are not seen as a pressing priority. Helen has attended one of them and I feel her presence is important at this early stage. Teachers can also be removed for cover duties. It started to feel like I was the one 'making' teachers come ("Oh do we have to have it this week, we are all so busy") when the meetings belong to them and I help find relevant strategies for them. Also, trying to find new times that work for people is not my role, so I have handed the ball back rather firmly to Helen!

Several themes arise in the subsequent discussion which echo themes from the more theoretical dialogue which had taken place earlier (above).

Helen: That is another area to be resolved, because it was agreed with all the Heads that they would allocate time in Staff meeting time, because with the range of teachers we have it is a problem finding time when they all can come together. It is very difficult. So, I have arranged a meeting at Clapham, tomorrow afternoon, regarding the whole business of co-ordinated management of change. If we want to pursue this democratic way forward (which is the most productive) then it does need the full co-operation of the top Management. Otherwise, all the factors conspire to derail the process.

R: It is not so much about people's will so much as space, isn't it?

Helen: That's right.

R: You say about democracy, which I think is right, but as soon as the leadership is withdrawn, then all the other stuff seems to morph into the little bit of space that there was ...

Helen: You are right. It is one of the things I promised myself I would do, which is (creating a) much firmer structure and keeping it on track, not allowing this kind of thing to happen. ...

R: I've always felt that the school is so busy ... that it is very difficult to keep an initiative going, to find the space for it. In a way, I think you and the teachers are kind of up against it, because there is always something pressing that they need to do.

Helen: It is true. That has certainly been my experience over the years in lots of different initiatives. That's why I thought involving ... the teachers like this (would work), rather than more of an imposed change. It has all the signs of how it could work, but still we're not used to creating the barriers to keep other things out and this thing safe...

R: That's exactly it. It's not about imposing on them to get them to do it, but imposing the barriers on the space to allow them the space to do it.

There is an important shift here concerning the role of the leadership mandate. In the discussion which took place eight months previously, the emphasis was on Senior Management insisting that certain changes took place. Here, the emphasis is on Senior Management making decisions about school priorities, then ensuring that opportunities for groups to meet are kept safe and protected from the intrusion of other school matters.

Helen: But it's got to be manageable ... some of this is going to sound like excuses, but as of next Monday, I'm going to have secretarial support, and if I can get up and running a timetable of meetings which is kept alive by a PA, ... all I have to say is send out a reminder, and remind me too..

R: And then it will come from the appropriate forum, because I know a couple of teachers have said to me, why didn't you just email people...

Helen: Yes, so if we set up a timetable for the rest of this term and major dates for next term...

We now look at diaries and the discussion becomes more practical.

Helen: Who've you got in that group?

R: Abi, Hannah, Sally, Mary. Now in that group the timing is good, but the will is fading a bit...

Helen: Now I've also got Lower School, who I haven't managed to integrate at all.

R: Well, we met last week, on Tuesday and will meet fortnightly, so that's ok. Focus on Questioning, but have dipped into Traffic Lights. Lower and Middle School teachers may find change a bit easier because they can integrate things into lessons without the exam pressures, I think. So that group was quite nice. Also it was only three people and at a time they could definitely (use productively). Also, I think it may have gone well because it had CI there as their kind of leader. So there's her, two others and me and my role is really clear, that I'm coming in to be helpful, whereas the other group, they don't really have a group leader which ... I don't think you can artificially create a leader, but that may be (almost whispered) a bit of an issue.

Helen does not pick this up at all, but focuses back on group times.

R: Lower School – Tuesdays, first one was Tuesday 31st October, and it's going to be fortnightly from then.

Helen: 14th November, Exam Week. That's normally my time for seeing Ben, but it can be pushed back by half an hour.

R: There is a real plus in your favour, which is that people like and respect you, so having you there will be a real bonus.

(Helen laughs) Thank you! One never knows... We've got a whole meeting on 29th

(November) ... is that the only one? No, 15th ... that's really good, I'll e-mail round. ()

R: We were going to have one and then it got cancelled.

Helen: Yes, that's right, it was the surgeries thing wasn't it?

The cancelled meeting, which was intended to be a large group meeting to report back on progress, was replaced by a whole Upper School staff meeting to discuss children's mock exam results in respect of forthcoming Entrance Exams. The immediate need of the school to achieve projected results to secure appropriate school placement was prioritised over ongoing CPD. The subsequent discussion illustrates some of the practical difficulties of establishing suitable times for group meetings.

R: The Questioning Group, yesterday's one was cancelled, so the next one presumably is next week so that is the 7th, at 5:15. Then fortnightly from there is the 21st and December 5th. That's the last one if we go fortnightly.

Helen: Self and Peer Assessment Group.

R: That's the hardest one, because originally we had Wed at 3:20, but no-one really likes that, so the first one we had started about 15 minutes late and we only had about 20 minutes, well you were there for that one. So it was very rushed, there wasn't that sense of being able to discuss stuff.

Helen: There's no easy way of doing this...

Finally we agree on a time.

R: If this comes from you, that will be absolutely fine.

Helen: If we start it next week, because the week after that is Exam Week and timetables will be up the spout.

I try to encourage a focus on greater communication between teachers in addition to the group discussions.

R: Maybe in the little groups we can encourage people to e-mail each other in the little groups ... so they do that instead of a journal...

Because hopefully, what we're aiming for, is that then people build up the dialogue themselves, and then it's interesting and then it doesn't matter if I fade away, that's the point..

Helen: They've got the momentum

R: And they've got people that they typically discuss pedagogy with, so it all gets going, really.

This touches on an aspect which becomes an important part of the Meta-Activity framework, that of sustaining momentum and creating paradigm shifts through teacher groupings.

Helen: Lovely, good, good. Are we feeling a bit more secure?

R: I think that's a good action plan. Are you feeling a bit more secure?

Helen: Yes, I am. Thank you very much.

R: Real pleasure.

The meeting ends positively, with a sense that the critical issue of maintaining protected space for the group discussions and CPD has been achieved. However, the demands arising from the school priorities which had threatened group space previously had not been addressed, so that despite good intentions and careful planning, these obstacles continued to exist (see Chapter Seven).

4.4 Concluding interview with Headmaster, based on Final Feedback Sheet: May 5th 2007

At the end of the research period (May 2007) I circulated a Final Feedback Sheet (Appendix 6) to comment on some of the issues facing teachers who were trying to develop professional practice. This sheet was loosely organized into the seven categories identified by Reeves and Forde (2002): Identifying Activity Sets; Discourse and Artefacts; Embodied Perspective and Values; Membership and Identity; Permeable/Overlapping; Inclusion and Exclusion; Bounded in Time and Space and the full questions are given below in bold. My aim was partially to structure my understanding of the school context into existing themes, but also to show teachers explicitly the way in which I was viewing the school environment so that they could comment on my interpretation.

One impression I had was that, because teachers knew I was interested in the factors which inhibit or enable professional development to become embedded in teachers' practice, there was the sense that we could bypass the analysis and I could make some recommendations to the Senior Management of the school. While I did not do that, I did share some of my initial, unrefined thoughts with the Headmaster and all teaching staff, even those who had not taken part in the research, in the form of the Final Feedback Sheet. The sheet was distributed to all teachers and the Headmaster and I discussed the sheet with him in this recorded structured interview.

At the time, this felt like part of my unspoken role in assisting the school to move forwards and also in being a 'voice' for the teachers. The feedback sheet also provided space for teachers to comment on my views, correcting them if necessary. This perhaps highlights an ambiguity as my research question was not concerned with assessing whether or not this particular school provided a satisfactory structure for professional development. Rather, it was the setting for my exploration on how teachers utilise professional development. The sheet's function, therefore, was as a feedback and checking device in which I was opening my perceptions up to public scrutiny.

The Headmaster was not a part of the study, nor undertook teaching duties during the research period, but I think that his comments are an interesting perspective on my role within the school during the research period. I also think that this dialogue, transcribed almost in its entirety below, provides a useful view of the school context. Many of the themes which I would have wished to highlight are brought to life by the Headmaster's perceptions of the strengths and complexities of his school, without being coloured by my own perceptions, perspective and language. Although this was recorded at the very end of the research period, as it is not a part of the results, it seems most useful placed here to elaborate on context and researcher role. In bold type is the written paragraph from the feedback sheet presented to the Headmaster, with his response in italics. Commentary is written in standard text. My spoken comments or additional questions are also in normal font:

Researcher: Some weeks ago, you mentioned that you were very glad I had gone ahead with the research, despite initial doubts. May I start by asking, why did you let me have a go despite the fact you had some doubts?

I am open to new ideas. I hope there is a culture in the school ... where we are open to new ideas. I don't have a preconceived idea about those new ideas. But I did have doubts, that I thought it sounded like an awful lot of hard work for teachers, on top of a very busy workload. ...What I hadn't appreciated was what came through to me via the feedback, which was that the teachers who did get involved very quickly saw benefit to themselves and found it directly relevant to what they were trying to do in the classroom. I also think that you have established yourself as the 'teaching conscience' of the school, by which I mean that you have embodied something which we don't protect well enough in the school, which comes up in your notes here, which is reflection about what we are doing and why. I think the teachers and everyone who has worked with you has really valued that chance to reflect on what they are doing. That's the feedback that I have had. The feedback has been tremendously positive because teachers have found it to be professionally stimulating. And of direct benefit to what we are doing in the classroom. So, all credit to you!

Commentary:

The term 'teaching conscience' is interesting, because it highlights an aspect of the researcher's role, of which I had been unaware. My perception was that I was offering a CPD opportunity in return for access to teachers' dialogue about it. The phrase 'teaching conscience' reflects an ambiguity in teachers' attitude to CPD, and therefore to myself as researcher. This is explored in more detail in Chapter Seven and Chapter Eight because it reveals acknowledgement of an important gap between teachers' actual practice and their desired practice.

Additionally, here the headmaster uses the word 'protected' in reference to opportunities to utilise CPD, which is a theme strongly echoed in the Social Dynamic Model category: Bounded in Time and Space.

At the start of the research, teachers were invited to take part in a research project looking at their reactions to Continuing Professional Development as offered by the researcher. Three groups were offered: Thinking Skills Strategies/Behavioural Strategies/Reflective. At first, 46 % (6 out 13) of teachers chose the Thinking for

Learning group. This had increased to 92% (12 out of 13) by the end of the first term. Any thoughts on why this might have happened?

I did have a couple of thoughts on it ...I think we initially were turning to you to do behaviour, in particular (child x and child y). At the time that you started, behaviour was very much on the agenda as a result of those two individuals in Year 8. So I think there was a current need. You came up with some very helpful strategies, very practical. In the slightly longer term, the medium term, I think the Thinking for Learning ties in more closely with the whole School Development Plan, specifically Assessment for Learning which Helen has been leading in a quiet way, but which is firmly in the School Improvement Plan which has now been published and will go ahead next year. So I think that option, as there was more awareness of which direction we were going in as a school, that option became very attractive to teachers and again, they were learning something that was immediately applicable in the classroom...I'd like to think it's because we don't have major behavioural issues, which in broad national terms, I think is true, so my guess is that's why the numbers have gone the way they have.

Many teachers expressed enjoyment or satisfaction when using more Thinking Skills Activities in the classroom. Teachers mentioned hearing interesting answers, helping them to understand how children were thinking and often getting children more involved. Disadvantages were that a good discussion could lead off a lesson's objective (especially in Maths and Spelling) and teachers might be unable to control the final outcome. Although learning was often felt to be richer, recorded work could be poorer if lessons ran out of time and this could leave a teacher vulnerable to criticism.

Yes... this opens up a theme.. The note that I made simply said: I would prefer learning to be richer! As a headmaster, I would hope that to be the case, and then I said it was a question of accountability and that there needs to be a culture of trust. I hope, and I know because I analyze myself endlessly..., I know that I have a high degree of trust. I think that, to some extent, it is the nature of the school and I'd like to think we have a culture where we trust teachers on the ground to do the right thing by the children, so I would hate to think that there is teaching going on for the sake of there being marks in a book which teachers can hold up to a manager and say 'look at the lovely work that's been done.' If the option is between that and a stimulating discussion which is going to

make the child think, I would much rather the child be thinking. Which is the predictable response from a Head.

As we get into it, I find myself in an increasingly ambiguous position, because ultimately we are steering children towards the Common Entrance Exam at the age of thirteen or at the age of eleven, and ... this is a debate I have had with Helen, often across the years. Instinctively, we feel, we would like to give teachers the confidence, not to have to cover everything, we would like to say to them 'You do not have to cover everything. We would rather you cover 60% of the syllabus with 100% understanding than 100% of the syllabus with 60% understanding', which is fantastic and sounds very altruistic and all rather wonderful. I will then turn round, once parents have selected a school and I will say to teachers 'You had better jolly well make sure you get them into ... and you had better cover the ground and get them in'. So I am very conscious myself of giving a double message and I think where that double message starts to impact is in Year 5. Up to Year 5, we have created a culture in the school where parents understand that we are not pushing too hard, but with the movement from 'learning' to 'performance' where the school line is drawn, coming from Year 5 to Year 6, we are increasingly bound by exam pressures and that is where we are then, pushing children through the curriculum, which may not necessarily be meeting their needs. I would still like to give teachers the confidence to make their own judgement about meeting the needs of the children.

I was talking to Helen yesterday about an example in 6B English, well, I am sure it was partly a result of your input, Mary changed her plans, pulled right back on what she was trying to teach them, that particular set and, as a result of doing so, went far quicker than they otherwise would have done, getting to where they would have been covering anyway, but it's because she had the confidence, partly through her own teaching ability and partly, I hope, through feeling that that was a valid choice to make as far as the management culture goes, that she had the confidence to say 'I am not teaching this to these children, I'm pulling back, I am going right back to basics. So, it is possible, but perhaps the biggest role I have is managing parental expectations, because what drives that feeling that teachers have, to pump through this is the potential angry parent, saying 'What do you mean, they haven't done fractions? My friend's son in Westminster did fractions ..five times.. last year, so what's going on?'

So... The school aims have really helped; I've used those many times, I think it is now widely understood among the parent body that there is a point up to which we will not be driving children through work which is not appropriate for them. And that has helped enormously, we have far less pushy parents further down the school. But we then do say we go all out for performance in the Upper School, which means we enter a different culture. So there we go. I meant to tease that out a bit more as it comes up again in some of the other questions, but it was raised by that particular point that you brought up, under that heading.

Comment:

I have included the full answer to this section because it highlights the ambiguity faced by teachers and the headmaster. I value the honesty and perception in the above section and it paints a vivid picture of the school setting, providing the backdrop for the professional dialogues I had subsequently with teachers.

Many teachers said that they valued talking through lesson plans and strategies with me and wished that there was more time to do this within their school timetable. From informal observations of weekly Year 4 Form Tutor meetings, it often seemed as if there was only time to share materials and curriculum outline for the week ahead, rather than discuss in more detail how concepts were going to be taught or teaching strategies in general. It also seemed to me as if many existing lesson plans and resources (across all subjects and year groups) would have needed quite a lot of 'revamping' to be more 'thinking' or 'interactive'.

Later you mention cover eroding planning time... reading that reminded me of a very sensible suggestion that's been put to me, through the appraisal system, actually, which I would like to implement, which was simply knowing which cover lessons you might be snaffled for. It was a teacher who taught in a previous school where there was a system of standby cover putting your name down for that period to be called on ... what it meant was that you then knew you had certain non-contact periods which were going to be sacrosanct so you could actually plan to use that time effectively. So that would help. It's a deputy-head job and would take some doing, but I'm sure it would be possible and that would certainly help.

Yes. The only comment I've written down here is 'Time is our most sought-after resource.' Again, you have raised the broad curriculum later on, as well and I am very conscious of what the penalty of the broad curriculum is: Time... time in the class with the pupils because they are being pulled out half the time for music and arts and drama and sports, but also time for teachers to reflect. I would be absolutely in favour of a double lesson for the Year Group meeting if time...I am sure we can. There are 9 or 10 non-contact times.

Researcher interjects to say that early analysis of her research suggests that the CPD done in small groups where teachers bounce ideas around together seem to be particularly useful.

That makes eminent sense, it seems perfectly reasonable. Year Group meetings up to Year 5, that should be fairly straightforward.

A recurring theme is that of dealing with ambiguity. For example, a child-centred approach to learning is important to many teachers I spoke to, yet many then feel forced by the pace of the curriculum to move on before they felt children were ready. Similarly, Assessment for Learning strategies can be compromised by the need to cover all the topics required for mandatory summative assessments such as end-of-term tests or exams. Additionally, the sheer busy-ness of the broad curriculum and extra-curricula activities can impact day to day classroom activity. The ambiguity is that both the intruding activity and the excluded activity are important. Often a teacher has to make daily decisions quickly about what to maintain and what to drop when lesson time is reduced.

Yes. We are getting much better. We publish major events a long way in advance...previously we knew about them in advance but didn't publish them. We'd just flag them up two weeks in advance and say they weren't going to get the double Maths they were expecting. Now in theory, we are much more prepared, thanks to this piece of paper – for the benefit of the tape, I am now holding up the date-list – absolutely governs our lives and it is now pretty well understood that if there is an extra-curricular activity that a teacher wants to bring into the school day that is not on the date-list it is unlikely to be approved because it causes chaos; it creates this kind of impact. ...

We should, therefore, be able to plan more realistic amounts of teaching. I think sometimes we are just too ambitious about what we think we are able to fit in, in the space of the time we've got because we look at a fourteen week term and plan fourteen weeks worth of teaching and again, those who have been here a while, now tend to plan ten weeks worth of teaching for a fourteen week term, because they know the amount of impact these other things have. Perhaps there's a practical application there that we need to formalise that, that people know there should be empty spaces in the planning, which will undoubtedly be filled by the kind of revision and again that will give them the flexibility and, again, the confidence to amend the speed at which they cover the ground. I think a lot of that panic about 'I must get on to the next topic' comes from feeling that the plan has been done internally and they must get through it to cover the ground.

Researcher interjects to say that this seems like a good idea.

That, again, is quite a major undertaking because if we apply that to all subjects and all year groups, we are going to have to have a long, hard look at what we are going to be able to end up covering in the time available. That opportunity will present itself during the course of next year, where linked into all of this will be the School Improvement Plan target of inclusion, which will involve a three-strand re-writing of each syllabus for each Year Group, so we have a middle-ability, lower ability, higher ability in all subjects and all Year Groups.

I comment here on the possibilities of using rich starters, peer and group work and Thinking Skills activities to meet the needs of different learners while doing the same activity in the classroom.

Perhaps not surprisingly, teachers with a strong previous experience of Thinking Skills, either through their teacher training or experience at previous schools, seem most comfortable with trying out collaborative learning in the classroom. Other teachers found that having a close colleague with particular interest or experience helped them to implement ideas. When subject groups or year groups had a particular interest in a technique or strategy, this seemed to support its development and encourage its implementation in lessons.

Sometimes, becoming part of a focus group (such as Assessment for Learning) seemed to support teachers' ongoing professional development. At other times, attending an external course or relevant Inset provided reinforcement for ideas and themes that had been discussed as part of the project. There seemed to be a 'drip-feed' effect if an idea or strategy was heard from more than one source or was advocated by more than one person/organisation.

Without a doubt. If we were addressing that one, my comment is that I have no doubt that the drip-feed effect of effective planning for this year, for example, was far more effective than any external inset. For two reasons; one is the reinforcement that comes through time, through revisiting things as they are being implemented, but also that feeling of support with other colleagues, that they are going through the same experience, being able to meet up for a coffee in the staff room and find out how it's going, you know, that sort of general collegiate approach. And it's partly driven by that human instinct – if someone out there's got something positive, you want a bit of it.

For example, I have done less work with the Science Department, but now they are interested in CASE which has many similar ideas. Or often teachers come back from external insets and say: 'You know that stuff we were doing, well they were talking about it', or it gets reinforced by what Helen is doing.

Yes, the most convincing thing without a doubt is when they are trying it out for themselves in the classroom. ... Seeing genuine benefit in the classroom has been hugely powerful. That's the feedback that I've constantly had: 'I'm doing that new thing that Amelia told me.'

Have you heard that from different areas of the school? Because it's interesting to see...

...where it's coming through. Yes. ... I'd find it hard to say. I'd say the Middle School is more open to new ideas, but then I know there's been some fantastic practice going on in the English Department in Upper School.

Sometimes, integrating professional development seemed to take a 'back seat' to more pressing concerns. Some teachers found it difficult to find time to re-read course notes or discuss with colleagues how to implement new ideas into a lesson

plan. Duties, unexpected cover or an immediate pressing focus (plays, class poems, Maths week, charity events etc) could impinge on time needed to embed ideas or create resources.

Sometimes there seemed to be a clash of priorities between a long term improvement and a shorter term priority, for example cancelling an Assessment for Learning meeting for a Year 8 exam results discussion. Sometimes the professional development budget ran out before the year end. Time specifically set aside for reflection and discussion of teaching practice was either not available within the time table or could be quickly consumed by other matters. Many teachers did succeed in finding time to integrate ideas and develop materials, but I felt this tended to reflect the particular interest or enthusiasm of that person rather than being a reflection of the school culture as a whole.

Researcher adds that some teachers pass up CPD opportunities because they don't want their colleagues to be required to cover their lessons while they are away. This also relates to the concept of 'protecting' spaces which both Helen and the Headmaster had mentioned previously. Another issue was that of the difficulty of a whole Year Group, for example Year Four teachers, being able to do the same external training on the same day in term time.

Tricky. Not impossible. For what length of time? One day or ...

Well, one day would be a good start.

We do cope, if we have three teachers off sick, for example! But it's not ideal.

One bit of feedback that I got was that, unless you were newly qualified, professional development was very much down to the individual teacher.

That has been a failing. Several things are going to improve this. We're implementing an appraisal system. We've tried before... one was very cursory ... the other was a gold-plated, rigorous, evidence-based model and no-one could work it. So we've ended up with something in-between...tick-boxes, lesson observation, self-evaluation, chat with line manager, chat with me. ... Out of that has come individual targets for each teacher,

(including) individual development and training. So we finally have for the first time in several years, a list of the kind of training individual teachers are asking for and in some cases that has raised a school wide (focus), an obvious one is Lower School... how to best use teaching assistants. ... So that is better. I think we can still refine the system, but at least it's a step forward.

The next thing that's going to help professional development is the appointment of the Head of Upper School, for whom I know, professional development is something she takes very seriously. ...

The other thing I've noted down here is we do need better planning in our staff meeting time. Two or three Assessment for Learning meetings were cancelled for Year Eight exams – there was absolutely no reason why I couldn't have foreseen we were going to need that time to discuss the Year Eight results. ... That will also be helped by the appointment of the Head of Upper School. I'm sure she'll be much more organised than I've been!

I'm sure that's not true! (Laughter) Now, I think at one point the professional development budget ran out? Is that true or have I got that wrong?

Yes, now that is true. I jumped up and down a bit on that one, it led to a significantly enhanced budget request which has gone through for next year. ... I said there had to be a minimum budget of one course per person per year, a course valued at £250. Plus an additional budget for Ofsted preparations and a further budget for Helen's school-wide training as well. So we have significantly enhanced the budget. Because it was not a good message... to say we'd like to develop you, but we'd rather have the cash! Not a clever message to be sending out. We've fixed that one, I'm glad to say!

Sometimes, teachers mentioned areas where they felt improvements could be made. I am actually uncertain as to the amount of influence individual teachers feel they have over different aspects of their work life. I believe that people have different amounts of power according to different groups. For example, a Form Tutor may have a high degree of autonomy in their own class, year group and specialist subject, but perhaps less in policy making, budget control or time-tabling?

Yes, I paused for thought when I read that one. In my ivory tower, am I completely oblivious to things on the ground? But I work on the assumption that there is an open enough environment here, such that if somebody had an idea, it would find its way quickly to somebody who can implement it and make it happen. Specifically, the current School Improvement Plan was drawn on a huge consultation exercise which took place almost a year ago ... and has been almost entirely written based on the ideas of members of staff involved in that. ... There was a filtering process, we did filter, but it was drawn entirely from the ground up. That is a practical example of ideas being heard.

The budget control I wouldn't agree with, simply because, well I'm doing that process now. All Heads of Departments have requested budgets and the same thing will happen this year as last year, which was that all the money requested was approved.

Time-tabling was interesting; we looked last year at moving to a seven period day with longer lessons. It was broadly welcomed in the Middle School, we felt we could make it work, but it all fell apart with Science in the Upper School. ... This year we have specifically kept the same time-table. Policy-making may be an area where individual teachers may feel this is management coming up with wacky ideas... but culturally I do feel that there's a pretty short link between ideas on the ground and implementation. ...

The researcher then asks whether the school would prefer confidentiality or acknowledgement for being part of the research.

Oh delighted, proud to be associated with it!

Anything I've missed or that you'd like to add?

Really, just to say that I'm absolutely delighted to be sitting here having this conversation with you after ... two years, because – and absolutely all credit to you, for the fact that that is the case, because, as you said, I did have my doubts, Doubting Thomas I was and I've been proved very wrong and I'm just enormously grateful to you and I hope it's been useful to your PhD, but absolutely undoubtedly the school has benefitted enormously from your ideas and you have been the teaching conscience of

the school and helping us to reflect on what we're doing because if you weren't encouraging us to do that then I think a lot of that reflection simply wouldn't be happening. So I'm truly grateful to you!

Thank you enormously. I didn't expect you to treat this so much as a consultation exercise, responding with solutions to these comments.

Well I talk a good talk. You'd better come back in two years time and make sure I've done what I've said I would.

Commentary:

I found some things very difficult to say, such as highlighting when the money for CPD ran out. There seemed to be an unwritten expectation from some teachers that if they spoke honestly to me, I would disseminate their views anonymously back to the Head. This was not a stated part of the research, but seemed to arise from the subject matter I was dealing with. In other words, the environment for teachers and their professional growth cannot be divorced from the micro-political reality of the school, into which I did unwittingly sometimes become drawn.

4.5 Emerging Themes:

The purpose of this chapter was to present a portrait of the school context in which the CPD was occurring, highlighting particularly the way in which the categories of the Social Dynamic understanding are mapped onto the school culture. Emphasised particularly is the busy nature of the school combined with its commitment to achieving good Common Entrance results for Year Six and Year Eight pupils. This is made explicit in the school's Curriculum Policy (Kelham, 2010, p. 1):

'Our aim is to fulfil the potential of each child in our care.

A Broad Curriculum

- *In its most narrow definition, our remit is to prepare our pupils thoroughly for the academic entrance examinations of their chosen senior school.*
- *However, we believe that we are preparing children not only for their senior schools, but also for the life that lies beyond them.*
- *We regard these school years (from the ages of 4 to 13) as forming the base on which our pupils will build their future education.*
- *We therefore aim to give our pupils as broad an education as possible during their time with us.*
- *To this end, we place a strong emphasis on a broad curriculum, with Art, Ballet, Drama, Music and PE all taught by specialist teachers from a child's first day in school'.*

This has led to ambiguous priorities for teachers, particularly in the Upper School. The impact of these pressures on pedagogic initiatives in the past has led to difficulties in sustained implementation of strategies and structures. The school continues to focus on these initiatives as a desirable outcome, but is currently unwilling to reduce its emphasis on its other deeply embedded priorities. Thus one of the unresolved issues facing the introduction of any new paradigm to the school is that of conflicting Activity Sets and the subsequent difficulties which arise.

CHAPTER FIVE

RESEARCH METHODS

5.1.1 Research outline

5.1.2 Timeline and Access

5.2 Main Study

5.2.1 Initial Research Question

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5.2.5 Activity as Unit of Analysis

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5.1.1 Research Outline

This case-study took place in a London Day Preparatory School (5 – 13 years), a popular private school which is proud of its busy, broad curriculum. Observations and data were collected over the two full school years 2005 – 6 and 2006 - 7. I was already familiar to staff as I had worked full time in the school for the previous school year, so many teachers knew about my interest in Thinking Skills. This made the choice of context for the study obvious and initial access and subsequent recruitment for participants relatively easy.

A total of 24 teachers took part, with involvement ranging from one interview and no professional dialogue with the researcher (three teachers) to ongoing dialogue and both one-to-one and group professional development sessions spanning a two year period (seven teachers). They represented a wide range of subjects and Year groups, teaching children from 7 to 13 years of age and including Form Tutors for Years 3, 4 and 5 and Subject Teachers of Science, Maths, English and Humanities .

The study took a deliberately broad stance on the topic of Thinking Skills. Interventions included access to books and teaching materials, help with modifying lesson plans, suggestions of specific schemes (eg CASE (Adey, Shayer and Yates, 2001)) and group based 'tutorials'. The type of professional development selected was based on collaboration between teacher and researcher. A number of previous studies on 'Thinking Skills' have focused on a specific type of intervention, such as Cognitively Guided Instruction in Maths (Carpenter *et al*, 1999; Fennema *et al*, 1996), whereas this

project focused on a more infused approach to cross-curricular Thinking Skills strategies. This was intended to provide a replication of the ‘drip feed’ cumulative effect that characterises many schools’ acquisition of new concepts, as well as opening up access to the research group to a wider range of teachers.

At first, the project did not embody a ‘leadership mandate’ for change. The absence of such a mandate enabled teachers to respond personally to the opportunities offered, affording a naturalistic view of teachers’ unforced choices and preferences. There was no pressure or expectation that any teacher should take part. At the beginning of the second year, a school based initiative focused on Assessment for Learning was organised by the Deputy Head. I was invited to join the large-group meetings and work specifically with two focus groups (Peer and Self Assessment/Open Questioning). Since this was a naturally occurring development arising out of the study, the focus became more group based and there was a broadening of concepts from a more tightly defined Thinking Skills focus, to a focus on pedagogical practices that were common to both Thinking Skills and Assessment for Learning. An exception was made for two teachers, with whom I continued to work individually, retaining the more defined Thinking Skills focus. This was due to an over-riding professional commitment to each teacher. One teacher had a particularly diverse class and was finding the Thinking Skills strategies particularly useful; the other was a mature NQT who was making particularly productive use of our work together. Both teachers were also involved in the Assessment for Learning groups, allowing me access to recordings of their dialogue in different contexts, sometimes separated by only a couple of days.

This second year of the study did then involve an aspect of a leadership mandate, so represents a slightly different phase of the project, yielding slightly different outcomes such as a sudden increase in number of research participants and a greater number of recorded group meetings with a reduced number of individual sessions.

5.1.2 Timeline

Table 4: Timeline

Dates	Activity	No. of participants	Theoretical approach
Sept – Dec '05	Pilot Study to gauge initial interest – ongoing 1:1 CPD work with teachers at my request	13	Choice of three groups Individual teachers' Action Research framework abandoned. First round of semi-structured interviews
Nov '05	Mini-project: One-off Large group CPD at school's request + 1 observation	25	Exploratory case-study
Jan – March '06	Yr 3 and Yr 4 research teachers request small group meetings. 1:1 CPD continues with 7 teachers	15	Grounded Theory – open coding. Emphasis on effectiveness of teachers' resources and teachers' trajectory of change
Feb '06			Started recording 1:1 and group meetings
May – July '06	As above		Focus broadened; materials seen as part, not whole, of picture
June '06	Director of Studies requests I join the Assessment for Learning group in the following year		
Sept '06 to May '07	AFL focus – 1 large group 2 small groups 1:1 work with 2 teachers	18 plus AFL big group	Social Dynamic Model adopted as structure (axial coding)
June '07 – Dec '09	Data analysis	5	Development of Meta-Activity Framework

Obtaining Access:

Permission to approach teachers was given in June 2005 by the headmaster. I gave a brief presentation in both the Upper School and Middle School staff meetings to invite members of staff to participate in the study. A description of the research and a preliminary protocol was provided and distributed to all academic staff within the school (Appendix 2). There was an uptake of only two based on the e-mail request, but there had already been an informal interest from several teachers, mainly from the Middle School. I subsequently approached other teachers individually. This was a semi-random process, based on whether I had some kind of acquaintance or whether I had enough representatives from each part of the school. Since my previous work had been

in the Middle School (Years 3 – 5), I knew more teachers from this part and was able to approach all of them. I was less confident in approaching Upper School teachers. From the beginning, eight out of a possible eleven teachers from Middle School became involved. The Upper School (Years 6 – 8) initial uptake was proportionally much lower with four out of a possible fourteen. One other teacher (Drama) who straddled both Middle and Upper School also took part, leading to a starting point of thirteen teachers.

5.2 Main study

5.2.1 Initial Research Question

At the end of the third academic year (June 2008) the research question was tightened up into its final form:

To what extent can a Meta-Activity Framework explain teachers' utilisation of CPD in the context of a Thinking Skills pedagogy?

This framework is intended to identify the crucial phases of effective Thinking Skills CPD, as well as present a structure within which the complexities of the social dynamics which affect teachers' use of CPD can be discussed. The Meta-Activity Framework consists of two integral components, the Meta-Activity and the Object-Activity:

Meta-Activity: The Meta-Activity is the activity surrounding another activity. Just as meta-language is language about language, or meta-data is data about data, Meta-Activity is the activity necessary to the activity, in this case the Activity of CPD that is necessary before the desired Activity can occur in the classroom. This 'double-layer' of activity is crucial when identifying engagement or non-engagement with the CPD process. The Meta-Activity is the chosen focus of mediated learning through which a teacher improves his or her professional practice. In CPD, this Activity is always mediated. Even if carried out alone by a teacher, such as when sourcing a new resource for use in a lesson, the involvement of other people is implicit in the design of the new resource. Usually, however, in CPD the role of the mediator is more explicit, such as the facilitator of a group or another colleague sharing examples of effective pedagogy. As explained further below, the Meta-Activity consists of three components: Tool (chosen resource or strategy on which the CPD is focused), Stimulus (the teacher's reaction to

the Tool during the CPD encounter) and Response (how the teacher uses the Tool after the CPD encounter has ended).

Object-Activity: The Object-Activity is the specific, named resource or strategy that is used in the lesson. For example, a resource-based Object-Activity might be an identifiable commercially available programme such as CASE or Philosophy for Children, or a specially designed Thinking Skills Activity such as Odd-one-out, Fortune Graphs or Visual Frameworks. A non-resource-based Object-Activity could be the use of any strategy specifically designed to stimulate Higher Order Thinking, such as open questioning based on Bloom's taxonomy or the provision of any stimulating or thought-provoking activity designed to encourage cognitive dissonance, engagement and discussion. The Object-Activity in the classroom is also always a mediated Activity. In this case, the mediator is the teacher, although a lesson designed around principles of co-operative learning would include peer-mediated learning as a desired outcome. As a mediated Activity, the Object-Activity also includes the same three components identified in the Meta-Activity: Tool (resource or strategy used in the lesson); Stimulus (response of pupils to the Tool) and Response (effect on pupils' learning). Response could also include the entwined effect on both pupils and teacher, such as a teaching strategy which stimulated fruitful dialogue could have an invigorating effect on both pupils and their teacher.

5.2.2 Linking the Meta-Activity concept to Vygotsky's Triangle of Mediation:

Activity Theory (see Chapter Two) inextricably links intentional change to socially mediated opportunity:

'From a Vygotskian perspective, the process of mastering a semiotic tool typically begins on the social plane, though it of course has individual psychological moments and outcomes as well. ... When encountering a new cultural tool, this means that the first stages of acquaintance typically involve social interaction and negotiation between experts and novices or among novices. It is precisely by means of participating in this social interaction that interpretations are first proposed and worked out and, therefore, become available to be taken over by individuals.'
(Daniels, Cole and Wertsch, 2007, p. 187)

In terms of CPD, however, it is possible that the proffered 'new cultural tool' is not desired by all teachers. If so, then there may be little or no 'social interaction or engagement' resulting in the new paradigm not becoming 'available'. Such non-

engagement with the Meta-Activity of CPD would then proceed to hamper the process of ‘internalisation’ whereby the learning which takes place within the social context becomes part of the individual’s own history and culture.

*‘Every function in the child’s cultural development appears twice: first on the social level and later, on the individual level; first between people (**interpsychological**) and then inside the child (**intrapsychological**). This applies equally to all voluntary attention, to logical memory and to the formulation of concepts. All the higher mental functions originate as actual relations between human individuals.’ (Vygotsky, 1978, p. 57)*

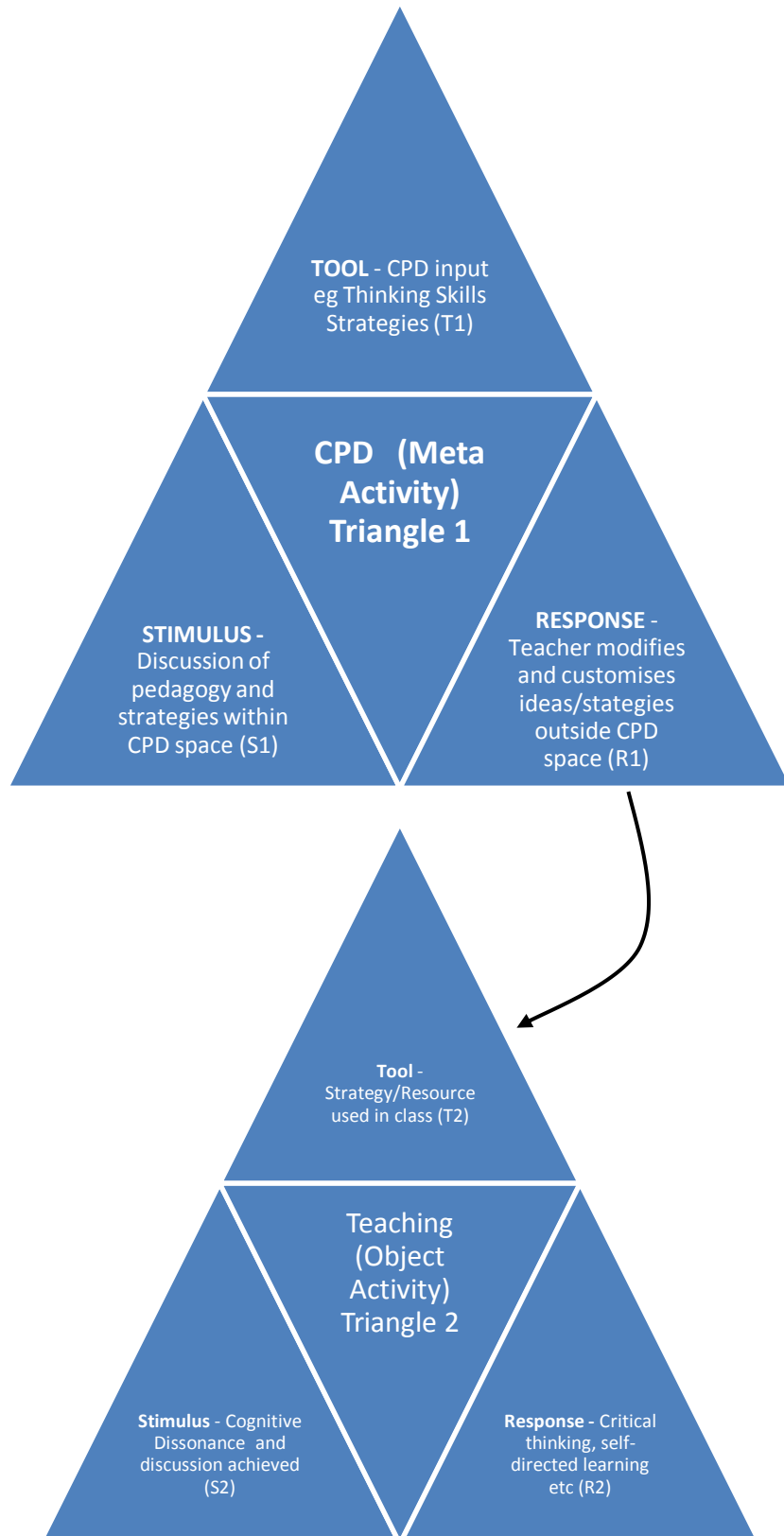
This willingness to engage in the social interaction is therefore key to the process of CPD becoming embedded in a teacher’s understanding and practice. The mapping of a Meta-Activity framework onto a double Triangle of Mediation to represent the processes involved in embedding CPD offers a way of understanding whether or not internalisation is occurring. Additionally, the nature of the discussion and interaction of teachers involved in CPD groups sheds light on the group as a whole in terms of its socio-cultural readiness to embrace a new paradigm. Speech can be used both to facilitate and block communication (Guile, 2005, p. 133).

The first Triangle (Triangle 1 – see Fig 1, page 100) involves the Meta-Activity, which is the CPD opportunity for teachers to learn about new strategies for the classroom (the Object Activity). The Tool (T1) can be seen as the pedagogy and strategies presented in the CPD opportunity. The Stimulus (S1) is represented by the discussion within the social grouping as learning is mediated by speech. The Response (R1) is manifested by the teacher after the CPD opportunity has ended and is the indicator of the teacher’s level of internalization after the mediated component of the CPD has ended. The process of internalization, when it occurs, would begin in S1, but manifest in teachers’ self directed activities after CPD has ended (R1).

The Object-Activity Triangle (Triangle 2) of successful CPD can only occur after successful internalization for teachers has occurred during the Meta-Activity. In that case, the teacher and his/her strategies become the new tools to stimulate change in the classroom (T2). Successful Thinking Skills mediates change through cognitive dissonance and speech within the new social grouping, which is now the classroom (S2). If such speech and dialogue is allowed to happen and is extended by the mediator,

the teacher, significant learning should occur, leading to the process of internalisation to happen, in turn, for pupils (R2).

Fig 1: Diagram to show link between Meta-Activity Framework and Vygotsky's Triangle of Mediation:



This diagram illustrates the Meta/Object-Activity Framework involving the double-triangle based on Vygotsky's Triangle of Mediation. The triangles are integrally linked at these two points: from 'Response' in Triangle 1 (T1) to 'Tool' in Triangle 2 (T2). The Meta-Activity is initiated by CPD (whether external or instigated by colleagues) and is made up of Tool, Stimulus and Response. The Tool is presented by the initiator of the CPD and could be very concrete, such as a specific Thinking Skills Strategy like 'Odd-One-Out' or a more general pedagogic framework such as Assessment for Learning. The Stimulus is the discussion that takes place as stimulated by the tool, or the engagement with the activity offered by the CPD, within the context of the mediated CPD opportunity. The Response is what an individual teacher does after the CPD session has ended.

The link between Response (T1) and Tool (T2) is critical in the process of transferring ideas, techniques and skills from the CPD opportunity into the classroom. Once the CPD opportunity has ended, the Response (T1) is that part of the Meta-Activity that teachers can carry out individually when considering their upcoming lessons. Thus it is the process whereby Response to the CPD is subsequently and continuously transferred into the classroom via Tool (T2) that ultimately determines whether CPD is successful. Tool (T2) then initiates the next cycle of the mediation triangle of Object-Activity, beginning with the Classroom Activity which stimulates cognitive dissonance and discussion (Stimulus), leading to the Response, the ultimate aim of Thinking Skills: to engender critical thinking, self motivated learning and fun in the classroom.

This model offers a simple framework for understanding the processes of teachers' engagement with CPD, but also allows for a broad consideration of factors known to be crucial in effective CPD. Adey's (2006) suggested framework for introducing CASE and maintaining its presence in school includes ideas for how CPD should be presented initially ('The Nature of the Innovation' and 'Quality of the PD Programme') as well as the context necessary in school for the pedagogy to be maintained (Department Collegiality and Unity of Vision in Senior Management). Reeves and Forde (2004) emphasise the role of individual and collective perspectives and priorities. In Triangle 1, Adey's (2006) emphasis on the quality of the CPD content, methods of delivery and relevance to teachers would be seen affecting the link between Tool (T1) and Stimulus (S1) in Triangle One. Poor choice of CPD focus or bad presentation would limit opportunities for subsequent discussion. The priorities and perspective of the individual

teacher are likely to be most strongly identified in their degree of engagement in the initial CPD opportunity and the resulting discussion (S1). The link between Response (T1) and Tool (T2), however, may be more affected by the collective priorities and perspectives of the whole school, as expressed by the time, space and support teachers are offered in which to embed CPD learning into their classrooms via their lesson planning.

5.2.3 Vygotsky and the notion of double

Although the concept of the double activity implicit in CPD emerged from the data, the notion of the double is also implicit in Vygotsky's thinking.

'Vygotsky distinguished such specifically human aspects of individual experience as its historicity (indebtedness to the experience of previous generations), its social character (shared experiences of others), and its "double nature", by which Vygotsky meant the existence of mental images and schema prior to actual action'.

(Daniels, 2000, p. 100)

This 'double nature' is implicit to action. Formalising the sense of the double in terms of arriving at a framework to understand CPD links this to a more basic understanding of all human endeavour. Vygotsky's focus was on a '*unified theory of behaviour and mind*' (p. 101) not teacher CPD, but the principles are the same in that '*some other layer of reality should be referred to in a course of explanation*' such that '*activity emerged as an explanatory principle.*'

5.2.4 Activity Theory as Analytic Device:

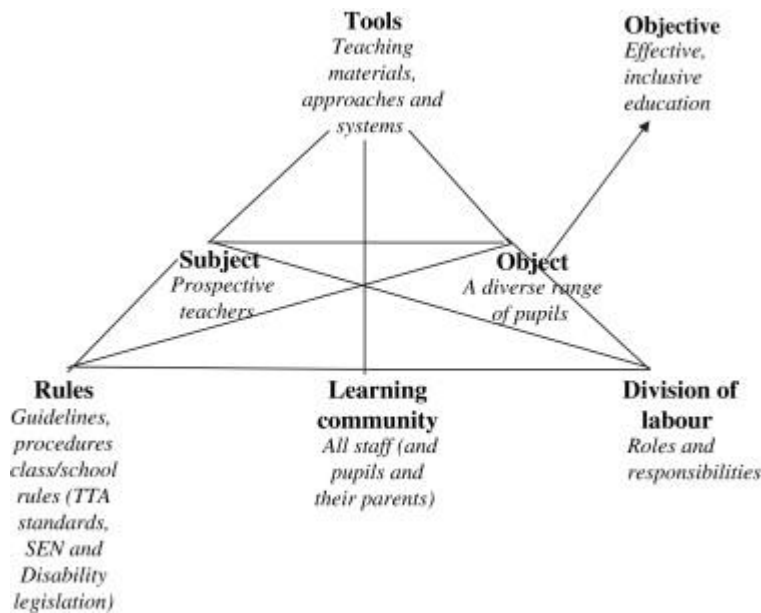
Activity Theory has been used as an analytic device in a diverse range of contexts including education for inclusion, the chemistry curriculum and special education (Daniels and Cole, 2002; Pearson, 2009; Van Aalsvoort, 2004). Activity theory as research tool is supportive of case studies with complex social dynamics:

'A range of complex interacting factors have been identified that influence prospective teachers, for example, educational policies and guidance at school, local and national levels, teachers', schools' and societies' beliefs about diversity, and approaches to the preparation of teachers. ... Any analytical tool must have the capacity to represent these various strands in a way that can accommodate quite different perspectives... Activity theory

... has been used to examine complex social networks and has been applied to education in general...
 Activity theory is a tool for analysing the operations of social structures both at points in time and over time'. (Pearson, 2009, p. 563)

Pearson's model is a six part interrelated framework designed to capture the influences on teachers' attitudes when engaged in implementing school and national guidelines on inclusion within the classroom. This model, despite Pearson's claim that it analyses social structures over time, actually seems to concentrate on a snapshot of a context at a specific point in time:

Fig 2: Pearson's Activity Theory Framework (p. 563)



The Meta-Activity model proposed in this thesis, however, is designed to frame a process over time in keeping with a teacher's response to professional development opportunities over time. To effect this, Vygotsky's triangle of mediation has been used, rather than Engestrom's framework. Although simpler, those aspects which are included in Engestrom's framework and not in Vygotsky's triangle (rules, learning community, division of labour) are instead presented as factors affecting CPD opportunities as described by the Social Dynamic Framework (Chapters Two and Three).

Daniels and Cole (2002) use Activity Theory as a lens through which to examine an overview of provision for EBD (Emotional/Behavioural Disorder) students, rather than to analyse the specifics of a case study. They assert that Engestrom:

‘...acknowledges the methodological difficulty of capturing evidence about community, rules and division of labour within the activity system. Engestrom (1991) sees joint activity or practice as the unit of analysis for activity theory, not individual activity.’ (Daniels and Cole, 2002, p. 314)

Teacher Professional Development is complex in this respect as it involves joint activity with other teachers and facilitators of CPD, isolated activity as the teacher works alone on lesson preparation, then a return to joint activity as the strategy is implemented in the classroom. This supports the use of the simpler framework, because in order to shed light on a variety of social and individual activities, the analytic framework needs to be both simple and flexible. The framework still needs to be able to embrace the complexities of change within the school system:

‘Interest lies in the processes of transformation and the inclusion of the structure of the social world in analysis, crucially, taking into account the conflictual nature of social practice. Instability (internal tensions) and contradiction are seen as the motive force of change and development and the transitions and reorganizations within and between activity systems are construed as part of evolution.’ (ibid)

This produces an interesting parallel between changes in thought brought about through Thinking Skills and changes in thought brought about through CPD, that it can be the conflict and contradiction, or cognitive dissonance, which sets up an unease that proves to be the precursor to a paradigm shift. Activity theory also highlights the role of Tool or Artefact in the change process:

*‘The cultural, historical legacy of the **production** of tools/artefacts through practical activity in turn leads to the transformation of practice through the subsequent use of those tools.’ (ibid)*

This is a critical component of both effective CPD and the Object-Activity component of the framework which follows. In CPD, the tools are offered to teachers as part of the training process, but it is teachers’ subsequent use and modification of these tools which will determine the extent to which the CPD has become embedded in classroom practice and therefore the extent to which changes in pedagogy will occur.

Activity as Unit of Analysis

Using action as a unit of analysis links neatly into our understanding of how people effect change within their social context:

'A fundamental assumption of a sociocultural approach to mind is that what is to be described and explained is human action. Furthermore, the units of analysis that will guide my line of reasoning will be grounded in action. ... When action has been given analytic priority, human beings are viewed as coming into contact with, and creating, their surroundings as well as themselves through the actions in which they engage. Thus action, rather than human beings or the environment considered in isolation, provides the entry point into the analysis. This contrasts on the one hand with approaches that treat the individual primarily as a passive recipient of information from the environment, and on the other with approaches that focus on the individual and treat the environment as secondary, serving merely as a device to trigger certain developmental processes.'
(Wertsch, 1993, p. 8)

Importantly, with this understanding, despite the huge complexity of social interaction which affects and is affected by any action taking place in the school environment, this establishes a specific analytic focus or lens through which this intricate subject may be studied.

5.2.5 Use of data:

Role of the individual when considering socially mediated change:

Central to Activity Theory is the notion of the individual embedded within the group. Some researchers have focused on the individual teacher's trajectory of change almost in isolation (Franke *et al*, 1998), but this downplays the integral link between teachers and their context. The data here will be used initially to establish a portrait of each of the five teachers during one-to-one CPD (Chapter Six). In this context, the Meta-Activity is occurring in a group of two, set within the overall school context. In Chapter Seven, the discussions obtained during the group CPD sessions provide a window of dialogue in which teacher engagement or non-engagement with the CPD Meta-Activity as part of a wider group can be examined.

The content of teachers' talk will be coded as follows:

Table 5: Coding features of teacher talk

Meta Activity:	Features of teacher talk
Tool	Pick-up of presented idea
Stimulus	Engagement within CPD opportunity, as indicated by adding of personal perspective, eg questioning to achieve greater understanding; attempt to place concept into a known context; offering of examples to confirm understanding etc
Response	Indicator of actual or intended engagement in own time, continued outside of designated CPD time
Object Activity:	
Tool	Examples of strategies used in class
Stimulus	Descriptions of pupils' response in class and teacher's ability to extend Cognitive Dissonance to facilitate learning
Response	Descriptions of overall impact on pupils and effect on critical thinking and self-motivated learning

5.2.6 Key Recordings

The recordings were listened to and numbered according to a very basic type: group CPD, individual one-to-one CPD, pilot interviews, exit interviews and professional dialogues with senior management. Five teachers were selected out of a total of 24 teachers who had some involvement in CPD offered by myself over the 18 month period and/or had at least one recording made. These five teachers were chosen because they had remained involved throughout the entire research period and also had been involved in both group and individual CPD, from which recordings were obtained.

The recordings are as follows:

Table 6: Grid of recordings

	Small AfL Gp	Year Gp	1:1 CPD	Pilot Interview	Exit Interview	Total Recordings
Abi	2	1	1	1	1	6
John	3	1	2	1	1	8
Susan	3	0	7	1	1	12
Liz	2	0	1	1	1	5
Hannah	2	0	1	1	0	4

The total number of recordings is 24. Other recordings will be used to frame and contrast with the patterns emerging from this core grid, such as a recording of another small AFL group which contained entirely teachers from another section of the school,

with no previous work done with the researcher. Previously (Chapter Four), three other recordings were used to provide an illustration of the school context in general.

CHAPTER SIX

TEACHERS' POSITION WITHIN THE META-ACTIVITY FRAMEWORK

- 6.1 The ambiguous teacher
- 6.2 The experienced teacher
- 6.3 The curriculum-dominated teacher
- 6.4 The methodical teacher
- 6.5 The 'Thinking Skills' teacher
- 6.6 Conclusion

This chapter considers the first year of each of the five key teachers, viewing their response to individual one-to-one CPD. Using evidence from the Field Diary, Pilot Project interviews, individual CPD recordings and, where available, classroom observation, teachers' own notes, unsolicited comments/e-mails and examples of lesson plans or sample work undertaken in lessons, teachers' movement within the Meta-Activity Framework will be recorded.

The purpose of this Chapter is threefold:

- To illustrate how the Meta-Activity Framework maps onto teachers' utilisation of CPD opportunities, using the one-to-one work carried out before the Assessment for Learning project.
- To develop an understanding of the unique role of each of the five teachers and how this impacts on their perspectives in the context of CPD.
- To establish a prior context as a backdrop to teachers' subsequent levels of Activity Engagement in group-based CPD such that possible interpretations can be discussed.

Each teacher has been given a nominal adjectival descriptor. This descriptor is not intended to imply that the teacher is one-dimensional nor that there is only one response to the wide range of circumstances in which he or she finds him/herself. The descriptor is intended to highlight a dominant characteristic or teaching style which presented itself during our work together and to emphasise a characteristic which could be found in other teachers. The five descriptors are not intended to be a full repertoire of teacher styles or personalities and therefore cannot be taken as a complete set of possible teacher identities.

6.1 The ambiguous teacher:

When Hannah began to participate in the research, her early position seemed to indicate a reluctance to embrace new teaching strategies, but a willingness to hear about them (T1). Like other teachers asking at first for lesson observations only (Samuel, Penelope and Roger, all of whom taught in the Upper School, like Hannah), there was a readiness to demonstrate teaching, but perhaps less commitment to changing their teaching style or adding new skills. The first Field Diary entry, documenting the lesson observation (14 Oct 2005) gives illustrative examples of a committed teacher using standard teaching methods:

'Lesson observation – Year 7 Maths (middle set, but very diverse, nearly 25 % mild SEN) Subjective observation and notes:

- a) Focused during high stakes/high speed mental maths test*
- b) Hannah clearly has a caring relationship with pupils – gave strategy for not giving out test score if pupils were unwilling'*

She takes a traditional front-of-class position, aware of children's mathematical processes but not using dialogue or student reflection as a teaching method:

'c) Asking how something was done, but not spending long on answer (peripheral rather than key)

d) Loss of (pupil) focus during teacher talk

e) Individual worksheets prompted group/pair discussions which was allowed by teacher, but not specifically structured. Post lesson feedback show Hannah is willing to extend this.

f) 1hr into lesson, Gp three and four very off focus (pencils in ear, distracting group 2)'

In our first one-to-one meeting to introduce some Thinking Skills strategies, Hannah shows awareness of some key components of a Thinking Skills lesson, but does not use our time together to discuss specific pedagogy nor develop resources or ideas for use in an upcoming lesson (19 Oct 2005).

'Met with Hannah. Feeling stressed, so used time for her to vent. Agreed to start on a lesson plan involving applied algebra with a view to greater group dialogue and more

constructive learning. Specifically mentioned wanting to increase group work, peer dialogue and investigative approaches, but lacked time and resources to be innovative.'

To counteract Hannah's difficulties with time, for the next meeting, I developed a lesson plan for her and presented it for discussion (Nov 2 2005).

'...discussed draft lesson plan (attached). LA enthusiastic and involved, adding several strategies of her own (scales for intuitively leading ideas into subtraction from both sides of an equation: $x + 5 = 9$, and stars and dots as algebra introductions.) Said she enjoyed our meetings as it showed her that she had more strategies than she realised...our conversation then branched off into Maths in general, finding a proof and working out a challenging algebra/geometry 13+ question.'

This is described in the diary as a positive encounter, but on reflection, there is still some ambiguity about new ideas, instead returning to existing strategies and techniques and tending to become engaged in the content matter of her subject area rather than the pedagogy. Hannah, however, tried the investigative lesson plan and wrote a detailed account of that lesson. She felt that the lesson went badly:

'I did not enjoy feeling out of control of the group discussions. I felt that a lot of the lesson was messy and although I had structured it very carefully, we didn't reach the conclusions I was aiming for.'

I used to be a lot more comfortable being out of control, but now I struggle not to get worried about the consequences of an unfocused lesson – mucking about, yelling out, children losing it, getting behind (with) the syllabus, confusing the children, giving other teachers the impression I have discipline issues.'

Yet there were examples of fruitful discussion which occurred:

'...much time was spent on debating whether $2x$ was the same as x^2 , despite us having covered that concept the lesson before – clearly they are not secure on the meaning of $2x$.'

'The second activity worked well, with a couple of excellent comments about doing the sum backwards or doing the opposite. Most pairs found the answer to the mystery

number – about half used the standard backwards and opposite way, but the other half were strongly in favour of trial and error.’

Hannah clearly went to a great deal of trouble, taking my initial idea and creating A3 sheets, trying it out and writing detailed notes. The outcome, however, did not meet her needs or expectations as a teacher, even though it was arguably a good basis for helping children to explore mathematical thinking. She is quite explicit about some of those needs, such as adhering to a syllabus structure and maintaining order. Yet the ambiguity arises because she is aware of the benefits of investigative learning and acknowledges the compromises she feels forced to make. Particularly interesting is the comment about confusing the children. This indicates the overall teacher adherence to a transmission model of pedagogy. A Thinking Skills pedagogy embraces confusion as an aspect of Cognitive Dissonance, but the ability to enable significant learning to take place (S2) is contingent upon teacher confidence, knowledge, priorities, as well as control over curriculum content and pace. In an environment structured for transmission of a full and tightly structured curriculum, such facilitation is extremely difficult. It is this constraint that imposes ambiguity. Taken from the Field Diary note made after the pilot study interview (Nov 30th) is the compounding realisation that, because the ambiguity already exists between preferred practice and actual practice, more CPD may not help:

‘First interview – Hannah. Started off with the problems of collaborative learning, ended with the importance of individual thought and less restrictive planning.... Made fascinating point – that CPD can just add on guilt as it shows up more things a teacher feels she ‘ought to be doing’; already there is plenty that a teacher knows could be done better – CPD just adds to it!’

Extracts from the interview support this perspective:

‘As my involvement with the Department has increased, the space to do more free things has gotten less and less and less.’

She recounts a previous experience of covering maternity leave with a very weak class (mentioned previously in Chapter Three in discussion of the importance of role within the Social Dynamic model).

'threw half the syllabus out of the window. ... that was fabulous, but I was fairly conscious when I left that Now what happens? You can't do that for a whole year, you can't get away with it. And it is very interesting because as a Head of Department, I would never do that. We've got to fit the syllabus in; it isn't fair to ask the children to sit an exam, a Common Entrance exam that isn't determined by me, when they haven't been given all of the material. If we were sorting out our own assessments it would be a different story.'

This is an eloquent glimpse of one of the difficult choices a teacher may be forced to make: to cover the complete examinable syllabus at the expense of full understanding in some pupils, or to ensure rich learning at the expense of covering some topics or parts thereof. The reducing of the syllabus itself in order to deepen pedagogy may not be a classic example of Thinking Skills, but it is a necessary pre-requisite. The theme is echoed elsewhere (Year 4 Topic Meeting, Liz in Science, Susan in her role as Form Teacher, Year 5 planning meetings) and is explicitly acknowledged by the Headmaster (main transcript Chapter Four):

'Instinctively, we feel, we would like to give teachers the confidence, not to have to cover everything. We would like to say to them 'You do not have to cover everything. We would rather you cover 60% of the syllabus with 100% understanding than 100% of the syllabus with 60% understanding', which is fantastic and sounds very altruistic and all rather wonderful. I will then turn round, once parents have selected a school and I will say to teachers 'You had better jolly well make sure you get them into ... and you had better cover the ground and get them in'. So I am very conscious myself of giving a double message...'

Teachers in the Upper School are particularly vulnerable to this type of dilemma. For Hannah, despite what appeared to be a genuine, if transient, interest in Thinking Skills, during our one-to-one CPD she remained predominately focused on T1 (Tool), but tended to view it as an extension of her existing pedagogical stance rather than becoming stimulated by it into having deeper discussions about teaching style and perspective (S1). Consequently, her attempts to move towards R1 and T2 (implementing strategies which she had modified into her lessons) did not enjoy lasting success (see examples above and below). Yet there were glimpses of possibilities of a paradigm shift, which suggests that if Hannah had been in a different environment, with

less of an emphasis on competing Activity Sets, she may have been able to embrace a more investigative pedagogy.

22 Feb 2006

Fascinating and long talk with Hannah about an investigative geometry lesson. I gave her quite a lot of 'thinking' resources, which were not what she had used. Also a book which compared Japanese, German and US lessons (so again, quite concrete) However, the resources perhaps inspired a very investigative lesson in a way that my previous discussions and texts had not.... We discussed the role of investigations as an important 'hook' on which children base their learning, rather than just giving them the procedures or formulae.

Hannah seemed much more committed to investigations than previously ... Talked MUCH more about the processes of learning; in fact it seemed to be quite different from previously. Eg – open question with children – Is a circle a polygon? (Discussion then followed of infinite sides.) Also discussed when direct teaching is essential ie with mathematical conventions and symbolism.

This extract conveys a sense of movement for Hannah and provides evidence of some changing practice. It seems as if the provision of some resources (T1), even when not used, helped her to consider the role of Thinking Skills and accord it greater weight in the classroom (T2 and S2). There is a change in Hannah's language, with a greater focus on the children's processes of learning compared to previously when the content of the syllabus took precedence. At this point in the CPD process, Hannah's level of engagement with the CPD process could be considered to be at its highest during the research period. Yet this level of engagement did not persist. In Field Diary notes (May 5 2006) made as part of a table to summarise the project, the following comment was made:

'Have a sense that I have not really met Hannah's needs – meetings tailed off over last 8 weeks – therefore cannot predict whether she wants to continue or refine focus next term. Will try to discover what has undermined my role here'.

As the level of engagement could not be sustained without active input from myself, it seemed as if the embedded priorities of the school made it difficult for Hannah to develop her professional practice within her current context. By the time Hannah joined

the Assessment for Learning school initiative, it is possible that she was well aware that the possibilities for further professional growth was limited. Her willingness to engage in discussion of pedagogy during the initial one-to-one CPD was undisputed, but this was very different from her reaction to CPD in the mandatory Assessment for Learning groups (Chapter Seven). For the reasons outlined above, she was unable to commit to creating changes in her teaching practice despite some desire to do so.

6.2 The experienced teacher:

Abi, a Form Tutor in Year 4, engaged early on with the research process. The pilot project offered teachers three choices of CPD focus: behavioural, Thinking Skills and reflective. Abi started off with an interest in Thinking Skills and from the first meeting wanted specific help in developing lesson plans and resources with a view to using Thinking Skills strategies in her lessons (Field Diary 20 Sept 2006):

'Abi: Discussed improvements to a lesson plan for Topic. Suggested Memory Game for processing information presented as a plan of a Celtic Village. Prepared large Venn Diagram comparing modern daily life and Celtic daily life, using key words and phrases eg hunting, horseriding, cooking, making a fire, making friends, pottery etc. Considered using more 'higher order' thinking in a diary-writing task by writing about a good or bad day and using historical facts to convey polarities.

Discussed criteria to measure effectiveness:

- *Subjective response of teacher (recorded in reflective journal)*
- *Asking children if they would recommend activity for other children (Abi's suggestion)*
- *Observe 'on task' behaviour of whole class.'*

From the outset, Abi showed engagement with the CPD process (T1 and S1) with a clear intention to experiment with strategies in the classroom (T2). From the first meeting, she is contributing ideas, such as asking for feedback on her teaching techniques from her pupils. Abi described this method as being more revealing than simply asking if children had enjoyed a lesson, because children would tend to be polite to their teacher in response to a direct question, but more discursive if asked whether they would recommend the activity for future classes. In addition to obtaining feedback, this type of question utilises critical thinking, not in respect of the content of the lesson,

but in consideration of the pedagogy. The implication here is that Abi already has some affinity for the concept of a Community of Enquiry, since she has engaged her pupils as a critical partner in the ongoing teaching and learning interactive process.

Evidence of Abi's use of the Thinking Skills strategies in her lessons arises from spontaneous comments and e-mails recording the results of efforts (Field Diary 22nd Sept).

'Abi – spontaneous feedback, said class enjoyed lesson plan and would recommend it for future groups. She has started her journal.'

Extracts from Abi's journal:

'Celtic/Modern Venn Diagram: 'A' pointed out that in third world countries today many daily activities are still the same. Pupils debated over 'wearing animal skins' because of the distinction between refined leather v home cured products. Most pupils (except weaker group) preferred to copy headings rather than stick pre-typed ones; interesting and unexpected. (They said they wanted it to be 'their' work).'

Subsequent lesson, using the diary format:

'A fair amount of historical knowledge used. This is quite unfamiliar for them (combining imagination and factual content...)'

After completing Roman project:

'Pupils completed a self-assessment on their feedback sheet. One normally self-effacing boy wrote 'I am very Proud'. A great boost for his confidence.'

There are some clear examples of fruitful discussion occurring in the classroom (S2). One child pointed out that the Venn Diagram could refer, not just to historical and modern comparisons, but also between two contemporary lifestyles in different parts of the world. Similarly, the debate between modern leather and rough-cured animal skins is an example of cognitive dissonance which arises spontaneously from a Thinking Skills activity without being specifically planned or anticipated by the teacher. The

journal conveys a sense of surprise as the children exceed Abi's expectations, both academic and motivational.

There is much less ambiguity presented by Abi compared to Hannah. This is partly due to the difference in expectation between the Middle School (Years 3-5) and the Upper School (Years 6-8), with a reduction in exam pressure and parental pressure regarding ongoing Secondary School placement. Upper School teachers typically find professional development harder to embed than Middle or Lower School teachers (Baumfield and Oberski, 1998). It is likely that personality and individual priorities are also a factor, particularly as time constraints and a busy curriculum are still a factor in the Middle School (Field Diary 18 Oct 2005):

'Abi felt that it was a 'race' each week to get through the curriculum content. Did not want to use a post-it note technique, due to time constraints (and felt bad about saying 'No', apologising twice, but I think it is good (actually, essential!) that she is willing to incorporate her own opinions.'

Abi responds to the pressures of time and curriculum by modifying the strategies offered by the CPD to fit the requirements of her lesson. As is noted at the time, this is an essential component for a teacher to move from S1, a willingness to discuss the strategies in theory, to R1 which is considering how they might be implemented within the practical confines of the classroom (Field Diary 16 May 2006).

Talking informally to Abi about busy-ness of term. Strikes me that default position is content based not concept based, ie if pressured, teachers feel they have 'achieved it' if content is covered. Personally, I feel that the concepts are more important though.

Abi continued, throughout the small group work for Year 4 Topic and the Assessment for Learning (AFL) CPD, to integrate ideas into the classroom and modify them according to need (Field Diary 20th September 2006):

'Met with Abi to discuss what she will implement for AFL. Wants to try 'traffic light system' in Maths to assess understanding, but worried about children being judged so we decided on an anonymous voting system. Emphasised importance of listening to children's concepts (lent CGI Fennema et al). Also looked at strategies for open questioning (document I am working on to support AFL working group). Felt that

diamond nine was too restrictive a shape and would prefer a 'flexi-width' ladder as less prescriptive.'

Evidence suggests that Abi maintained her position on the Meta-Activity framework at R1/T2, confidently modifying Thinking Skills strategies and using them regularly in her lessons. These strategies then stimulated her pupils into critical thinking discussions (S2) where curriculum and time allowed. In her exit interview (briefly mentioned in Chapter Five to indicate the role of Activity in successful implementation of CPD), Abi illustrated the potentially cyclical nature of the Meta-Activity framework because, in addition to using CPD strategies from previous opportunities, she had integrated new ideas from other CPD which had occurred since the research period ended, and was interested in passing those new resources and ideas on to me. In doing so, her description of these resources indicates an embedded knowledge of key concepts for a Thinking Skills pedagogy, including investigation and socially constructed learning:

The new numeracy that's coming in has a lot more thinking skills...I'm getting to grips with the top set which is nice; a lot more problem solving. ... It's changed a huge amount. ... Have you seen the interactive whiteboard stuff ... only it's got problem solving stuff in it that is really quite good. Cambridge Hitachi.... Mult-e-maths' (shows researcher an ICT programme on laptop) Here they discuss strategy ... so here they do their working out and then they compare it to the working out that's here ... here's a problem solving one, they have to be systematic.....work out a system.....then talk about a pattern ... record your solution so others can understand it ... they can see their working out as they are going ... really very nice indeed.'

Abi's confidence in using Thinking Skills strategies in her classroom affects not only her own engagement in the subsequent AFL groups, but also the role she plays in respect of encouraging other teachers. This is explored further in Chapter Seven.

6.3 The curriculum-dominated teacher:

Liz is a Science teacher, responsible for the 13 plus Science component of the Common Entrance paper. The curriculum for this is very full, both in quantity of topics to be covered and in the depth of knowledge required for each topic. The sheer volume of her curriculum is a significant factor in her ability to engage in CPD, partly because of a

lack of time to experiment in the classroom, but also partly because it seems to have consolidated her understanding of her role as primarily transmitting scientific knowledge. This has been observed in other Science teachers (Barak and Shakhman, 2008). At the beginning, Liz was willing to allow me time to talk about Thinking Skills strategies (T1), but this rarely developed into a dialogue about the specific strategies themselves or their pedagogic emphasis (S1):

Annotated Field Diary Notes:

27 Sept 2005

(Meeting) very brief, lent 'teacher's toolbox'. Discussed odd-one-out as a starter.

3 Oct *Wanted to talk in depth about plans. Felt she had started off badly (bogged down in content) and was already behind on what she wanted to teach. Had tried 'odd-one-out' as a plenary and felt she got interesting answers from 'unusual corners of the room'.*

Ideas – more refined odd-one-out as a starter. Looked at a sheet with pictures and descriptions of balanced forces – suggested that this was chopped up so that children could match them up in pairs.

Initially, our work together looked promising. Liz stopped me in the corridor between these two meetings to say that she had been on an external CPD course which had really echoed *'the stuff (we had) been talking about'* and that she would like to have more meetings with me. Reinvigorated by the overlapping effect of different types and sources of CPD, she then included some of these ideas into formal documentation required by the school:

25 Oct *Liz and Penny have added methods to their revision notes in line with a study skills programme running in school at the moment, which has some links with Thinking skills and collaborative learning. We may be beginning to see a cumulative effect of two or more sources of a paradigm shift.*

However, when Liz tried to implement some of these ideas into her classes (T2), she found the results unsatisfactory:

5 Dec *Yet for some teachers, a 'fizzy' class inhibits them from trying new stuff. Saw Liz today – said that many (most) Thinking Approaches get people too excited and waste time. Easiest to be directive if children are looking for opportunities to waste time/score points/create diversions.*

This Field Diary entry indicates significant problems for Liz when attempting to implement Thinking Skills strategies. The implication here is that strategies that promote peer dialogue are so different from the normal pattern of classroom events that classroom management becomes difficult. My role as researcher made it difficult to resolve this difficulty in the longer term as my stated focus was to provide resources and strategies and observe whether or not they worked. In an e-mail to my supervisor, dated 20th Jan 2006, I discuss trying to accommodate the needs of Liz by finding more resources. I am aware of, and also to some extent colluding with, Liz's perception of curriculum pace and difficult pupils as the dominant obstacles to implementation of CPD, rather than issues of classroom management:

Physics - we are going to re-plan the lessons for the summer term together, so we can avoid the sense of 'chasing our tails' lesson by lesson.

Anyway – spent over two hours looking for science resources – many great ideas (ASE), but too large (projects) or too simple (NASEN). CASE sounds good, but is a whole paradigm shift and expensive. Downloadable lesson plans are not very thinking skill based, though www.apples4teacher.com has some fun downloadable general purpose ideas. Lesson planet has very conventional lessons, but a better selection if you pay for membership. Gary Oltwitt's software (10 quid) is more for year 4 and below. Crying out for an integrated set of lesson plans.

At this stage of my research, I was focused on the need for adequate Tools (T2) to enable a busy teacher to integrate Thinking Skills strategies more effortlessly into lessons. It seems now as if that line of reasoning was actually too simplistic:

10 Feb *Met with Liz to share the research I have done, but it was clearly not a priority for her. Is once a fortnight not enough? Does it lose momentum? She quite liked the 'concept cartoons' and an ICT for Science Paper, but I felt quite flat given the work I*

had done. Somehow, it is as if a thinking approach is not seen as essential. Or is it just easy for me to talk, outside of a classroom?

These notes illustrate points in the research process where it becomes clear that the issues affecting teacher engagement with Thinking Skills CPD opportunities are considerably more complex than insufficiently tailored lesson plans and resources. The depth of the difficulty in engaging in CPD was specifically acknowledged by Liz during our sessions.

March 2006

R: I know you were interested in what we were doing and I know you were quite comfortable with the theory behind it, but it seemed as if you were then hijacked by the quantity of stuff you then had to do.

Liz: I am driven by what it is we have to teach. Even doing AFL is impossible because there is no time to incorporate my ongoing assessments into the next lesson. ...

Liz: The work we did on springs ..did not have the desired effect in the exam.'

R: Are we saying that if there is a huge amount of content, you are better off explaining it from the front, rather than doing activities in a rushed way?

Liz: We can be more selective, but if there are questions on it in the exam.... Difficult one

When I try to talk about strategies, Liz is drawn back to the curriculum content, in particular to focus on the order in which she introduces topics, rather than on the manner in which she teaches it:

Liz: So I will swap Pressure for Speed... put different questions in exam, then follow that with Springs... Where I am more likely to use the stuff you and I have been doing is maybe in Years 5 and 6 where it is less content driven.

Liz, unlike Hannah who seemed to have more inner ambiguity about the role of critical thinking within her subject area, appears to understand its merits but feels utterly compromised about the space available for it in her classroom:

Liz: Something like CASE ... 12 lessons worth of stuff. It was good, the children quite enjoyed it. It is all hands on and saying 'what's going to happen if'. But I can't see where in our curriculum we'd fit it in. There really isn't a single bit of time where it would help, possibly with the exception of post Common EntranceCASE is something I would quite like to look into but I can't see where we'd fit it in.

Liz: What you and I have been working on ... Yr 7 was not the right year to be focusing on it ... 'cos I have had to rush it to get it all done and taught by the exams, it's been quite didactic, quite 'stand at the front and me demonstrating. 'What we have discovered so far are the problems that exist; that we teach too much content in too short a time and that is not going to change until they change the science syllabus to be in line with the National Curriculum.

In a subsequent meeting, (March 2006) aimed at working with Liz on specific lesson plans in a Year Group chosen by her, my attempts to support her in developing specific classroom strategies (T2) are deflected. This leads to a subtle, but observable degree of conflict between myself and the teacher:

R: Would it then be helpful, because you plan your Year 6 lessons at least 2 weeks in advance...

Liz: (interrupts) Oh, Lord, it's a bit difficult to really say, I mean I don't do much planning...

R: It doesn't really matter, we can work with it either way, but what I'm saying is why don't I come in, look at your plans, we'll pore over the resources that I've got and we'll see what we want to do, how we want to change the lesson plans...

Liz: (interrupts) What we have with the Year 6s is we break the term into sort of threes [] so next term, historically for Chemistry it's Materials, compared to this term where we look at Habitats and Environments and Permutations and do a project [mentions 4 topics] and we also go to [field trip] so we've got, we sort of know where we are going with that, so the Physics, well that is an Energy topic, so I start with an introduction to Energy which I started with Year 6 ... I had forgotten I had done that actually, so it will be interesting to see if their comprehension is any better than previous years. For the Year 7s next term (Talks about fitting electromagnetism in and lessons disrupted by exams) and it was interesting because I said to the 8s, 'You're not very good at Energy' and they said, 'Yeah, we did it in the Summer Term...' So, um...

what shall we do? Shall I leave Energy till later, but that just makes the Year 8 syllabus really chunky...

Liz is immediately drawn into the specifics of the curriculum content, in particular the order in which it is covered and the timing in respect of the term and school year. This seems to indicate her perspective that the pedagogy itself is not the most crucial aspect in achieving effective learning, focusing rather on the sequence and context of curriculum presentation. Like Hannah, Liz has a tendency to return to the specific curriculum content rather than consider alternatives to her teaching style. The impact of the school priorities on Liz's own perspectives is quite striking.

R: So how about we have a look and see what these resources have to offer in terms of Energy []? Let's see what they offer us, so rather than starting with what you have to do, let's see if we can get inspired by what they've got and then put it into the curriculum. So why don't I meet with you on the first Friday back and ...

Liz: Mmmm... I think I've got a first aid course ...

R: Or then the Friday of the first full week...?

Liz: Can I let you know... because I can't remember, I don't even know if we come back on a Tuesday or a Wednesday...

R: I've got a feeling we're back for just one day before the children arrive...

Liz: Yes, I think so, and that's the day I've got First Aid, which is a complete disaster because my Thursday and Friday aren't too bad, but it's not great because that's when I normally do stuff with L and M when we sit down and talk about the (Year) 6s.

Liz is reluctant to commit to a time when it is possible to meet. It is difficult to distinguish the reason behind this, whether the problem is lack of available opportunities to meet, whether there is a subtle unwillingness to proceed with the Thinking Skills CPD or whether the sheer volume of curriculum content means that the teacher already knows that any attempts to alter practice are unlikely to succeed. At this stage of the research, when considering Liz's response to one-to-one CPD opportunities, she seemed to be willing initially to be part of CPD opportunities, attempting some strategies in the early part of the research. These, however, did not seem to produce the results that Liz would have liked. This may have had an impact on our plans to work together with the other teachers in the Science Department.

Despite the following hopeful plans to work with the full Science Department as a group, there is an air of aspiration which is taking the place of crucial pedagogical dialogue. Instead of talking about pedagogy or sharing strategies or resources and creating lesson plans (T1, S1 and T2) we appear to be stuck in the organizational stage of deciding what Year Group we will work on. It is as if the failure of previous attempts to integrate Thinking Skills was attributed to us picking the wrong Year Group, with too much to learn for their upcoming Common Entrance Exam, rather than on other factors:

May 5 2006 *Interesting meeting with 2 out of three of the science teachers – informal talk which is partially recorded. All three teachers will work with me next year, based on a Yr 5 classroom. This is good, partly because I know the Year Five curriculum quite well, but also because this may be an interesting insight into the research comparing upper/middle school teachers. These three teach both, but after over two terms of discussion and some unsuccessful attempts at starting an action research focus with Liz in Years 7 and 6, want to ‘risk’ new strategies with a middle school group, not an upper school one. Liz also ordered concept cartoons, with an emphasis on me helping to integrate this into the Year 5 lessons, so that teachers could learn about using them with a view to transferring knowledge into Upper School classes. Also agreed to let me record departmental discussions about how project is going next term, although mentioned that there is only one forty minute slot per week where they are all free at the same time, so the practicalities might be difficult.*

The Science Department was committed enough to mention this in their formal end of Academic Year 05-06 Report to the Senior Management:

We have been working with Amelia Roberts and will be continuing to do so next year. She ... is going to help us with our further development of Y5 → Y6 curriculum and making them accessible to all. She will be looking into ICT opportunities and differentiation of work. She has been working with Liz this year on Y7 Physics and has helped with ideas of how to start lessons and ensure that difficult ideas have been understood. It would be helpful to have time on next year’s timetable to meet with AR to discuss her findings and work on the schemes so that the work is up-to-date and current.

The optimism of this decision did not however permeate into productive group discussions (S1) the following term:

Oct 2 *Science Dept meeting. Brave the foulest of Monday morning commutes. One teacher off for cover, another grabbing coffee, third...? I had prepared: Blooms Taxonomy verbs to make it easier to use in class: Write (Knowledge), Explain (Comprehension), Solve (Application), Analyze (Analysis), Design (Synthesis), Recommend (Evaluation). Also starter and responding questions and a mystery starter for seed dispersal. Cover is clearly a problem (school priorities). [Good example here of how resources alone are not enough]*

The following week, despite there being another overlap between these sessions and the work being done as part of the school mandated Assessment for Learning CPD groups, the Science Department meeting continued to be unsuccessful at stimulating group dialogue:

Oct 9 *Plan for Science dept: How did starter go? Questioning? Blooms verbs? Look at concept cartoon for germination. Odd-one-out from AFL group – make new ones? Outcome: Two out of three teachers not interested. Rethink. I am not a well of endless resources.*

Liz and the science dept – she is keen, but I think there is ambivalence. Her 2 colleagues are not at all interested in my sessions. We have had 2. The first, Liz and Martha were there (Samantha taken for cover) and we discussed resources I had worked fairly hard on: A picture starter for seed dispersal (what do they all have in common), some science question starters incorporating Bloom's taxonomy and including ways of developing questions, Taxonomy verbs for OLI's and questions. I had some feedback from Liz yesterday in the AFL meeting (recorded), but not from Martha. When I arrived on Mon for the second meeting, Samantha and Martha did not stop their conversation, so I spoke alone to Liz. For Samantha and Martha, my status/perceived knowledge base/relevance to their needs is clearly not that high!

Interestingly, Samantha had told Liz that she did not want to use the starter, but she did not talk to me about it. Liz nearly didn't use it, but when she told me this we looked at it again and she eventually did.

These extracts paint a picture of CPD that was very difficult to engage in with either Liz or her staff. There may be many reasons for this, such as time constraints, but recordings of previous individual one-to-one CPD show that it is difficult to encourage Liz to discuss the pedagogy being offered in respect of Thinking Skills or to integrate it into lesson plans, either as part of a joint planning activity or when the resources were created by me in response to up-coming topics. This problem seemed to be reflected by other members of the Science Department. The following was recorded in October 2006, after an Assessment for Learning group meeting, concerning Samantha's response to the picture starter for seed dispersal (Appendix 8).

Liz: Samantha didn't like the pictures for that. She felt that, with that seed dispersal it's so... I should get her to give you the feedback, I don't know why I'm doing it, but she said that 'I've seen Amelia's e-mail and I wasn't very keen on the pictures as being representational of er ..

R: *Seed dispersal.*

Liz: And I didn't want the kids to think of it (like that).' And I could see what she was getting at and I could see what we were trying. You two would have been better having met, and she could have given her opinion and you given yours, and hopefully the two would have met, rather than ne'er the twain meet. As you know, she's not anti, anti it but she just sort of said, in certain respects that possibly that didn't need a starter (activity) as it were or whatever. What she sort of said was that because there were so many different things, and the explosion was quite a clear picture, but travelling on animals wasn't and I said that I wasn't sure these were meant to be representational or the actual methods themselves.

Liz is in a difficult position and her tone remains gentle and tactful throughout. She acknowledges that she can see both points of view, both in terms of the accuracy of fact that the Science teacher wishes to convey and in terms of the stimulation of thinking which I am trying to promote. Ironically, this portion of the dialogue engages Liz with the Meta-Activity prompted by the Tool (seed-dispersal starter) more convincingly than the group CPD we have just engaged in.

R: *They were meant to get people thinking about ...*

Liz: (interrupts, but still a very gentle tone) ...talking about plants, but rather like an odd one out, but there were several pictures and it's not odd one out but what have these got in common, so then we talked about it and she said the explosion's ok as a way of moving, on an animal is a way of moving, (but) the dove holding something she didn't like that because it doesn't show what it is..

R: I had a bit of a problem with that one...

Liz: On the water, moving, on the wind, moving, and then the going down the slope, skiing...

R: Gravity

Liz: That was a bit, er... like sliding and that was confusing, but then she came back on herself and said if they were methods of moving, then that was alright, but in the meantime had managed to put me in the thought that it wasn't going to start the lesson any better than saying, cos they've seen videos, it wasn't going to start any better by having these pictures and saying 'How does this help with plants?' It seems a bit off on a tangent when most of them have an idea anyway and all the way up to pollination, they kept going: 'Will they explode!' And I said we really want to make sure that they don't muddle up pollination and seed dispersal. ... And we both agreed that actually at the end of the day the transfer of either pollen or seeds is the same, if an animal helps or the wind helps. She and I ended up talking about it for ages and she said, I haven't done it and I'm not going to and I'm now in the position where, do I for tomorrow?

It interested me that the starter led to Liz and Samantha discussing the similarities and differences between pollination and seed dispersal so extensively, which was the type of discussion that I had hoped would have been stimulated in the pupils. Their discussion is also typical of the type of dialogue typical of S1 when teachers are engaged in the Meta-Activity and discussing the merits or otherwise of the presented Tool.

R: Well try it and see.

Liz: I could try it. So what have I got to do with that?

R: In terms of the problems with some of the pictures, I do see that ... but I do think as a whole it is quite multi-sensory. While they are not perfect, they are all indicative, enough to get the Ah Hah! moment.

Liz: How should I introduce it tomorrow?

R: I would put the picture up ... (tape turns off)

(NB Liz did try it, but found the children already knew enough about seed dispersal to say immediately what everything represented, so there was not much of a discussion and the activity was over very quickly.)

I appreciated Liz's feedback about her colleague's response to the starter activity, which would have been a difficult conversation for her to broach. It gave me insights into some of the workings of the Science Department which, while disheartening in terms of my attempts to develop CPD, was valuable in my role as researcher. It was extremely useful to be able to capture on tape one element of those difficulties.

Thereafter, it became very difficult to engage Liz in S1 conversations. Thus, like Hannah, when Liz embarks on the Assessment for Learning group meetings, she has already experienced failure to implement Thinking Skills strategies in her own classroom and Departmental context (Chapter 7).

6.4 The methodical teacher:

John had a class with a high number of children with acknowledged behavioural difficulties who were difficult to keep focused. Partly for this reason, and partly perhaps in reflection of his own perspectives on teaching, during the pilot project he chose a behavioural focus. He also wanted some time to familiarize himself with his new class so on 25th October it is noted in the Field Diary that we had not met yet due to a 'delayed start'. The first recorded meeting is when John had joined the project for the first time:

27 January

Topic planning – work stations for different aspects of India. Met with most of group – Ruth, Abi, plan to meet John later today. It is certainly time-consuming searching for resources and modifying them. Plan to start simply with workstations – some focus questions first to inspire critical thinking, like ranking countries in terms of size etc.

John said that his children work much better when fully engaged and stimulated... watershed?

The term 'watershed' used here is reflective of a view of John which I had formed, which was that of a teacher puzzled by his class's reaction to a style of teaching which had worked in the past. When a transmission pedagogy has proved relatively successful previously, it is tempting to shift the locus or origin of the difficulty onto the current class group. This is rational and normal, since the change occurs with the behaviour of this group of children and not with the pedagogy which is the same as it has always been. It is therefore logical to assume that the solution must lie in modifying the children's behaviour in order for them to be receptive of the usual pedagogy rather than considering making changes to the pedagogy itself. My stance was to encourage reflection on altering the pedagogy in order to engage this challenging class, hence the recording of John's comment which implies a greater awareness of the impact of the structure of the lesson on the subsequent behaviour of the children.

I was aware of the trust placed in me as a researcher/ CPD facilitator, particularly as it can be difficult for teachers to acknowledge their emotional response to a challenging class:

21 April 2006

John commented how hard it is for teachers to discuss ideas with each other and seek help – he said he thought it was difficult for teachers to admit to weaknesses in their teaching. We discussed using the 'numbered heads' technique in his class.

John allowed a great deal of time for the project (T1), but tended to continue the focus more on the management of the behaviour than on creating opportunities for cognitive dissonance in class. The role of the CPD one-to-one sessions was often to provide support for the difficult class. While this was a divergence from the original intention to provide opportunities to explore Thinking Skills strategies in the classroom, it nevertheless proved valuable to the teacher and reflected the complex role that mentoring or peer-to-peer regular CPD opportunities can provide. It is likely that the personal support impacted on John's classroom practice in subtler ways than pure Thinking Skills strategies, through developing confidence and reducing a sense of isolation in the classroom. Some of this is illustrated in a letter to John which John requested from me in support of an in-school appraisal:

April 27, 2006

Dear Mr. P,

Re: Research project

I am writing to outline the interest and involvement that you have had in this project. You have been one of the most active teachers involved in my research, frequently inviting me in to observe your class and give feedback on techniques to encourage greater inclusion and productivity from your pupils. It is widely acknowledged that you have a particularly challenging class, requiring a much greater emphasis on differentiation in order to cater for the diverse needs of your group. You have been very pro-active in pursuing professional development as part of my research group in your attempts to meet the needs of this very challenging class.

You have also been involved in the curriculum development as part of Year 4, looking at integrating more 'Thinking for Learning' strategies into the Year 4 Topic syllabus, making a weekly commitment to improve lesson plans for this subject.

Very occasionally, my role as supporter stepped completely out of the realm of Thinking Skills CPD, possibly because he found the class so challenging behaviourally:

2 May

Also observed John's class preparing for church service – more as a courtesy really. Locus of control is very much with the teacher, perhaps because he is anxious about behaviour management.

John was involved in the Year 4 topic group, which was recorded (see discussion in Chapter Seven). Some of his one-to-one meetings were recorded as well. The following extract was taken from a Field Diary entry that was written about a group, but the teacher I am particularly referring to is John and is indicative of a preference he had for very clear instruction on what followed after a Thinking Skills strategy in a lesson. When I first encountered this, I was puzzled because I thought that teachers would

automatically understand the transition between a stimulating activity and its ensuing dialogue leading to the next task, usually a piece of written work. While this was true for many teachers, it was not true for all. It is perhaps, but not necessarily, an indicator of a lack of confidence in a teachers' ability to conceive of the lesson as a whole:

9/10 May

Some thoughts: ... teachers went a VERY step-by-step guide to what to do in a lesson. Not enough to give a resource for some as not confident? Not able? to make it fit a lesson. Typical questions: How does this fit in? What does it lead to? This was after a very brief chat with my Yr 4 topic group and I must not underestimate the fact that some teachers are more interested in the detailed structure of their lesson than having a spontaneous instinct about how to use it and where it fits into the overall goals (concepts?) of the subject.

John exemplifies an interesting combination of levels of engagement according to the Meta-Activity framework. He is fully committed to spending regular time with researcher, hearing about the Tools (T1), creating lesson plans, together and separately (R1) and integrating them into his lessons (T2). What he does not engage in is a pedagogical discussion within the context of the CPD opportunities (S1), preferring a more procedural approach to creating a step-by-step lesson plan. This theme persists for John and is visible in subsequent group recordings examined in Chapter Seven. John continued to find the project useful and made suggestions for our continued work together in the following year:

June 15

John approached me to ask to focus on 'Differentiation' next year.

26 September

1:1 with John. Looked at differentiation, particularly extending writing skills in English and Topic. Using Higher Order thinking skills when writing a diary to include opinions as well as facts, as if it was a 'bad day' in a Celtic village, not just a day.

At the beginning of this Academic Year, John had a class which seemed more manageable behaviourally. This may have contributed to an increased focus on trying new classroom strategies.

October 18th

John – Odd-one-out, no hands up in topic

Additionally, work had now begun on the whole school group focus for Assessment for Learning, which seemed to invigorate John:

Nov 15

John very excited about using concept maps (causes and consequences) for Roman roads. Came and brought me up to his room to show student work AND had spontaneously used self-assessment on back of sheet.

Large AFL meeting very interesting! Almost epiphanal (not recorded). Teachers all shared examples of what they had tried (see minutes) and it was lovely to hear such a combination of strategies being applied by different people. Also, comments like ‘it is lovely to see almost all children actively involved in the lesson’ John

Vocab/concept; John said chn had found using the concept map ‘hard’ but wants to do more working on using concept maps in planning topic and maths.

Nov 21

John told me that he passed on the concept map (consequences) to Ruth and that she was very interested.

Although in Chapter Seven, we look in more detail at the way in which John contributes to the group CPD opportunities, this small sequence illustrates the AFL groups’ effect on John as an individual. This is a vivid illustration of the Vygotskian concept of the environment (or social group) having an impact on the individual at the same time as

the individual is creating changes within his/her social environment. As John had previously found the individual CPD work successful within his classroom context, he was able to pass on a visual framework strategy to a colleague. John's early overall success in implementing Thinking Skills strategies seemed subsequently to impact on his behaviour and enthusiasm in the Assessment for Learning groups.

6.5 The Thinking Skills Teacher

Susan had a previous background in Thinking Skills, both from her teacher training and previous schools. This manifested early in an ability to embrace the concepts of cognitive dissonance in the classroom and an eagerness to utilize our one-to-one time together to create and modify resources to enable rich discussion in the classroom.

22 Sept 2005

Susan suggested a focus on differentiation, being dissatisfied with 'differentiation by outcome' but disillusioned with 'limiting expectations.'

5 Oct

Susan – Looked at history plans. Will take in a copy of the plans, but essentially tried a 'marketplace' approach. Agreed to assess effectiveness by:

- a) overall 'feel'*
- b) 3 case-studies – on task prompts, no of times hands up, quality of written output*
- c) subsequent level of recall*

This diary entry reveals the initial research intent to explore an action research project with teachers investigating and exploring the effects of Thinking Skills on pupils. This aspect of the project was dropped at the end of the pilot project. One point to note is that at this stage, we both agreed that 'hands up' was an indicator of pupil interest and engagement. Later, when we had embarked on the AFL project, we would no longer have focused on 'hands up' as being a good indicator of a productive pedagogy (see transcript below).

4 Nov

Susan – V suggested looking at what teachers accept and reject. In 'Teaching buggers to think' (Cowley, 2004) Susan marked ideas that interested her:

- 1) p 9 open ended questions and puzzles – no fixed right answer.*
- 2) p 35 children write ideas on board as a brainstorm*
- 3) Divide lesson into parts with 'brain breaks' eg physical activity, anagrams, mental maths, tongue-twister etc*

22 Feb 2006

Susan – Discussed together ways of turning a teacher-directed lesson plan into a 'thinking for learning' investigation. Will probably send me the plans, but we organised for children to experiment with reflective symmetry, using their initials. Then pair work looking at use of co-ordinates in both reflective and rotational symmetry. Finally ending with a plenary of looking for patterns in the co-ordinates generated by moving a shape 90 degrees round each quadrant of a graph.

Taken from **May 5** update:

Discuss individual lesson plans, making them more meaningful and more 'problem solving.' Increase use of peer-learning, dialogue and 'cognitive dissonance.'

11 May

Recorded lesson plan with Susan. May make a mini-case study of our work together?

Due to the extended length of one-to-one work done with Susan (about a year of regular weekly meetings), there are a substantial number of recordings. The following extracts have been taken to illustrate the nature of our dialogue and the type of lesson plans on which we were working.

June 15

Spent nearly an hour and a half with Susan – talking about assessment for learning in Maths, as she was writing reports. Said she sometimes marks maths without seeing who it is! But very aware that this needs to be changed. Talked about ways of listening to children more in Maths to increase understanding of children's mathematical understanding, and increasing ideas for lessons. Discussed CGI and looked at making A4L in Maths a focus next year. Also, maths objectives do not emphasise skills and concepts efficiently.

Susan gave me a copy of her self-reflection sheet of focus areas for next year. Great practice. Highlighted the difficulty of sustaining change, though, in teaching practice. It is not a problem with the theory, nor the commitment from the teachers, but the relentless pressure of the school day and annual calendar. Sometimes it is hard to feel energetic and committed because so much stands opposed to really good teaching practice.

Nov 29

Just recorded a chat with Susan about the school's main goal (getting children into their parents' choice of schools).

This recorded conversation was prompted by an Assessment for Learning meeting being cancelled at the last minute in order to discuss Common Entrance examination results.

R: ... we are probably not having our Assessment for Learning Meeting.

Susan: Yes, that has been cancelled.

R: And, I am really not personally annoyed about this, but I am fascinated by it because it seems to me as if the momentum of the school is more on matching the child to the school rather than on the learning and the processes of learning.

Susan: (interrupts and laughs) It's totally about that. This school is all about, as far as I am aware, about success, achieving good results, getting into the school they want to... not about learning or the child or ...

R: No. And it is fascinating because many really good things happen here, there are many extremely good teachers and yet, because that is the overall aim, I think that is always going to affect the school focus.

This dialogue confirms what is already well known about this and indeed many schools, highlighting the conflicting goals or Activity Sets which face schools, teachers and pupils which can work against desired paradigm shifts. I chose Susan for this dialogue, partly because we had worked extensively together and partly because I felt she would be comfortable sharing her views with me.

Susan: And I think that contradicts with a learning style that is appropriate for a child. But that is the parent's choice. And if that's the way a school like this works –

R: Because it is a business.

Susan: Yes, responding to the needs of its clients, then that's how it does operate. It's not necessarily the best approach, but I think we as teachers try to do the best you can for the child, with that kind of in mind.

This picks up on the concept of dwelling within ambiguity as being a usual part of a teachers' experience in the classroom which was discussed in greater detail in Chapter Two (Kirton *et al*, 2007; Lampert, 1997). Also interesting is that Susan, despite four terms of work with me, still tends to emphasise 'learning styles' rather than Thinking Skills in our conversation.

Dec 1

Francis – went up to give her 'Research of the Month' website and a sheet of Maths Games, given by Susan

This entry illustrates an example of Susan operating in the R1 level of the Meta-Activity framework. She has produced/sourced Thinking Skills resources useful to another teacher with some involvement in the CPD project.

Dec 6

Susan, discussing curriculum affordance and AFL 'pace to suit children not pace to suit plans'. This links to Laura's comment about teachers being able to modify the curriculum rather than pushing on relentlessly.

Susan consistently made time for the CPD sessions, using them to work on lesson planning. There are seven recordings of Susan, spanning an eighteen month period and representing over thirty one-to-one CPD sessions. Susan's CPD sessions were characterized by a focus on both Meta-Activity and Object-Activity, with strong engagement in both the S1 dialogue of CPD and an understanding of the type of S2 dialogue she was seeking to achieve in the classroom.

Feb 23 2007

I want to do a better one this week, and perhaps more...more fun and more hands-on, or more ...I don't know if we can ponder on how to do that?

Susan's enthusiasm for Thinking Skills CPD led to successful, consistent use of strategies in the classroom. Therefore, she approached the Assessment for Learning groups with a deeply developed confidence and an expectation of success.

6.6 Conclusions:

When teachers begin their work with me in one-to-one meetings, their initial response to Thinking Skills strategies is most strongly influenced by the immediate environment, that is, themselves as a single teacher who is interested enough in improving their classroom practice to agree to meet with the researcher and the researcher who has a commitment to the strategies. All teachers showed elements of this initial optimism and all teachers tried to use some strategies in their classroom. This stage, 'trailing' (Higgins, Baumfield and Leat, 2003) or early T2 was then affected by the social dynamics and possibilities for change afforded by the wider school context. When each teacher returned to his or her classroom, the environment widened to include much more of the activities and priorities already established and reinforced by the school. For some teachers, predominantly those in the Middle School, that environment was largely

supportive of T2 practice. When these teachers returned to the CPD one-to-one sessions, they carried with them the knowledge that their environment was hospitable to their intentions. This enabled them to build upon their success and continue to engage in the Activity of the new Thinking Skills strategy as we worked to integrate it into upcoming lesson plans.

There were other teachers, however, who found their classroom environment to be less hospitable to the new paradigm. These were the two Upper School teachers. They both reported back to me that there were difficulties when they tried the strategies in the classroom. They both continued to maintain a dialogue, but their willingness to trial new strategies had foundered, probably because they had both experienced obstacles to creating change in their classroom practice. In the following chapter, the first group discussion to be explored is one from the Middle School. It illustrates that some of the obstacles which exist for the Upper School teachers also exist in the Middle School, but one key difference is that there are three teachers working on the same Meta-Activity, challenging those obstacles, whereas each Upper School teacher was acting in isolation.

When the Middle and Upper School teachers come together for the first time in CPD as part of the Assessment for Learning Groups, they are not arriving from equivalent starting points. The Middle School teachers approached the AFL groups from the perspective that these new strategies could work in their classrooms. The Upper School teachers had already explored some of these ideas and met with problems. Moreover, there appeared to be no opportunity to seek solutions to them. Therefore the perspective of these teachers is very different. The illusion is that all the teachers in the same AFL group are in the same environment. In fact, both the future environment that they will subsequently work in and their historical environment (based on past experiences of CPD) are different. This inevitably impacts on their perspective and therefore, their subsequent levels of commitment as they encounter the new paradigm.

CHAPTER SEVEN

ACTIVITY ENGAGEMENT IN CPD GROUPS

- 7.1 Immersed Activity Engagement leading to teacher-led curriculum changes [Year Four (Topic) – Gp Y4]
- 7.2 Assessment for Learning Project
- 7.3 Activity Hijack and False-Engagement with Meta-Activity [Assessment for Learning Peer/Self-Assessment 1 – AfL P/SA1]
- 7.4 Activity Shortfall and the role of Cognitive Dissonance in CPD [Assessment for Learning Peer/Self-Assessment 2 – AfL P/SA2]
- 7.5 Exploratory Activity Engagement [Assessment for Learning Open Questioning 1 – AfL OQ1; Assessment for Learning Lower School – AfL LS and Researcher, KG and RB triad – Triad]
- 7.6 Activity Attack [Assessment for Learning Open Questioning 2 – AfL OQ2]
- 7.7 Engagement with the Meta-Activity
- 7.8 Overall Patterns of Activity Refusal/Activity Sabotage

This chapter examines recordings of seven CPD groups which were facilitated by the researcher. The first group is a fully voluntary group which came together towards the end of the initial Thinking Skills phase of the research. The following six groups were organized as part of the Assessment for Learning initiative instigated by the school, but adopted as the second phase of the research. Five of these groups contain at least one of the five key research teachers who feature in Chapter Six and one group contains none of them.

The analysis focuses on engagement or non-engagement with the Meta-Activity. Examples of non-engagement are exemplified by individual teachers, yet it is crucial to remember that these examples of non-engagement represent a complex interplay between the individual and his/her context. Therefore, subsequent coding of types of non-engagement are not directed critically at the individual teacher, nor intended as a comment on personality, willingness or efficacy. The embedded interplay between teacher and context is of core importance and will be discussed in greater detail in Chapter Eight.

7.1 Immersed Activity Engagement leading to teacher-led curriculum changes [Year 4 Teachers' Group on Topic Curriculum (GpY4)]:

This group was intended to focus on integrating Thinking Skills strategies into plans for 'Topic', in this case Anglo-Saxon history. By this stage all three teachers had been working with me for over six months and two out of the three are part of the Key Teachers group detailed above; the methodical teacher, John and the experienced teacher, Abi. The group, however, took an unexpected turn and instead began to challenge the curriculum content, ultimately deciding to bring their suggestions to Senior Management. At the time, I felt very excited by the direction taken by this group and made notes accordingly in the Field Diary as well as informing my supervisor:

9/10 May 2006

Very interesting – and recorded! – Yr 4 Topic curriculum planning. Felt like a watershed as they talked about changing the curriculum, not just what they were going to do in the lessons to come. There was a focus on pedagogy and even though at times there were feelings of frustration (cognitive dissonance), it felt more powerful and real than if neat lesson plans had been wrapped up. This conversation should be fully transcribed.

Hello, Veronica

Just a quick note to say that I recorded a fascinating Year 4 Topic discussion, about 40 minutes long, but super because they ended up wanting to change the curriculum and bring it to the Middle School head as it wasn't working. Normally, this group is very lesson-plan focused, so this seemed really exciting. Also it captures the uneasiness of departing from familiar territory - cognitive dissonance can be painful, but ultimately so much was achieved. I will transcript (sic) it for you to read and me to analyse as soon as I can.'

In many ways, this recording exemplifies the most successful point in the research of embedding CPD into teaching practice. After six months of looking at resources to stimulate cognitive dissonance (T1), discussing them (S1), trying them in lessons (T2), this is the only data which demonstrates teachers working together to make systemic

changes to allow further integration of the desired pedagogy into their classroom practice. Also interesting is that my role as facilitator becomes subordinated by the momentum and cohesion of the group itself. Unlike other groups which follow later in this Chapter, there is already a clear Activity with which all group members are aligned; modifying the lesson plans, initially for the remaining weeks of term, but subsequently with a view to longer term changes.

Year 4 Topic

The three teachers have begun by looking at the existing plans and are expressing anxiety about what time is available to get through them. R denotes the Researcher.

R: I wonder if there's anything you want to take out, so you don't feel quite so driven by what is in there.

John: Not really.

Initially, there is no desire from John to deviate from the existing scheme. John was responsible for this curriculum area and had previously looked over these plans. That there was no initial desire to challenge the existing curriculum emphasises the importance of teachers having adequate time together to discuss pedagogy. It suggests that embedded difficulties that impact on choices of pedagogy may be 'buried' by the individual, but highlighted during group discussion (S1).

R: So before half term, you wanted to do Kings and Kingdoms, lead that in from Sutton Hoo, and do Beowulf.

(Two conversations break out: 'we're not too far behind' 'I'm just worried you've got a lot to cover in 2 weeks' 'So am I')

John: So we could do kingdoms and Beowulf, Grendell, Riddles and Kennings.

Ruth: We've haven't really dipped into that, we haven't done much about Anglo Saxon Life. We've looked at words and language and riddles, and some of the writing and the village and whose in charge, but not really at who they were or their jewellery or .. they had amazing Art, it's quite an amazing culture.

Ruth is the catalyst for change, based on a clear love of the Anglo Saxon culture and her anxiety that the curriculum is inadequate for the children to experience the potential

richness of the topic. As a newer teacher, however, she appears slightly reluctant to push her point of view so early on in the meeting.

Abi: (Has been trying to interject) *Yeah, they are. And we're trying to squeeze two weeks of work, quite a lot of work into one week.*

R: *I'm slightly worried about fitting in Beowulf and Kings and Kingdoms into one week.*

John: *Hmm*

Abi: *If we say we'll do it, we'll end up not doing it anyway. If we say we'll do it in one week, well we just won't get it done if we do that.*

Ruth: *Well then we need to spend two weeks. This week and the first week back (after half term), finish it off.*

Abi: *No, I've a feeling that later on doesn't work, there's PIPs and things, not as much time as you'd think.*

This discussion illustrates the competing Activity Sets (Reeves and Forde, 2004) that typically present teachers with dilemmas of priority and choice. Then John, having apparently contemplated Ruth's contribution, brings the problem of curriculum depth back into the discussion, even though the issues of content and timing have not been resolved. The atmosphere of collaboration in this meeting is illustrated by earlier contributions being revisited by other teachers. This conveys a genuine sense of trying to resolve a problem and illustrates full engagement with the Meta-Activity (S1).

John: *To be honest with you, I wonder whether my kids, like you say (to Ruth) actually have a true understanding of who the (Anglo Saxons) were and what impact they had on Britain.*

Ruth: *Mine don't. They know that they set up villages and it was strategic and for survival, and some of them made the observation that the high up people had a really good life before the Romans, () but they don't really know how amazing they were with Art and Gold and...*

John: *I'm wondering whether the language and Kennings should not be covered in English, rather.*

John is the first to present a possible solution to the curriculum overload, through a cross-curricular approach, but Abi, who has the greatest experience of the Year 4 annual timetable, argues against it. Abi is perhaps the least unhappy with the existing

curriculum, so tends to take a more conservative stance in this meeting regarding curriculum change.

Abi: Because in English we're also covering arguments and discussions in persuasive writing.

Ruth: Could that be linked into Topic? ...Could we not have arguments and discussions between the Kings?

Abi: It is linked in that they have ... what value the different people had, what punishments you should get for stealing, murder..

R: That actually was a lovely activity. They really enjoyed it and from there you could look at society and the hierarchy and see what the whole community was about, so that might actually be a very good place to start.

Here, I draw focus onto an existing Critical Thinking activity in the plans. One of my strategies when facilitating CPD is to highlight naturally occurring examples of Thinking Skills activities and expound their virtues. The CPD component is underplayed here as I am not presenting a specific new strategy. My role was to try and infuse some activities into the lesson plans, but until the issue of curriculum and time is resolved, this could not happen. However, teachers typically don't have the luxury of this amount of time to consider their plans in such depths. Compare this to the discussion in Chapter Four with the Headmaster about Year 4 and 5 weekly meetings which tended to consist of resource swapping rather than discussion about lessons/pedagogy/curriculum because they were conducted so quickly.

Ruth then comes back to her original frustration about failing to share the richness of the culture, but seems resigned to the situation (*'perhaps one day'*) until her perspective is reinforced by John.

Ruth: I think the Runic thing, I know they enjoy it, but I just, I don't know, perhaps one day...(John: I do agree with you) They don't really get how amazing these people were.

Here Ruth refocuses me on what is more important than promoting critical thinking, which is the harnessing of the passion that she and John have about this topic. This begins to impact on their choices of pedagogy.

John: *And who they were (Ruth: Yes) and what impact they had on British history.*

Ruth: *And the thing before, I was saying about the Sutton Hoo thing, when I saw it I just remember how significant it was and looking at the images of what they found and the drawings, amazing and how they made those things at that time was just mind-blowing, the intricacy and the beautiful art and we don't...*

Abi: *(interrupts) But we do cover it. We do cover Sutton Hoo and the Burial.*

There is a difference here between the degree of interest in Sutton Hoo and Anglo-Saxon culture between Abi and Ruth.

R: *I do remember that there is a video on it.*

Ruth: *..The BBC (have) got different Fact Files. I like it when we get them in teams and investigate different facts about different cultures and do the note-taking and summary work and then report back and do a Fact File which they put on display...*

()

John: *So what would you say, let's say we have a starting point of ... Saxons living in Britain.*

Ruth: *Like what do we know about them and how do we know? More like an archaeological viewpoint. How do we know about these people? Starting with Sutton Hoo ... show them the pictures of what was found and maybe they could draw their own conclusions about what they could tell about these people, just by looking at it as if they were an archaeologist. ...*

Now that Ruth has been given 'permission' to explore a different slant to the curriculum by John's interest in her perspective, she reveals some key pedagogical concepts in constructive learning. She suggests a Thinking Skills activity which encourages pupils to engage with found artefacts and work out possible uses based on their prior knowledge and experience. This activity lends itself to classroom small-group discussions of different possibilities and would be a rich open-ended lesson starter. In terms of engaging with the CPD opportunities, this indicates an internalised understanding of Thinking Skills pedagogy because the Activity (T2) was spontaneously generated by Ruth.

R: *And then from there you could say, what do you think about the Kings, having seen this (artifact) and how does this relate to ...*

Ruth: *Relate to village life and the pyramids of power and the idea who did what and who made the decisions, what did they bring to Britain, then you could talk about all of those, the Art, the Culture, and from those things you then get to Kennings and your Runes because they need to have a knowledge base.*

John: *The starting point is almost then 'Who are the .. Anglo Saxons' and then looking at the time period after the Romans left, village life..*

Here John demonstrates his methodical tendency to focus very keenly on the detail of T2 in terms of the exact order of occurrence in the lesson plan. The meeting is now gathering a momentum and the alterations to the curriculum are taking shape.

Ruth: *Power, who made the decisions, kings and leaders – all the stuff we've (already) got, how they communicate, ... runic writing and those things, and then aspects of Anglo Saxon life, jewellery and Art and how that was important, talking about language and story telling and how it was such a rich culture, Beowulf links in and Riddles, even imagining if they were Anglo Saxons and what would life be like...*

R: *Like starting with the bigger picture, how we know about it and then focusing on the details...*

Ruth: *Yeah, 'cos I don't think they're getting who they are at the moment...*

John: *No, I agree with you.*

Abi: *It's not actually mentioned here but we've actually done this in the past, there's a whole chapter that goes with the video.*

Here Abi, who has not spoken for a while, bridges her original commitment to the existing curriculum with support of the emerging ideas. This leads Ruth to justify her initial enthusiasm, as if trying to validate Abi's perspective by positioning herself, almost apologetically, as particularly enthusiastic.

Ruth: *I suppose 'cos I lived in Essex and Sutton Hoo was such a big thing because it was up that way and I think that's why it got more ...*

Abi: *But we have done it in the past because I remember in an Art lesson they drew the stuff.*

(Ruth talks about a related Art project in her previous school.)

John: *But how long did you have for it?*

Ruth: *We did it over a whole term.*

John: *You see we only have five weeks.*

Ruth: *It's such a shame. It's such a lovely (topic).*

Abi: *Yeah, it's really crammed in.*

There is a sense of re-harmonising here within the group, as if the division between Abi in her loyalty to the curriculum and John/Ruth's desire to modify it needs to be resolved in the quest for greater group unity. Once the group harmony has been re-established, the current dissatisfaction with the status-quo is then expressed by all members and a dramatic event takes place within the group. They begin to question the inherited priorities within the curriculum with a view to taking action.

Ruth: *It's such a shame. (all speaking) I'm not having a go at you! And the work you've done...*

John: *No, no. I feel the same. Even as a teacher, I don't have, I haven't, ... I think what you need to do is have this starting point, who were the Anglo Saxons and the different areas coming off that ... the overall impact on history. ... There's not much we can do for this year, but for next year we can change.*

Ruth: *Do we have a video to show them on Sutton Hoo? Perhaps something visual would be enough?*

R: *Perhaps we could do slightly less on Vikings and slightly more on Anglo Saxons, because what you've just been saying sounds like an extra week or so ...*

Abi: *Anna (Senior Management) says they have to be at King Canute because of what they start in Year 5.*

John: *But that's all changed now.*

R: *They go to Victorians. ...I do think if they get the Anglo Saxons more thoroughly, then you won't have to do so much later.*

John: *Then we need to speak to Anna. We need to say: Look, the medium term plans need to change.*

Here John initiates a solution to the problem of the overloaded curriculum that involves asking for change at a Senior Management level. This is unusual in CPD groups because often there is a resigned acceptance of systemic problems rather than a focused and conscious decision to try and effect change. In the overall exploration of the way in which teachers can impact their environment, many of those ways are subtle, involving gradual formation of new identities and priorities. This is, however, a direct approach,

challenging an existing structure and asking for a modification of the curriculum in order to facilitate richer learning. This idea is not wholly embraced by Abi, the experienced Year Four teacher, particularly when John considers the details of which area of the curriculum should be removed. At this point, I am very much in the background.

***John:** The whole thing about Settlements and locations, all of that, I don't know whether that... it's applicable, but...*

***Abi:** I don't agree. I think they need a bit of time on settlements. They haven't done it in detail.*

***Ruth:** We've done the Romans settling and the Celts settling...*

***Abi:** ...They need it for later, in Geography.*

***John:** I agree with that, but I'm just saying do we need a whole lesson..*

***Abi:** On suitable sites, you mean?*

***John:** I mean you need to touch on that because it's important, to say why places are where they are.*

***Abi:** We keep losing things...do we need this single Maths? We've got single Maths followed by a double. We could skip the single Maths to be honest...*

***John:** Let's not get into that.*

***Ruth:** We're talking in circles.*

***John:** Let's speak to CO and see what she says.*

***Abi:** It won't change for this year.*

***John:** No.*

This exchange is interesting because Abi attempts to solve the problem in the short term (by using a time-slot allocated to Maths) rather than the long term (by altering the curriculum). Neither of the other teachers is interested in this solution and John takes the decision to talk to Anna. Abi's subsequent comment is skeptical rather than directly hostile. Abi continues to explore a persistent theme for her, that of 'chasing her tail'. This seems to illustrate some teachers' response to a situation which they have experienced for some time; that despite noticing the problems they may be reluctant to push for changes.

***Abi:** It sums up a lot of stuff in school. You have to rush through this to get to the next thing, you have to rush through this to get to the next thing and something always gives.*

R: *But in a way, if we could choose before, what's going to give, rather than it just being something that goes...*

John: *'cos you've run out of time*

Ruth: *I'm going probably to put less emphasis on the Runes and Riddles and sneak in the Sutton Hoo video somewhere, because it makes sense to me.*

John: *As part of Kings and Kingdoms.*

Ruth: *Yes, Kings and Kingdoms.*

Here I advocate a conscious choice rather than losing things from the curriculum by default due to time pressures. Both John and Ruth enter into this, but Abi does not. The group then discusses aspects of the process in which we have been engaged.

Ruth: *I'm shattered!*

R: *I am too! I love it when we talk like this. I feel like I haven't **delivered** anything for you and I don't think I've helped with this week's or next week's planning, but...*

Ruth: *Well in some ways you have because we've all clarified a few things in our heads...*

John: *It's not only that, the thing is that, you know, we're not stuck on this, we're prepared to say: Well, look, you know, we need to change this. And we can't do it, we need to speak to Anna or whoever to change this. ...*

R: *And if this conversation results in making the curriculum more manageable, then I think it is time pretty well spent.*

The discussion then briefly returns more specifically to T2, the plans for next weeks' lessons, before John returns to the plan to rework the curriculum, seeking a more concrete proposal.

John: *But also, when we go and see Anna, we must have an idea. We can't just say 'this isn't working', we must say 'this isn't working and this is what we suggest. Maybe we all give it some thought and maybe next week look at specifically this area. ... Because I know you feel very strongly about that topic ... Sutton Hoo.*

Ruth: *It's a Big Dig!*

The teachers then wrap up quickly with an outline of their chosen topics for the next three weeks, starting specifically with Sutton Hoo, leading into Kings and Kingdoms.

Summary:

This is perhaps the most exciting recorded meeting in this research, because the teachers illustrate how the Meta-Activity Framework might be able to perpetuate itself when CPD has become embedded and embraced by a group of teachers. The teachers have the same initial priority, which is to have successful Year Four lessons on Anglo-Saxons. United by the common Activity, they are able to participate in an S1 discussion about possibilities for T2, strategies and approaches that could be used in upcoming lessons. The group then encounters the type of problem which we have identified as common in this context, that there may not be enough time to complete the T2 activities satisfactorily. Instead of accepting this difficulty, however, the group as a whole (despite some reservations from one member) decides to talk to Senior Management about curriculum changes. This type of group decision, made by the teachers, is ultimately the type of teacher-driven behaviour that creates lasting changes in schools. This type of change then becomes the critical difference between long term paradigm shifts becoming embedded into school culture or fading away.

The Assessment for Learning Project:

This phase of the project, being larger and initiated by the school, exposed the teacher groups to very rich and varied sets of social dynamics, both in terms of individual group members and in terms of the school's overall ethos, culture and aims. Some of these were explored in Chapter Four, particularly the pressures of formal summative procedures such as Common Entrance exams and other events which impacted on the time, energy and focus available to teachers when pursuing CPD initiatives. In particular, the over-arching spectre of the problems with the sustainability of pedagogic initiatives in the light of these factors which was so eloquently elucidated by Helen in Chapter Four is clearly evident in the second half of this phase, compared to the optimism and enthusiasm with which it began. The Field Diary notes provide the backdrop to the next series of group discussions.

Researcher Reflection on the background and context of the Assessment for Learning Groups: Field Diary notes

The purpose of including extracts from the Field Diary notes written at the time of the Assessment for Learning initiative is to provide a background to the recordings presented subsequently. My experience of the implementation process becomes increasingly frustrated, which reflects comments made earlier by Helen regarding the difficulty of sustaining implementation initiatives. The notes are not intended specifically for analysis, but are intended to provide a context for the following texts.

New Academic Year

September 6, 2006

Met with Helen to talk about Assessment for Learning working group, which will meet in today's staff meeting time. Focus on an 'organic' process, whereby staff choose one of four areas on which to trial ideas in the classroom, keeping a journal of the process. Four areas, as identified by 'Assessment for Learning – putting it into practice' (Black et al, 2006) are:

- *questioning*
- *feedback through marking/teacher response*
- *sharing criteria – links to self/peer-assessment*
- *formative use of summative tests*

The aim is for teachers to choose one area for experimentation in the classroom. My role on the committee is to offer support on the mechanisms of implementing an idea into a classroom, tailoring the concept to the specific year group and subject.

Sept 8

As school is beginning an Assessment for Learning focus, we are wondering whether to use a specific idea, eg questioning that links (Thinking Skills) to the AFL focus. Things like the Target Evaluation Board fit well into both areas. I want to pick out areas of clear overlap between the two.

The notion of the partially overlapping pedagogy between Assessment for Learning and Thinking Skills is highlighted here. This becomes particularly important in Gp AfLP/SA2 when the activity chosen lacks cognitive dissonance and is therefore not a true Thinking Skills activity, which negatively impacts the group's ability to become engaged in the CPD activity.

14 September

Fascinating first meeting of AFL Working group. Very much want to record some or all of the meetings to see how people's ideas progress, but not sure whether that will be ok for individuals.

I do not comment much on the first meeting as I was not facilitating it, but the focus was on the ways in which teachers wanted support in exploring Assessment for Learning strategies for their classroom. As a result of this, I subsequently prepared a folder of potential strategies ('Classroom Strategies to support Formative Assessment, Appendix 7) that I thought would be helpful including Odd-one-outs for open questioning, Visual Frameworks and activities to increase classroom dialogue.

26th September

Extremely interesting meeting! Now have two formal meetings with teachers focused on 'questioning' and 'peer/self assessment' and two informal meetings. And everyone is happy for them to be recorded!

Nature of dialogue seemed more strategy focused; several teachers offering to send me things like variations on Blooms taxonomy (Mary), examples of open/closed questions in Maths (Anna) and P4C(Lipman, 1983) (Abi). Really excited! Abi also wants to know more about the TASC wheel (Wallace and Bentley, 2002) and whether it is connected to Bloom's Taxonomy. Will lend book.

Meeting Liz tomorrow, Science Dept meetings will take place on Mon mornings. This is now feeling very different to last year.

Project numbers now much higher: 8 from AFL group... 2 more in Science Dept... 2 in Yr 3... 1 in Yr 1 ... 3 remaining from last year (16 in total) plus Helen and Laura who are associated with the project.

There is an air of enthusiasm conveyed in this diary entry, in harmony with the initial teacher response to the Assessment for Learning initiative. This sense of high-energy proves to be fairly short lived. In Chapter Six, when discussing the curriculum-dominated teacher, there is an account of the failure of the Science Department meetings. Subsequent diary entries indicate that there were also problems occurring in the Assessment for Learning meetings at around the same time.

16th Oct

Liz, Anna, Laura, Susan at Open Questioning Group, but feeling tired as approaching half term. 'bit flaggy' Discussed dilemmas around 'No hands up.' Meeting over in 35 mins.

18th Oct

It is increasingly interesting to see the effect of the original research group on AFL involvement as it is higher than other participants. I sent an e-mail to people inviting them to arrange times, but only got response from ... Abi, John and Susan. The latter 3 have all met with me individually.

Abi, John and Susan are the three Middle School teachers who experienced initial success in the early stages of the project. Their willingness to respond to my e-mail is another aspect of their willingness to engage in the Meta-Activity of CPD.

(continued from above) Also interesting is that the AFL mini-meetings are running into difficulties, one more than the other, as people are busy and they are not seen as a pressing priority. Helen has attended one of them and I feel her presence is important at this early stage. Teachers can also be removed for cover duties. It started to feel like I was the one 'making' teachers come ("Oh do we have to have it this week, we are all so busy") when the meetings belong to them and I help find relevant strategies for them.

Also, trying to find new times that work for people is not my role, so I have handed the ball back rather firmly to Helen!

While typing this, head of SEN for the Lower School, having just had a meeting with Helen has come in to ask if I will do CPD meetings with them in respect of AFL. Also borrowed two books (Thinking Stories) and agreed to the taping of the meetings ... So three more researcher colleagues! Great!

The subsequent recorded meeting with Helen is presented in Chapter Four. There followed an e-mail she sent to tighten up the structures for the remaining AFL meetings and remind teachers to e-mail resources and ideas to each other.

Nov 14th

3 AFL focus groups today; all recorded but tape clicked off during Lower School, so sadly, some of that meeting is lost. Sometimes feels a bit frustrating ie because it is a group (rather than individual) and semi-voluntary (ie different reasons for signing up than in previous part of project), it feels as if some teachers are not willing to make changes. However, others seem to be enjoying the dialogue.

Unlike the individual CPD work as part of the pilot project, teachers may have felt compelled to be part of a school-initiated project, with consequent effects on their levels of intrinsic motivation. This diary entry is a precursor to my subsequent interest in different levels of teacher engagement with the Meta-Activity of CPD.

Nov 15th

Large AFL meeting very interesting! Almost epiphanal (not recorded). Teachers all shared examples of what they had tried (see minutes) and it was lovely to hear such a combination of strategies being applied by different people. Also, comments like 'it is lovely to see almost all children actively involved in the lesson' (John) and 'I am definitely a better teacher now' (Liz) (both part of last year's project) was lovely. Also, illustrated effect of long term involvement of an activity set plus increased focus of 'doubling up' onto a school based activity set.

The impact of involvement with different but complementary CPD pedagogic initiatives is highlighted here, both for teachers involved in the research (above) and myself (below). There is, however, a sense that I understand through my own experiences how the over-riding school culture will ultimately affect the research initiative:

Nov 21

I went to a conference on Friday and came back with an exciting way of disseminating relevant research to teachers (Research of the month – www.gtce.org.uk/researchofthemonth from the General Teaching Council) I will copy it and distribute it to people but at the same time there is a sense of fruitlessness as it will probably not be made a priority for people's time. I think the issue of safeguarding time and space for activity such as CPD needs to be a whole school focus ... as it seems as if there is always something pressing to attend to. Sandra said on 6 Nov, "There's always bloody something that gets in the way of teaching". I felt this was very apt! I feel like you arrive in school, get picked up by the scruff of the neck and get dumped down at the end of the day, without actually achieving what you'd hoped by way of those all important extras.

As the school term approaches Christmas, the sense of the dominance of the school's conflicting activities becomes more and more apparent. In this case, the urgency of the Common Entrance Exam predicted results overwhelms other activities.

Nov 29

Just recorded a chat with Susan about the school's main goal (getting children into their parents' choice of schools). Popped into staff room and was chatting to Hannah about a Maths paper, then about a Yr 6 child I teach. She said, 'I just wish the school wouldn't take these children (with learning support needs) when I know I am going to have to whip them into shape in two years time. You can say all you like how much they have improved but it just doesn't count (if their final marks aren't going to take them where their parents want them to go)'. 'There is enormous pressure on us and we try so hard.' (reported from this afternoon).

What sparked this interest in the school's over-riding aim is that the AFL large group meeting has been cancelled for a meeting about the Yr 8 children's exam results. Yet the meeting would probably achieve little more than can be achieved by e-mail regarding further discussions with parents and inviting comments from teachers about the predictive nature of results.

To me, the sub context of the meeting is to keep teachers on target with the school's main goal, and to keep up that sense of urgency and pressure; to consolidate, if you will, the true nature of the Activity Group. The AFL activity group will never achieve the sense of salience and excitement of the Yr 8 'war meeting'.

These realisations led to the conclusion that my data-gathering phase was probably drawing to an end.

Nov 30

e-mail to supervisor:

Partly I feel that I have done all I can in the school context (All focus is now on getting children into their parents choice of secondary school; improving pedagogy is not a high priority - more on this when we speak) and partly I felt that I was just churning out materials and ideas and not 'researching'. It feels like the supporting CPD component has nearly run its course; now I want to look at what has been done and collected, see how people use or don't use ideas without me formally supporting them and collect a targeted series of discussions.

In addition to the Entrance Exams, the issue of the 'busy' school re-emerges as another aspect of the school's overall embedded identity. The combination of competing activity sets leads to more cancellations of the Assessment for Learning groups.

Dec 5

Rather annoyed about the AFL Questioning meeting which was cancelled at the last minute despite the work I had done for it. ... Do I stop being the facilitator? Very fed up!

Dec 6

Research crunch point! Walked into AFL self/peer assessment meeting place, Helen says 'I just feel guilty when I see you' and meeting is cancelled. I can see it is just the wrong time of term, but also my time feels very wasted. I said so and that I would attend meetings next term but not try any more CPD or source any more materials. It actually feels like I have gone as far as I can with this as a school group because the space is not there.

Comment today from Mary 'no space to try it out recently'.

Although my exit from the Assessment for Learning project was disheartening for me as researcher, the hindsight afforded by previous interviews indicate that these problems were not unexpected. What is emphasised is the power and pervasiveness of established Activity Sets inherent within an existing organisational culture and the ponderous nature of the change process. The following analysed discussions occurred against this background. Despite my own response to the termination point of my data collection, that is, a feeling of failure to implement a new paradigm, the Assessment for Learning project continued into the next term and was considered successful as recorded by the Minutes written by Helen.

7.3 Analysis of Group Recordings during Assessment for Learning Project

Activity Hijack and False-Engagement with Meta-Activity [Tape 67 Peer/Self-Assessment Group]

This recording was taken in October 2006. It was an AFL small group, focusing on Peer and Self-Assessment, consisting of five teachers, two of whom (Hannah and Abi) had worked with me previously on the project while the other two had not. The Tool (T1) in this case is the introduction of a visual framework to stimulate an understanding of the role of criteria in self/peer assessment.

'R: I thought we would start with a nice group exercise as this is a nice way to introduce the concept to children. The Target Evaluation Board can be used in most

subjects as well as Assessment for Learning. Maths is the subject I think it's slightly weakest for, but I promise next time to make it really Maths focused...

Hannah: *(Laughs) I can make it work...'*

Hannah is the first teacher to speak and her comment suggests initial interest in the Tool. However, subsequent comments suggest that her aim was also to portray herself as both competent and fully included in the group Membership. The group as a whole is reluctant at first to engage in the Meta-Activity, appearing to treat the exercise with humour.

R: *Ok. First of all, so I can introduce the idea to you, can you come up with 5 criteria for (identifying) something that would make a really good pet.*

[Various speakers... 'Dog' 'no, cat' 'dog' 'I'm allergic'] []

R: *So, for you, hair free?*

Mary: *I don't have pets. You have pets. Talk about your pets.*

R: *Criteria... [noisy: 'Friendly' 'Furry']*

Hannah: *Safe .. so it doesn't bite your leg off...*

Abi: *Intelligent*

Abi is the first audible contribution without evident humour, which compares quite sharply with Hannah who sticks quite firmly to her light-hearted stance, here slightly undermining the researcher in favour of a colleague:

Hannah: *Like a budgie thing... cute*

(Affectionate)

R: *Is that the same thing as friendly...*

Mary: *No, I don't think it is.*

Hannah: *No. See, you should have asked the English teacher.... Cute means it has to look good.'*

Hannah seems to develop a saboteur role, laughing throughout the recording and even interrupting a series of instructions about the group Meta-Activity to emphasise her stance:

R: What we will then do is evaluate certain creatures in line with the criteria so generated (distributing pictures of animals and objects), so if I divide these up, then you can just scribble it in, so basically, you – (interrupted)

Hannah: I think the lion is cute.

R: (ignoring) So if something answers 3 of the criteria, it will be put 3 rings in. If it answers all 6 of the criteria, it hits the bulls eye.

Mary: I see.

Here, Hannah's interjection is not picked up by any other teacher and there is no supportive laughter. Mary, perhaps the most senior teacher in the room, signals her focus on the instruction and perhaps this encourages Hannah partially to join in.

I write down some of the generated criteria and distribute pictures of animals to be evaluated objectively against them and placed on the bulls-eye diagram. The three other teachers discuss this process and embark on the activity. Hannah engages me in discussion about the Target Evaluation Board, but does not engage in the designed activity. Instead, she has started talking about an area in which she excels, mathematical processes, and is not engaging in the Meta-Activity of thinking about criteria:

'Hannah: So the outside ring would be if they can find the lowest common denominator, the next one if they can make it to the same common denominator, the next one if they add the top together, but leave the bottom, the last one, simplify your answer.'

Although this is apparently an attempt to show that she can apply the principles to maths, she seems reluctant to engage with or understand the CPD I am trying to convey. The target evaluation board exercise was intended to demonstrate a visual framework for children to generate their own criteria, either as part of a self/peer assessment exercise or as part of a curriculum activity such as evaluating sites for settlement. Hannah chooses here to make it part of her more usual procedural approach. Previous work with Hannah suggests that she has found it hard to create cognitive dissonance in her class as discussed in Chapter Six. It is difficult to identify the extent to which the reluctance to engage initially in the Meta-Activity prepared as part of this CPD was because of an existing disillusionment with Thinking Skills in general and to what extent this was amplified by the group setting and the inevitable group dynamics

therein. Curiously, it is as if there is a 'False Engagement' with the Meta-Activity because Hannah's discussion centres on the Target Evaluation Board, yet does not really engage with the concepts and possibilities it offers. This is illustrated here as I try to focus on some of the processes of Thinking Skills and it is turned into a joke:

***Hannah:** All I have to do is provide the right answers. So in that sense, the correct equivalent factors...*

***R:** (interrupts) Yes. And so they would really be assessing their working and staging their working together...*

***Hannah:** (interrupts) Which is good, because I'm really keen on working! (Laughs)'*

***R:** Yes. Perfect.*

I know I am now frustrated, but unsure how to respond, so I continue to reiterate my interest in self/peer assessment, despite knowing that my 'pupil' is neither engaged nor interested. At a loss, I am now mirroring the type of pedagogy which I see as least effective, trying to transmit a viewpoint onto an unwilling participant:

***R:** Now Sandra was anxious that peer assessment would be hard with children that are weaker, but if you base it on the process and how they do the workings...*

[Overhead from Mary: *I don't agree with this one, I think it should go right in the middle.* I am now in danger of losing touch with my other three teachers who are thoroughly involved in a heated discussion with the original activity, so I leave my attempts with Hannah and return to the larger group.]

***R:** So where did your animals go? Okay...*

***Mary:** Well the banana didn't go anywhere!*

***R:** See, I reckon you're adding invisible criteria here.*

***Mary:** Why?*

***R:** Because the robot is intelligent, and safe, so that actually has to go into the second ring.*

***Mary and others:** 'But it's not a pet!*

And is it safe? Haven't you seen I Robot?

And do you see them in pet shops?'

***R:** Yes, ok. But then in that case it needs to be in your criteria.*

Aaah...(a group indicator of recognition)

***R:** So in that case, I accept that it may not be safe, but it is certainly intelligent...*

I don't know if they are intelligent

[general murmur that they are not intelligent, but can be considered intelligent for our purposes]

***R:** And again, banana... They're pretty safe. So that's got to go in.*

[not if they're rotten/who put the gorilla there?/I think its cute/The gorilla is intelligent!/Not compared to us, they can't read Proust/compared to a dog a gorilla is really intelligent etc]

The group has now become difficult to manage as the salience of the specifics of the activity has overwhelmed the pedagogic intent. This had not been my experience in six other CPD groups when using this activity. In those, it was seen as amusing, but not overwhelmingly so. Perhaps my familiarity with the group was a factor, perhaps the small group size of four made it vulnerable to strong individual personalities or perhaps the mandated nature of the group made individuals feel more subversive overall. At this point, I am finding it very difficult to maintain my avowed role as group facilitator and it is an effort to attempt to refocus the discussion productively:

***R:** So, not safe, but intelligent.*

I attempt to refocus the group onto the Meta-Activity. Mary picks up the cue.

***Mary:** So you are saying we should have whether or not it is a pet, as a criteria?*

***R:** Um, Yes, it throws up invisible criteria, assumed criteria, absent criteria. You could also have more fun with it, you could make some criteria more important than others, you could make some criteria worth 2 rings..*

***Mary:** Hierarchical?*

Mary plays an interesting role. She was not part of the initial research project, but became involved in the AFL focus. A senior teacher in the Upper School, she is clearly a respected and strong personality in this group context and is involved in the jokes, but also makes clear decisions about when the joke must end and the group refocus on the Meta-Activity. In terms of the group dynamics, she has more authority than I do, and

has the power to direct the group's attention. It is possible that some of Hannah's responses are an attempt to gain status in front of Mary.

R: You could have an entry criteria, which you probably wanted here, like, 'Is it alive, is it actually an animal..

Hannah: It's amazing how narrowly we think, it's quite weird...

R: Yes, quite interesting.

Here Hannah gives a glimpse of the ambiguity which was noted previously; a sense that she does find the area interesting, but there are too many conflicts to allow her to pursue it fully. Straight after this remark, she reverts back instantly to her previous dismissive stance, with some evidence to suggest some awareness of what she is doing:

Hannah: None of us here seems to be alive! (group is split here, some still laughing, Hannah prominent and she comments on the laughter. Not fully clear but ends in 'and you all laughed'.)

Abi: (interrupts the laughing and silences it) Or say, 'Pet', like a baby is not a pet, a friend is not a pet, the definition of a pet is an animal friend..

Here Abi comes very much to the rescue by picking up on my attempts to highlight the importance of introducing an entry criterion. In this case, she postulates an initial definition which would have eliminated all the 'quirky' cases, such as banana, robot and dinosaur. She brings the group's attention back to the discussion of the Meta-Activity (S1), but there is conflict between Hannah's continued attempts to undermine the discussion and mine and Abi's attempts to keep the group focused. Mary, having no particular loyalty to me or the ultimate success of the group, is not a vocal part of this dynamic.

Hannah: (still laughing) so a live animal would have been a good start...

R: (interrupts) Ok, so you're saying that should have been a main component in our criteria...

Abi: I think we defined it in our heads fairly accurately to begin with...our pupils may have had more trouble defining what something is...

Hannah: *(interrupts) I think you'd be surprised. Human beings are quite good at that. I think if you said to a class of Year 4s 'what would make a good pet?' very few of them would suggest a banana.*

Abi tries to give a reasoned answer to what is actually rather a flippant remark that confuses the complex skill of formulating definitions with the simpler skill of generating examples, but is cut off.

Abi: *Yes, but they know what a pet is. If they were doing something else like...*

Hannah: *(interrupts) The question changes as well. You said 'What makes a good pet?' You didn't say 'Define what a pet is.'*

R: *No. No, I didn't. Fair enough. So a definition is also quite key.*

At this stage, I was abrupt as I wished to complete the final part of the workshop. The efforts to engage the group in the Meta-Activity had worn me down, so I do not embark on the explanation that I had deliberately not asked for a definition of 'pet' in order to allow the group the moment of discovery about unspoken assumptions when generating criteria.

R: *Moving on, let's have a look at how you could use it within your subject areas. So, I don't know who else would like to do Maths with Hannah [] You are coming up with different criteria, that you would use for Assessment for Learning. So if you wanted, you could evaluate something like they have here, Castles, so you can use it to evaluate content, but since we don't have a massive amount of time, and since our focus is Assessment for Learning, this is to come up with criteria for a specific piece of writing.*

The task begins so the group splits into two. Hannah heads the other group and starts immediately on a mathematical procedure as before. I engage in discussion with Sally, Abi, and Mary in a parallel discussion. It is hard to pick out the strands of conversation at this point in the recording. My group is discussing the flexibility of the Target Evaluation Board, such as having more general criteria for achieving lesson objectives and more specific criteria for moving a piece of work from one National Curriculum Level up to another. The conversation turns to self/peer assessment in general:

(Sally leaves)

Abi: Last week someone said we should teach them to self-assess before they can peer-assess.

R: It's not actually completely true, I was reading about it and they reckon that if they peer-assess they learn how to self-assess (better) as well.

Abi: I mean, it's probably better if they self assess, rather than somebody else rips their work apart. Probably better if they get the chance to self assess.

Mary: (Joins in from other group) I found with 8B, you know how they were saying weaker children like it, they were quite happy, I think it sounds less critical than me doing it...

Hannah: They seldom rip each other off, I do it quite often...

Abi: (interrupts) Yes but what I mean is that when you've prepared some work [] it can be nice to see what the teacher has done before you get put in that role.

This leads into a settled group discussion, where the whole group is focused on the Meta-Activity, and the conversation is less dominated by one individual. Abi may have contributed to this outcome by her continued, calm focus on the Meta-Activity. Voices are calmer overall and there is now much clearer turn-taking. When Hannah starts talking, Mary gives her a very affirming 'yes' (below). It is possible that when the group split, Hannah felt aligned to Mary as a result of the previous whole group conversation and therefore felt less of a need to create a sense of Membership with her by rejecting Membership of the CPD group and its chosen Activity. If so, this might explain why now there is greater involvement with the discussion of the Meta-Activity (S1). Additionally, in the previous extract, Mary had indicated some affinity with the CPD group intentions by joining in with the discussion in the other group. The result is a shift in the disordered group dynamics into a much more unified group alignment into the S1 position of the Meta-Activity triangle for the first time:

Hannah: Cos I think that...

Mary: Yes

Hannah: Self-assessment is the more valuable tool in English... (but) there is a natural resistance to go over what you've already done ... but honestly, I think the easier tool to teach is Peer-Assessment. (Hannah moves into an 'expert' role here, see below)

(Small pause)

R: And in terms of being gentle with each other, if the criteria is very, very specific, I think that helps. And also you can start off quite gently with just assessing two or three

things so they get used to the idea of looking for stuff rather than actually being too critical.

(Double conversation as someone leaves)

Hannah: *A couple of times when marking work, if someone says: Ooh Charlie, you got it wrong! I'll just say: Don't do that, how would you feel. ... Or I'll pick on them, go over to find one of their books and ...*

Abi: *(interrupts) No, no...*

Mary: *(interrupts) Oh no, I'll fight it by saying: Look at the WILF, is it there? And what would you like that's not on there, not in the writing and then can you find something that's successfully done?*

R: *Absolutely.*

Here Mary and Abi are quick to divert Hannah from a slightly less orthodox way of dealing with negative peer-assessment. This enables me to continue in my role of Mentor in the group and pass on more information which relates directly to Thinking Skills:

R: *Another thing that I think is interesting with Assessment for Learning is when you get them to generate their own criteria, then you can see where they're at, what they're considering to be important and what they've missed.*

Hannah is supportive, but perhaps not fully aware that I was trying to encourage the group to think about children's thinking:

Hannah: *Yeah, that would be brilliant in, like, my end of unit test ... say in fractions, I can say: you tell me what needs to go, what you need to do...*

Mary wraps up the group, which is significant because she is the first person to mention future, individual action based on the Meta-activity (R1):

Mary: *So we're going to go away and do a few of these...*

The group closes with an agreement to try and find a better meeting time, and people leave, but Mary starts to talk about the specifics of how she will use it in class, moving into the 'Object-Activity' discussion which is more usually tackled in one-to-one

meetings or with small groups of teachers teaching the same part of the curriculum to the same Year Group:

Mary: We'll use this, then. For our year group, or for a task?

Hannah: Do you have this on disc?

R: No, all I have is a copy on a PowerPoint.

Mary: I think ... is very good at (making) other new stuff and Maths, circles...

Hannah: Easi-teach, is bound to have something...

Mary: Or we could draw it out...

Hannah: Easi-teach is the easiest thing to draw it on

Abi: We could at least demonstrate the pet thing, we could drag them in couldn't we?

R: Could you e-mail me anything you do?

Abi: You can use my Interactive Whiteboard

Hannah: You haven't got them yet, have you?

Abi: When are you getting them?

Mary: In about a year, I think.

This snippet is interesting because it occurs after the formal group has finished and the discussion is started and maintained by the teachers. It provides an example of R1, which is teachers' self-generated response after the formal CPD has ended and it is forward looking in nature, focusing on the tools and resources necessary to bring the Target Evaluation Board into the classroom as part of the lesson (T2 on the Object-Activity Triangle). Now there is no evidence of a struggle for power or dominance within the group, perhaps because the formal constraints and expectations of the group have ended. Moreover, the effect of the group on an individual is illustrated because despite Hannah's previous reluctance to engage with the Meta-Activity during the CPD session, when other group members discuss future, practical action, she engages with the Meta-Activity apparently effortlessly.

Summary of AfL Group Peer/Self Assessment (AfL P/SA1):

In this group, the degree of involvement in the discussion of the Meta-activity (S1) seems to have been largely individual. Although each teacher is responding to a unique set of personal, social and contextual factors, each teacher acts as an individual when determining the degree of involvement she has in the Meta-Activity discussion. Abi

wanted involvement in the discussion from the beginning, while Hannah did not. Sally was largely uninvolved in the jovial dissent, but her focus was quiet. Mary was a powerful force in the group demonstrating examples of both engagement and non-engagement, sometimes joking and sometimes interested in the Meta-Activity. As the group continued, her preferences exerted a clear influence on other group members and hence the overall group direction. The group membership was therefore not in harmony, so the group priorities were not aligned for some time. Some of the individuals, at some points, seemed desirous of imposing their preferred level of S1 involvement on the others, with varied levels of success. Hannah sometimes appeared to try and influence the group into non-engagement with the Meta-Activity through Activity Sabotage by way of jokes, but at other times appeared to support the Activity, even though this sometimes manifested as a False-Engagement, whereby the Meta-Activity was discussed, but with an avoidance of key Thinking Skills understanding. Conversely, Abi also tried to influence the group's engagement in the Meta-Activity, usually by ignoring a joke and refocusing on the Activity.

This resulted in a group whose identity was disturbed, unable to fully commit to a discussion about the Target Evaluation Board, but unwilling to miss out altogether. At the end of the group, there is greater cohesion and willingness to discuss aspects of pedagogy, in this case the advantages and difficulties of Peer Assessment, but it took a long time to achieve unity and cohesion. As the group disbands, four teachers discuss the very practical requirements for using the Tool in class, launching into what could be classified as an R1 discussion, because, although I am present, the discussion does not involve me.

7.4 Activity Shortfall and the role of Cognitive Dissonance [Second Peer/Self assessment meeting (AfL P/SA2)]

This meeting occurs just after I had met with Helen, encouraging her to be present in these meetings.

Present were Abi, Hannah, Helen, Sally, Mary, Laura and Researcher

Abi starts to talk about the Target Evaluation Board discussed in the previous meeting and mentions a lack of time to try it, due to rehearsals for the school play. Helen asks if there is any news on my tutor coming to present a workshop on Thinking Skills. The

protocols get signed. The meeting starts enthusiastically, with Sally describing how a self/peer-assessment strategy she was using in English was similar to the Target Evaluation Board discussed in AfL SPA 1.

Sally: Basically, I just thought: Oooh! when planning some English. This is a bit like what we are doing. It is basically writing a recount of our visit to the Victorian Museum ... so the children are going to plan their recount ... they're going to plan their own experience and there's a checklist for .. making notes, planning and then actually for writing it and then there's a marking ladder.. so they can actually mark it themselves. A similar thing to that Target sheet. I've done a .. couple of exercises using the dartboard look, with the key objectives in and it worked really well in my class, they really enjoyed it... they stuck the dartboard into their geography books so there was evidence of ...

R: Oh, that's nice!

Sally: Of Assessment for Learning, in their books. ... (These are) quite nice. (Shows some frameworks) I brought them in two years ago ... this one is self assessment and you could use them for peer assessment.

Helen: Do we have anything else to report back in terms of things tried?

Mary: We tried it. Did it this week. Monday.

Laura: Are you beginning to see any effect from it? Are they beginning to put in paragraphs?

(Quite a curriculum focused question, but still relevant. Possibly trying to encourage a little more from Mary)

Sally is enthusiastic here. She has tried to use an Object-Activity in her classroom and has had some success with it, which she is sharing with other teachers. In contrast, Mary remarks that she has tried it, but her lack of elaboration forced Laura into asking for more information, which Mary declines to give. Sally responds instead.

Sally: I think they're probably becoming more aware of the learning intention, the WILF. Because they know they're going to be assessed on that... because there's a consequence.

Abi: I think it will take a bit of time. I did (the dartboard) in Unicorn Club, and they've never done it before. That was interesting. We did the thing about the pets ... at first off they didn't write down the fact that it was alive.

Though neither did the teachers when they tried it as a Meta-Activity in AfL SPA 1! It seems as if there is a misunderstanding here about the point of the exercise in illustrating how easy it is to overlook the entry criteria.

Sally: I just used it straight away in Geography. They took it on straight away and understood exactly what to do and they really very much enjoyed it and it made my marking easier because I just did the same thing when I was marking it. ... If you have the criteria on the side, it saves you handwriting out a comment each time as you just label how far they've got towards the middle.

R: One of the workshops I went to was called 'The Road to Less Marking' – actually, I've photocopied the notes for you ...

Hannah: This is brilliant. They get this before they start, don't they? So it's really obvious what they have to do, but I wouldn't do all of it in one lesson.

R: Hmm...

Hannah is still tending to see the clear stating of criteria as a procedural approach to a particular Maths problem, rather than an explicit, gradual consolidation of transferrable skills acquired through effective self and peer assessment.

Hannah: Today's lesson, for example, we were doing multiplying using negative numbers, what I'm looking for at the end of the lesson is that they can multiply using negative numbers, one thing, so to have a dartboard for that is hard, there's only a couple of criteria: is your multiplication correct and did you use the correct sign. It isn't complex enough for there to be a dartboard. These types of things work very well for .. word problems.

She continues talking in this vein. This is another example of False-engagement with the Activity, coupled with an 'expert' stance, suggesting that she 'knows' even though there are aspects of the technique which she has still not grasped. The False-engagement is denoted by the discussion being nominally focused on the Activity, but not on the aspects of pedagogy which the Activity has been set up to promote, namely affording

more control to the pupils and attempting to engage them in understanding the assessment criteria rather than guiding them in following mathematical procedure accurately. Her continued monologue suppresses S1 in the group. She is not engaging in SI avoidance through Activity Sabotage by laughter and jokes, however, as she did in the previous meeting, perhaps because of the presence of Helen and Laura, both senior staff members.

Hannah: *On Monday, after three lessons in a row trying to get them to understand why their format was upsetting me, I got them to mark each others..*

R: *How did that work?*

Hannah: *Immediately I could see that a couple of them, when they got someone else's in front of them, they were looking at the person who had got theirs (Laura laughs) and I thought, right, now you're understanding (that someone else) has to live with my bad handwriting and the fact that I've crammed it all in to one small space, the fact that I've done it all on a diagram and haven't used three words in the entire sum ...*

Here Hannah is still not focused on children's thinking or the processes of peer assessment, but is using peer assessment to identify a particular point, that of untidy work. Clear working, however, could be part of the assessment process.

R: *(interrupts) Maybe this needs to be the criteria?*

Hannah: *This is the kind of thing that works with my Year 8s ...*

Hannah does not engage with the suggestion from me. Laura tries another perspective.

Laura: *With negative numbers, there is a need for understanding, like with a percentage question, whether, for example you increase or decrease ...*

Hannah: *We do them together at the start*

Hannah has become fixed on procedural instruction and transmission pedagogy and is now dominating the meeting.

R: *What about traffic lights or flow charts?*

Hannah: *(rummages) well, let me show you what they do do in class...*

Laura: *If you a child with a learning difficulty, the multiplying of negative numbers presupposes a huge number of skills.*

R: *And multiplying with fractions presupposes a huge number of skills.*

Hannah: *... basically there's one of these for each of the four strands ... and what I've been doing in class is when we do an exercise, we do the first exercise that we all do together that we all mark, then do one that I mark, then we hand back and then there's feedback. Then there's a ... consolidation exercise and when the consolidation exercise is done, I do one of two things. Either they mark their own work or they switch and mark their neighbour's work, then they look at how they've done. If they get more than half right and I'm sure they can get it right in the future, they sign it off under 'I can' and they put the date there. When there's a further assessment, a third piece of work, on that thing, I will sign it off under 'teacher.'*

R: *So they can track their own progress.*

I find it difficult to balance the meeting with Hannah's force of character and although frustrated by the summative, teacher-led examples she offers, I do not always know how to respond. In this case, another teacher picks up the dialogue.

Sally: *We do a similar thing in Middle School , as you probably know, we have a similar sheet if they've got all of that section right, they shade that bit in. ...*

Laura: *And how does it have an effect on the very weak children?*

Hannah answers instead.

Hannah: *I think the thing that I'm really trying to do Laura is to make them see it from my point of view.*

Laura: *Oh, I see, right.*

Hannah: *I think the very weak children a lot of the time, they look at that and think 'why do you want to know that?' ... so I go, look, this is what the examiners are trying to work out, can you do the following. ...*

I then introduce the Activity, using a section from Helen's book on formative assessment (Clarke, 2006).

R: *I wanted us to look at Helen's book, which I think is quite user friendly, quite nice, so I have been trying to do is copy some bits out of it which I think are going to be most useful to you, rather than hand you yet another thing to read. The only thing that really struck me is the very first thing they say is 'to build on successes.' And I was just transferring it to the work that you're doing and building on your successes and a lot of the things that you talked about feed in exactly to (what is on) the handout, which is the stuff that I thought was most relevant, which I just thought is actually quite interesting. (Hands copies out).*

Helen: *I know that Emma was using the Traffic lights and said they really did respond to it, they were 'utterly honest' which is a good start. They were not trying to present a better impression of themselves to the teacher.*

Hannah: *I was hearing about a geography teacher who did a similar thing ... she actually worked in a secondary school ...*

R: *(interrupts) As long as you've got a class that's quite well bonded, I mean, some children might not want to do that. ...*

Abi: *So, you know this example, is that Year 7 or is that about something else?*

R: *... I just thought it was a nice framework for some things.*

Abi: *Yeah, we do things like that with our Romans...*

With hindsight, despite the problems with the group dynamics, the Activity itself lacked cognitive dissonance and was thus not particularly stimulating. The impact on the S1 dialogue seems to flatten the energy of the group. This is an example of Activity Absence, when difficulties in engagement with the activity, as in this case, appear to stem from the choice of Activity itself.

R: *I think you do have to keep saying to yourselves that you are doing a lot of these already.*

Helen: *I think the biggest change will come with refining and practising our ability to be precise .. with the different success criteria ... then this kind of stuff becomes more meaningful. ... In an awful lot of schools for an awful lot of years, children have been asked to write their own assessments and their own targets, but they've been useless because they've been (without enough understanding)*

Hannah: *That's what I was going to say, when I ask them to write a target, often they've been..*

R: *Too vague.*

Hannah: *The targets don't mean much*

R: *"Concentrate more" ...*

Laura: *Improve spelling*

Hannah: *Concentrate harder. ...*

Helen: *You can start with a general target like improve spelling, but then focus on details like what strategy you use.*

Laura: *I saw one which said 'Improve history'.*

The group dialogue has become unfocused, so I draw attention back to the specific steps as advocated by Clarke (2006).

R: *I wonder whether we're thinking too much about broader targets instead of lesson targets (Helen: Yes). The reason that I picked this out is because if you look at stage 1 you are getting somebody to identify what they did right in that particular piece of work. Then stage 2, if they highlight one thing they want you to help them with in that particular piece of work and then in stage 3, on their own or with somebody else, they highlight their success, they pick out something they want to improve and they have a go at improving it. ... We could spend hours identifying criteria ... but we might have more impact if we spend ten minutes at the beginning of each lesson allowing children to acknowledge success, identify area for improvement and then have a go at improving it. I think what's difficult is the curriculum is so full that in practice you know you have to teach x, and you go in and teach it.*

Helen then takes on a curious role. Despite Assessment for Learning being her initiative, the strategy taken from her book and my presence in the groups being at her request, she takes a negative stance.

Helen: *The difficulty with stage 1 is if the children don't have the knowledge, vocabulary, awareness to identify what we know is a success (jumble of voices 'but if they had criteria') and the judgement to really recognise what is success... say it was handwriting and it was to use adventurous language and the child writes 'I did' and they didn't, because they don't recognise ...*

R: *But that's absolutely fine. Because, for Assessment for Learning you can see that that child isn't able to apply the criteria. So it's like, ooh! This is Assessment for*

Learning in action. Great. ... So you know exactly where to target those particular children.

(Pause)

Hannah: *So my question is, can you use it on something other than a piece of writing? Because in Maths there's not many examples of work where this is going to be useful. 'This sum is wrong'. ... 'What did you do right' before we have another go will be a little bit .. (odd)*

Here Hannah engages clearly with the Activity and makes a valid point, highlighting the limitation of the strategy. This has the effect of engaging Helen more positively.

Helen: *There will be (times) when you can see different stages. ... 'I picked the right operation' (jumble of voices add to this. Also someone comes into the room) They might have plotted half the points correctly ... they might have done everything correctly in drawing the graph, but then they might have read the results incorrectly ...*

The meeting dissolves quickly as the next lesson period begins. Tellingly, unlike the previous Peer and Self Assessment meeting, there is no lingering and no informal discussion about how to integrate the strategy into upcoming lessons (T2).

Helen and I then become engaged in a dialogue about the theory.

Helen: *Playing Devil's Advocate, I suppose if you had set a piece of work, asking for powerful verbs, you can see immediately whether the child has or not, and then if I'm going to clarify whether the child doesn't understand the criteria or simply doesn't have the vocabulary to be able meet the criteria, either way you are going to get the same feedback from the child.*

R: *Or are you? ...I think it will help you identify where the problem is rather than obscuring where the problem is.*

Helen: *Don't know. (long pause) I'm thinking about, you know, bringing people on board with this ... unless we keep trying these things out we're not going to be able to show that it does work for people.*

There seems to be some ambiguity for Helen here, between wondering whether some of these techniques work and trying to show that they do work in order to ensure that

Assessment for Learning does become part of teachers' practice. It is as if there was a lost opportunity here, perhaps because the chosen Activity was inappropriate, because teachers are now not engaged in a discussion of the Meta-Activity. Moreover, Helen's concerns regarding the usefulness of some strategies within an overall productive paradigm could have been an interesting discussion in which teachers may have had much to contribute. With hindsight, that type of discussion might have contained the elements of cognitive dissonance which the Activity itself lacked. I finish the meeting eventually with a comment which suggests that I am aware that the group had been alienated rather than invigorated by my choice of Activity:

R: Make next meeting a bit more structured than this one.

Summary:

This meeting highlighted the importance of an apt and interesting Activity. It perhaps illustrates the problems which arise when a discussion attempts to become metacognitive and generalised too early on, without sufficient activation of interest via cognitive dissonance (as explored in Chapter Two). Without the cognitive dissonance, there is little opportunity for teachers' own experience and opinions to be brought into the discussion, resulting in an absence of stimulating dialogue (S1). In many other examples, S1 is hampered by a complex network of contextual and social-dynamic factors. In this case, one simple, over-riding factor meant that S1 could scarcely happen: poor choice of Activity which was ultimately the responsibility of the researcher.

7.5 Exploratory Activity Engagement [Assessment for Learning Open Questioning 1 – AfL OQ1; Assessment for Learning Lower School – AfL LS and Researcher, Susan and John Triad]

Assessment for Learning Open Questioning 1 :

This group has a very different atmosphere to the previous group, despite its apparent similarities. It was organized by Helen as part of the Assessment for Learning initiative; contains a mixture of teachers from Middle and Upper School; includes some who were already part of my research project (Liz, John and Susan), but not all; was facilitated by

myself and based on a specific Tool which I had prepared for the group and occurred within the same week. The key difference, however, is that the discussion launches immediately into engagement with a Thinking Skills strategy, though not the one which I had brought for the group's perusal. Of particular note is that, while in the previous group, the levels of engagement in S1 was very different for each individual, here the group as a whole engages in S1, demonstrating a group unity and group identity from the outset.

Liz has just entered and begun to explain how although she likes using some of the strategies, she doesn't feel comfortable naming them to her class. I hasten to start recording.

R: ... Personally, I think the advantage of saying 'Think, Pair, Share' or 'Concept Cartoons' is that people then know what you are meaning, so that if you say 'right, we are going to do a 'Think, Pair, Share', then you don't have to explain, 'Right, get into pairs, think about it...'

Liz: Mmmm (confirming tone)

In this group, the Tools (T1) are Bloom's Taxonomy (Appendix 8), used as an aid to formulating richer questions and Odd-one-out, used as a stimulating starter activity.

R: Yes. (Pause) This I know you have already got (aside to Liz), but I think it is very nice (handing out sheets). It is the Bloom's Taxonomy, but it's focusing on verbs, so when you are writing OLLs or homework, it's got things like, in the first one, 'Write' 'List', 'Label' and in the second one (Comprehension) 'Explain', 'Summarise', 'Describe' and in the third one (Application), 'Use', 'Compute', 'Solve'. []

Liz: I will have another copy actually, because the more places I have it, the more likely I am to use it. Can I have it e-mailed, too?

Liz shows an initial interest in having the Tool physically. Susan shows more of a theoretical understanding of the use of the Tool and its effect on children.

R: I just thought it was particularly nice and user-friendly and you can obviously use it for questions as well, but if you are thinking of that, you can say 'Recommend' or 'Compare' and having it as verbs makes it really nice.

Susan: Focusing on what the child will actually do. (agreement murmurs from group)

R: Yes

Liz and Susan both express reservations about the use of the Object-Activity in class, but Liz implies a problem with the Activity in terms of its suitability whereas Susan's problem is centred, not on reservations about the Activity, which she embraces, but in terms of the space available in class time.

Liz: In Science, Samantha and I looked at it yesterday after the meeting with you and we both agreed that to get down to the synthesis and evaluation is quite difficult. (agreement murmurs)

Susan: The only way that stands out to me is the 'Critique' or 'Recommend' – I mean I think you should do this (emphasised) – but whether we actually do do it (agreement murmurs) because I am trying at the moment to...

Susan is then interrupted by Anna. Anna is more powerful hierarchically than Susan, who is new to the school, but there is the suggestion that even though one aspect of power lies with Anna, previous exposure to the Tool and confidence in her understanding of the pedagogy affords Susan a voice, with which she is able to maintain her ground and assert her opinion. Her shaky start to the reply may represent her awareness of this ambiguity of authority:

Anna: But they're, but they're developmental, the stages...

Susan: Oh yeah, but no, you can, you don't have to, we're not saying 'this is a Year 3 or this is a Year 4'..

Anna: No, no, no, no, no, but this is the end, when they get to this stage...that's the higher level thinking... (2-3 seconds of muddled talk)

I begin to speak, intending to support Susan's position, but Susan appears willing to pursue her own point. She is supported by another colleague.

R: That is not absolutely ...

Susan: *(interrupts, confirming) But it is not actually so hard to (Anna – no) get to this stage. If you do a piece of writing and then you say, ‘Right, I want you to judge your own and have a look at others ..’*

John: *‘and recommend changes...’*

Susan: *And I think that is ...*

Liz cuts off this theoretical discussion and again challenges the appropriateness of the Activity. Her comment is a direct rebuttal of Susan and John’s perspective that it is possible to expect children to engage in Higher Order thinking. Interestingly, Liz typically teaches older children (Years 6 – 8) whereas Susan and John teach Years 4 and 5.

Liz: *(interrupt, challenging) But in Science, that is level 8 and you are talking GCSE...*

Susan: *That may be harder in Science.*

Liz: *It is difficult in Science. That is why we both sort of said, ‘We’d like you to be doing that, but ...’*

Pause

Susan makes a conciliatory gesture and the dialogue is halted, but I am keen to extrapolate the point that Higher Order Thinking is not rigidly developmental and may be used effectively in primary teaching. Liz appears to imply that, although it’s a nice idea, it will not work in Science. The dialogue reopens, but Liz does not contribute.

R: *But I think Bloom’s actually got it slightly wrong in that he suggests it as if it is progressive, but in fact ...*

Anna: *There is overlap, isn’t there.*

R: *And also, children that find the very basic ones, like Knowledge, hard can often do better on the Higher Order thinking, so it’s quite a nice ‘in-road’ (agreement murmurs) I mean, when you’ve got a child who is very off-task, then you ask them to evaluate something or justify it, then they tend to draw in the knowledge and the comprehension ...*

Susan: *So do you think he is wrong in calling it ‘Higher Order’? Or are we accepting that it is higher order thinking?*

R: *Well, in a way, although it is more complex, it is more fun, (agreement murmurs, an inaudible comment) so in a way it is almost easier than just the recall.*

Susan: It's just regurgitating something, if you haven't got good memory skills ...

R: There's nothing to hook it in to. ...

John: In a way it is progressive because it is first knowledge that you get, then it's the whole application of it.

Anna: So we are saying that there might be children who are bad at the Lower Order Skills but actually much better at the Higher Order Skills. Some children have a natural ability with the higher order ones.

In this extract, three teachers are actively engaging in discussing the Meta-Activity (S1), developing mutual vocabulary as they do so.

I introduce the Tool, which is the Odd-one-out strategy. Susan demonstrates her support:

R: What I thought might be quite nice would be to have a look at Odd-one-out because I know we all know a bit about it, but it's one of the best places to begin. When you talk about Questioning and increased wait time, I think it is really impractical just to wait a bit longer, I don't think it works terribly well, I think you are much better off doing something whereby the wait time is embedded in what you are doing. An odd-one-out is your best place to start because it is quite easy, fits to any subject,

Susan: There's no right or wrong

R: There's no right or wrong, you've got comparing and contrasting and analysing and categorising, you've got loads of higher-order stuff going on, but at the same time it's accessible from Year 3 up.

Susan: Or even lower

R: Or even lower years... You can make it visual, you can do it quite quickly.

I hand out the sheet and give some examples from that resource. Susan responds by describing how she has already converted the Tool being presented into an Object-Activity which she has used in class, and gives some feedback on it.

R: If you look at the back, where it says 'Odd-one-out' is a versatile strategy, the list it gives I think makes it really easy to see where you would use it: portraits of famous people; artefacts from different historical eras, characters, descriptive words, extracts,' and it works really nicely for Maths, like 0.5, $\frac{1}{2}$ done as a fraction, $\frac{3}{4}$ etc. And the

reason I think it is really nice for Assessment for Learning is because it gives you a really quick insight into how children are thinking about things, what kind of language they are using to describe things,

Susan: *I pretty much did number 2 the other day, I had it up on the whiteboard, about inventions from Victorian times... listening to the children talking, they had a little debate amongst themselves... stimulated a bit of thinking for a minute or two and it got them into it, which was quite good.*

John: *So would you then have a couple of these throughout the lesson? For example if you were in a topic lesson, doing a Celtic village, you could put up things that aren't from a Celtic village and things that are from a Celtic village or could be from a Celtic village and then would you then through the lesson have a number of these...*

Anna: *(interrupts) I think I'd be inclined to have a few things that are, I mean I'm thinking of having 3 religious symbols that are all tied in with the topic, but the way you group them is different, so for example, we've been doing symbols and I might have the Islamic moon and star, the Jewish Star of David and the Jewish Minora, so then you can say there's two Jewish, or there's two stars...*

After I have introduced the Activity, three teachers engage with the Activity individually, but do not engage with each other's discourse. Susan starts by giving an example of use of Cognitive Dissonance in the classroom and its effect on the children, stimulating a discussion and then increasing motivation. John does not respond to this, instead asking about how often the strategy might be used in a lesson. He is interrupted by Anna who has generated an example of an Odd-one-out for use in an RE lesson. This seems to indicate a willingness to engage personally with the strategy, but suggests a lack of cohesiveness in the group. Despite individual engagement, lack of group identity in exploring together the ideas associated with the strategy could have an impact on subsequent sustainability of the strategy after the initial CPD exposure has ended. Finally, John explicitly requests for a return to his original problem.

John: *Well...*

Susan: *The idea is that there's no right or wrong, the child could say, those two are blue and that's red [all talk] ...it's fascinating what they come out with...*

John: *(wants to return to his original question) Well, I haven't given thought to what goes up, what I'm saying the question actually is, how do you incorporate **that** into a lesson?*

Here, John is more focused on T2, the structure of the lesson and the placing of the strategy within it. This links to a recognisable characteristic of John, whose methodical approach to lesson plans had led him to focus on the specific structure of a lesson in previous meetings (see Chapter Six). This compares to Susan, who is focused on S2, children's thinking within the lesson, another characteristic which she had displayed in earlier meetings. Both teachers are therefore acting in congruence with their individuality, rather than being modified by the group at this point.

R: Personally, I wouldn't use more than one, because I think it is quite rich and you get quite a lot of dialogue. The times I've used it have either been as a starter to see what people are conceptualising or as a plenary to see what they've got...

John: Right...

Susan: Yeah, as a plenary, if they came out with '2 blue and 1 red' and that really hadn't been the focus of the lesson, you would realise...

John/Anna...Yeah, yeah.

Liz: Sometimes they are like, Well, that one's got 2 'o's in it and that one hasn't, or they try and find something silly

Liz's first comment after presentation of the Activity is to give an example of when it doesn't work. Her engagement with the Activity continues to be less than the other three teachers, either through absenting herself from the discussion or through downplaying the role of the strategy.

R: Often, yes, at the beginning, but if someone keeps on doing that, you've got to wonder if they're afraid of being wrong or trying to hide the fact they don't know too much, so I tend to let one or two of those go and then say, Ok, but we know this is a History lesson..

Susan: What's the OLI, come back to the OLI..

R: Where are we going...

Anna: It doesn't work for everything, but it is adaptable to all sorts of things.

R: ... what I was going to ask you to do was to give you a template and come up with something that is relevant to your subject and try it on the person to your left and see what concepts they come up with (explains template) ... and what you said earlier,

Anna, about linking them all together with a similarity, I think that's really nice as well ... at the end you can say 'What have they all got in common'.

Anna: Yes, because ideally you want things that are to do with the things that you are teaching. I mean, they all link, you don't want there to be an obvious odd-one-out necessarily, you want there to be a link between them all...

Anna speaks authoritatively, but not completely accurately, about the Odd-one-out strategy, which I am keen to address.

R: The concept you're working with a lot is ambiguity and it's called cognitive dissonance and the more you've got that kind of thing going on, the more exciting it is. You can have fun things, like a Nazi symbol, and people say, 'That's not a religious symbol,' and actually it is or ...

Anna: Yes, it's the wrong way round..

There is a brief group discussion on the difficulty of generating examples for use in an Odd-one-out. I pop out briefly in search of another teacher who was supposed to be attending. The next few comments are made without me. Susan expresses difficulty and Liz seems very keen to amplify this difficulty, possibly even encouraging the group to stop doing the Activity altogether. John is quick to refocus the group.

Susan: You kind of need to be doing it in the moment: Oooh that would work well now, as opposed to randomly think up something, but I can't work like that...

Anna: I know, I do struggle a bit with some of these...

Liz: The thing is, I'm struggling to think what I'm actually teaching next week...

Susan: Yeah, me too.

John: To be honest with you, I think we should all do a lesson and do one of these...

Susan: Between now and two weeks time, all have used these in a couple of lessons.. [] as opposed to try and rack our brains right now.

(Pause as people try to think of their odd-one-out). I re-enter.

John: We were just saying, it's quite difficult to think of one...

R: Which is kind of why I thought it might be quite nice to do it in this context.

Liz: Gone brain dead. This is really hard.

Anna: Ok. Got mine. Haven't drawn them.

*R: There's one I like when teaching spellings and homophones which is:
Which/Witch/Why*

Anna: Aaah, that's quite good!

John: So all of them should be linked?

Anna: Oh no, they don't have to be, but it's nice if they are, because then you've got a way of grouping them.

R: ... In some way draw out a theme

Anna is the first to complete the task. Laura enters and I give her the handouts. Liz is still expressing difficulties, but is now engaging in the Meta-Activity, perhaps because the other teachers have completed theirs.

Liz: I haven't really worked out why these are all similar and different.

John: Celtic Village: Hut, Clay Pot, Spear

R: Excellent!

John: Is that alright?

R: Brilliant. My first thought is the hut's the odd-one-out because you live in it, but then the spear could be the odd-one-out because you use it to kill things with, the others are more domestic...

John: That's natural resources, that's natural resources ... so there you go (sounds pleased)

R: Yes, really nice, and then you go into a discussion with your group...

Liz: (interrupts) I don't know what goes in these bits here

I was about to offer a suggestion to John about what would follow next in a lesson plan in response to his earlier question, but Liz interrupts with a query about the template, which Anna answers.

Anna: That's what makes them different (points to different speech bubbles on template) and that's what makes them the same.

Liz: So that's not for me to do, that's for them to do.

Anna: Yep. I've got one. Didn't change it much in the end. Star and Crescent, Christening Candles, Star of David. ...

Susan: That would be a good plenary one, because I think you need a lot of knowledge.

Liz: You need a lot of knowledge. I don't know any of it!

I seek to expand upon the Meta-Activity with more theory, in particular answering some of the concerns teachers have had about 'no hands up' and longer wait time.

R: Each of the pairs don't have to have a link. It's more that there's enough there to generate conversation. And what I really like about this is when you think about open questions and wait time, it's all in there anyway without you having to think about waiting ... so it's just really useful.

John: Even that prompted a lot of conversation, (Susan: Exactly) like we've just done and like you said, it doesn't always have to be linked

Susan: Tourism, Money, Jobs

There follows a short discussion about content, R, Susan and John mainly, Anna and Laura once each, but Liz not at all. Liz continues to be on the periphery of this AFL working group.

Anna: The difficulty with them is that you have in your mind, er which is good, but it's whether the children see the link so you might have in your mind a very very clear link and they might not, like in my one, you might have a very clear link in your mind that you want them to find and its whether they find that (laughs)...

Anna demonstrates a deeply rooted transmission perspective, in that she has clear concept that she wishes to pass on to her pupils. While Thinking Skills is designed to help teachers to broaden their perspective and consider children's own conceptualisation process, Anna is at least engaging in a discussion here about pedagogy. Liz may have her own doubts or misconceptions about the approach, but in her reluctance to engage in the discussion, it is impossible to address those issues as part of the group.

R: But it's also, yes partly we have a link in our mind that we want the children to get, but partly we also want to see the link that they're having, so in a way it forces us to relinquish a little bit of the control that we are so used to having as teachers.

(several people speak at once)

Susan: ... and see how developed are their thoughts.

John: That could be linked to tourism as well...

John goes back to talking about the content of Susan's Odd-one-out, moving away from discussion about what can happen in the classroom and the teachers' role and also of sharing power and control of the discussion. He moves the conversation back from talking productively about childrens' thinking to looking at the content of Susan's Odd-one-out (T1). My intention as facilitator of the group is that the Activity is used as a starting point from which conversations about pedagogy can emerge, but this is not embraced by all members of the group. In this case, the conversation was led back to the content base of the activity, T1.

Susan: Maybe I should have put pollution in, as a negative...

John: And they all could be negative.

I am anxious to deepen the discussion again, bringing in some metacognition by looking at the effect of the strategy on the people in the room (from T1 to S1 again):

R: What is so interesting is that by using that format, we have got John interested in tourism and discussing it whereas had we just said 'I've been teaching tourism' and looked at that, you wouldn't then have been engaged in that to then come back to us and go on talking about it. So there is something about the structure that makes it more open to people, I think.

Susan: Because you want to express your, the link that you've found, to other people, don't you? It's your way of imparting your ideas.

Susan extrapolates an aspect of Vygotskian thought here, also illustrating the motivational aspect of cognitive dissonance. By solving a problem posed by an ambiguous starter, the individual seeks to utilise language to develop their thinking within their social context.

R: Yes ... you've got more reasons for why they are then listening to what you want to say because they've made some sense of it for themselves.

Liz: It works very well when you can get them discussing, but because of the way our classes are, with their fixed benches, (R: It is hard) it is not as easy.

John: They could work in pairs.

Liz: Yes, well but you know, you then turn round and say 'What are your ideas?' and it all becomes a 'Me, me, me' rather than 'This is what we thought'.

Liz joins in with a brief discussion of the pedagogy, supporting the importance of discussion in teaching. She highlights a problem that she faces in her own teaching room, which is that the benches in the Science Lab are fixed, which makes creative classroom arrangements difficult to manage. When John suggests a solution, however, she seems to become uncomfortable with the likelihood that pupils will try to engage in a wider circle of dialogue.

Susan: Well it can be individual.

Liz: Yes and to run it like this seems to be less 'Me, me.' So if you're wanting to do it in groups it might work because you all have your individual tables. Well here's my one, which is interesting. It's about Forces.... Air hockey, a football about to be kicked, something on a table.

Despite Liz's reservations, her Odd-one-out is very rich. It stimulates a lively discussion of content amongst the group, considering potential energy, kinetic energy, balanced forces, acceleration and friction.

Liz: That one's balanced because it travels at a constant speed. ... The idea here is to get them saying that the similarity here is that there is a balance, and the similarity here is that they are both stationary.

Laura presents hers on Maths. I return to Liz as I think she was interrupted prematurely and I wanted to acknowledge her engagement in the Meta-Activity. Then I return to Laura.

R: (It) offers the opportunity to be delighted (with some exciting answers).

Liz: Sometimes I think Oh God, if I was listening to myself, I'd be really upset!

This comment exposes Liz's vulnerability and seems to be in response to her manner of teaching and maintaining order when attempting to manage the amount of content necessitated by the Science curriculum. Anna then talks about child in Year 3, who has

good ideas, but finds them hard to express and would benefit from this, so I am unable to respond to or explore Liz's comment.

John: A child like that would absolutely adore this!

As people are walking out, several conversations occur, including one about teachers' experience of using the concept of 'no hands up' in the classroom.

Summary of AfL OQ1

This group gave a vivid portrayal of different personalities working individually with the Meta-Activity at the beginning. Due to the stimulating nature of the Thinking Skills strategy, group cohesion occurred subsequently as participants became involved with the content of the Odd-one-out created by each teacher. The effect of cognitive dissonance on this group was quite dramatic, leading to some rich discussion of metacognition and pedagogy. Additionally, the strategy ultimately encouraged the inclusion of a reluctant group member, Liz, whose Odd-one-out was ultimately perhaps one of the most successful in eliciting a lively group response.

Assessment for Learning Lower School

This analysis is important because this is the only group recording in which none of the teachers were involved in previous CPD with me. It therefore illustrates a group with no connections with the original research project. Additionally, as part of the Lower School, I had no real engagement or involvement with them in any capacity.

I start by handing out resources. There is a slow start, as I am unfamiliar with the individuals and also with the Lower School age group (Reception, Year One and Year Two). Therefore I am on unfamiliar ground in terms of how Thinking Skills strategies fit into their lesson plans.

The strategies selected are Odd-one-out and Traffic lights. Kate and Pam start talking about children self assessing.

Kate: I suppose what I am really interested in is Questioning ...

***Pam:** In Reception, focus is all about building up confidence (discussing relevance of strategy for class).*

The tone here is interesting as it feels like we are combining expertise, their knowledge of the age-group, mine of AFL strategies. We are co-constructing useful strategies to fit their context. This may be because the group specifically asked for me, rather than these sessions being mandated. Also, there is something in common with the Year Four group who discussed History as this group are also in a common domain, with similar curriculum and priorities, compared to the mixed Subject and Upper/Middle School groupings in four of the Assessment for Learning Groups. Sometimes, there is a tendency for the Lower School to be side-lined from whole school CPD initiatives, so there may also have been an element of enjoying the CPD opportunity. This may have added gravitas to my role.

***R:** Tell me more about the kind of questioning you are already doing.*

***Pam:** Well, I don't feel I do enough of that with the children. So questioning-wise, I sort of say, well we did this last week, who can remember... if they look a bit blank, I say, well talk to your partner and see what you can come up with.*

***R:** Like a 'Think, Pair, Share'... Group Alerting...quite nice because it gets them all thinking.*

***Jo:** 'What have you learnt, what have you found out today?'*

These questions are open ended, but recall based, rather than stimulating cognitive dissonance. I introduce the first activity, an Odd-one-out using pictures of a pencil, orange and banana in order to introduce the concept of cognitive dissonance through a practical strategy. Some suggestions are made by the group.

***R:** So already we've got fruit/not fruit, soft/hard, natural/manmade, straight/curvy ... What's interesting is that if you do this with your group, they will come up with things you haven't thought of (Clear agreement from all three) and the nice thing about Odd-one-out is that you can actually use it in any area.*

***Jo:** phonetically regular spellings...*

All three teachers begin to create their own.

***R:** And they have to be ambiguous, it's called cognitive dissonance. And the whole point of that, if there's just one right answer, then it is a fairly closed question and you are*

trying to get a more open question. So if there's ambiguity, firstly, it's more interesting, secondly your weaker ones will realise that actually any answer will be acceptable as long as it is actually true ... and in terms of Assessment for Learning, you get to have a lot more of an insight into how they are talking about things. So because the source is rich, the initial stimulus is rich, you will actually get a lot more insight into your children than if you say: Can anyone remember what we call this shape?

I give more theory here than in some of the other AFL groups because as none of the teachers have worked with me before we are covering new ground. On one hand, the amount of talking shows that I am the one who is transmitting the knowledge and that it has not yet been adopted or internalised by teachers, as it is when they are discussing it or debating issues. On the other hand, being allowed to 'get into a flow' is an indicator of interest and value, compared to when the theory behind the Meta-Activity is of no interest to teachers and I am not allowed that 'space', such as in the first AFL meeting for Peer and Self-Assessment.

Kate: *I have a picture of a person, a cat and a car.*

R: *You could use that one right up to university! ... you could get a really good insight into how children conceptualise stuff, so that's a really nice example.*

You've got: cat, dog, said..

Jo: *Only because two are phonetically regular.*

R: *If you could use another animal for your irregular?*

Pam: *Our topic after half term is sound, so you could have... drum, fire-engine, triangle*

The three teachers quickly engage with the Meta-Activity as shown by quickly creating their own Odd-one-out. Pam is already thinking about her Object-Activity (T2) the following half-term, wanting to integrate the Meta-Activity into a specific upcoming lesson.

R: *And what I really love about Odd-one-out is that if it's a closed question, the very best that a child can do is to meet your expectation: Great, lovely. But with this, they can exceed it, so you get that opportunity when you go: Yeah, Wow, now that's really interesting. And I think that tone is really powerful. ...*

Pam: (interrupts) *The child is initiating it ... initiating an answer and then the other children, I don't know, are more likely to want to join in rather than if you're (initiating).*

Pam is now allowing the theory presented here to overlap with her previous knowledge and experience concerning the powerful role of peer to peer learning. She is absorbing and integrating the theory as she joins in with an additional, relevant theoretical point, only thinly disguised by her 'I don't know'. She continues to do so.

Pam: *And sometimes they come up with something, and you're like: Oh! It wasn't the one I was thinking of but...*

Now there is a sense of excitement, as the three teachers really see the point of what we are doing. This links with some of the criteria outlined in the literature review for how you can tell when a teacher begins to internalise the new paradigm shift. This is now S1 in action. It is possible that initial enthusiasm for S1 is easier to achieve when something is new. There were positive glimpses in the beginning for all of the teachers in the one-to-one CPD, even for teachers who later found that there existed obstacles to embedding new ideas. Also, a lot of components coalesced for this group: I had school-mandated status; it was a voluntary group yet part of a school-led initiative; the teachers were not disillusioned by the efforts of attempting strategies in class and finding difficulties and Lower School teachers have fewer summative assessments to work towards. The Thinking Skills strategies also link easily to existing pedagogical concepts.

Jo: *Non-verbal reasoning and pattern solving and categorisation...*

R: *That's exactly what it is, it is such a rich place to start and they're using it all the way up the school..*

Jo: *it's showing what you know, rather than what you don't know...*

Kate: *So would you suggest, I don't know, maybe if we all (turning to colleagues) I mean, do you like this idea? (Pam: I really do/ Jo: No, I think it's a good idea) I just think maybe if we all just did the same thing to start off with, 'cos then...*

Jo: (interrupts) *you can apply it...*

Pam: *It's up to us...*

Kate: *And it's really nice...*

R: And jot down your examples, jot down what you've used, so you can use them next year and build up your (repertoire)...

Kate's response is interesting, because she suggests, albeit tentatively, that the teachers work together and explore the same technique. This could lead to increased embedding of the strategy into subsequent lesson plans because the foundations are being laid for sustaining the dialogue. The intention to continue to build a discourse by going beyond the Object Activity as used in class (T2/S2) is more powerful because it has been initiated by a teacher. In terms of understanding legitimate peripheral participation as the point at which a new paradigm becomes accepted and internalised by the teacher, the moment when a teacher understands the pedagogic concept and then initiates an ongoing cycle of use and discussion represents that point when the boundary is brokered. In this way, the deliberate pursuit of R2 by teachers after trying it in class, which is whether they pursue opportunities to continue the dialogue initiated by the CPD, starts to become the critical point at which CPD then begins to become embedded within the teachers' culture. This process of taking the Object-Activity triangle back to the Meta-Activity Triangle by discussing the effectiveness of new classroom strategies with colleague turns the discourse initiated by CPD into an embedded discourse of a new domain, evolving into a continuous loop and building the type of dialogic foundations which would be necessary for a Community of Enquiry to develop.

The teachers then talked about tailoring it to specific classrooms and topics. Their discussion is now more focused on each other, rather than me, which shows another shift in the creation of the new domain. As well as engaging in the Meta-Activity and discussing its specific inclusion in lessons (T2), they have already begun to form a small group which is no longer dependent upon my input.

Jo: I'll try and use it in my spelling group.

Pam: Think about where and when..

Kate: It's more about quality not quantity, isn't it?...

Pam: We'll use it as and when...

Kate: Yes, I can already think about one lesson where it would work, but the next week's lesson, I'm not quite sure how I'd fit that in there...

It will fit really well into the observations, because the assistants then can write notes on what they are saying.

R: Oh, that will be really nice, that's a very good idea.

Kate demonstrates an interest in how children think which is a key part of the pedagogy for both Thinking Skills and Assessment for Learning. Later, all three teachers showed me some examples of work done in class and some thoughts and phrases that children used, showing that they had used the T1 Meta-Activity to create T2 classroom activities, resulting in discussions and expanded thinking in pupils.

Researcher, Susan and John Triad:

This recording combines a Year 5 and a Year 4 teacher, looking at a strategy that had been prepared as part of the Classroom Strategies for Formative Assessment package and presented at an Assessment for Learning 'Open Questioning' group which neither teacher could attend.

November 14th, 2006

R: Now I know we did this earlier, but this is something I've done for the Assessment for Learning project, if you could have a read of that and sign it, that would be great. (Susan reads and signs Permission Form for release of recording).

What I was planning to do this afternoon with people is something a little jazzy, because we've had the initial enthusiasm... (meeting interrupted)

Why don't you just tell me what you've been doing? (Looking at something Susan has prepared, which was clearly time consuming). Is it hard to prepare...?

Susan: I just find there is so much on, you have to really force yourself to focus on something. There are always so many things I want to focus on, that it's always difficult. And, I have to say, the last couple of weeks have been really 'bitty', horrible as far as Maths is concerned. We've had cut off lessons here and there, we've had exams, twice, because we had the end of half term exams after half term and then a week later it was assessment week. So two weeks worth of what I'd call rubbishy Maths lessons. I'm still finding it difficult to get into the habit of focusing on Questioning. And for me, yes I can implement these strategies, but ... if I put them up on the wall, up there where I face, 'No hands up', it would remind me and I'd do it. Not even 'No hands up', more the (longer) waiting time, for me, I would probably just do it, and I probably wouldn't even have to think about it.

Susan illustrates a theme here that is commonplace in this context, that of a teacher who is willing and able, but cannot hold too many foci in the front of the mind; attention to paradigm shifts thrust out by other pressing concerns, in this case, two separate requirements for summative assessments.

Susan: But for me, it's not so much these strategies as the type of questions that I want to check whether I'm using properly.

R: You could record yourself if you wanted?

Susan: Yes...

R: Have [a recorder] on your desk and just listen back afterwards.

Susan: Yes... 'cos then you've not got anyone in the classroom. Whenever you've got someone in the classroom, your lesson is always different from how it would be naturally.

R: I'm pretty sure you wouldn't need permission if you were just doing it for yourself and listening to yourself [interruption – John enters]

Susan: Hello, John!

John: Hello, Amelia

R: Very long time no see!

John: How lovely to see you! I've missed you.

R: That's on, just to let you know (pointing to tape-recorder).

John: That's alright. It's still lovely to see you and I've still missed you!

R: I've got a little present for you.

John: Ah, lovely.

R: It's basically... the other half of the chapter.

John: They'll love it.

Susan: Have you been doing stuff? What have you done?

I give John more information on Odd-one-outs (T1). It is Susan, however, who I defined in Chapter Six as a 'Thinking Skills' teacher, who is the person who refocuses the chat from pleasantries back to discussions about the Object-Activity trialled in class (S1).

John: Well I've just done the 'no hands up' thing and today they keep on reminding me. We have this game. 'Can we play the 'no hands up' game?' (Laughs)

Susan: But is it successful? Does it do what it's supposed to do?

Susan is very focused on the Activity. In the exact opposite to Hannah in Group AfLP/SA1, who used laughter to encourage others in the group to move away from the S1 discussion, Susan ignores the laughter in order to focus directly on the outcome of the use of the technique in John's lesson. When John answers ambiguously, Susan is keen to understand where the problem lies.

John: It confuses them. They find it very confusing.

Susan: Are they too busy thinking about not putting their hands up rather than thinking about the question?

John: No. They can't get their head around the fact that they know the answer, but they can't show that they know the answer.

John's use of 'the' implies one answer, as if from a closed question, rather than a myriad of possibilities stimulated by a rich opening question. I feel compelled to explore this further.

R: (interrupts) Do you want to make the questions deeper, then? Because if it's something that they know they know, maybe it's not complex enough?

John: No, no, no, I agree with you. But they do find it difficult, very difficult.

Susan: You see, I've definitely come to the conclusion that I'm not bothered whether their hands are up or not, I just need to give them longer to think and then pick on anyone regardless of whether their hand is up or not. So let them put their hand up if that satisfies them, keeps them quiet, stops them going 'I know, I know!' I don't know... I suppose you've got to do whatever works with your class at the time.

John: Yes, but I think what you said Amelia, is true. If anything, it's made me more aware of how to ask a question, because I think when you stop and think about it, you kind of ask a question and before you realise it, you've giving the answer and that's just the natural thing because you want to move the lesson on, so you kind of, you do become aware of what you're doing, and how you are doing it afterwards...

John is candid here, talking specifically about the difficulties of changing practice and overcoming existing embedded habits. Self-awareness is crucial to this process and the SI dialogue which is occurring here may be the type of environment that facilitates greater openness about difficulties that teachers face. In the Field Diary entry for 21

April 2006: *John commented how hard it is for teachers to discuss ideas with each other and seek help – he said he thought it was difficult for teachers to admit to weaknesses in their teaching.* Yet this exchange, just seven months later, indicates a change in his willingness to appear vulnerable in front of his colleague. Another theme which will be explored further in Chapter Eight is the extent to which it may be easier to discuss problems with colleagues in similar domains, such as Susan and John, who although teaching different Year Groups are both in Middle School.

Susan: *Is there a particular lesson that you use the strategy more in? Thinking about the type of question you want to ask, is it more applicable to one subject than another?*

John: *Well, PSHE, we were looking at friendship and I was asking questions like ‘what do you think’, it was more of an opinion...*

Susan: *That’s much more of a dialogue lesson, anyway, isn’t it?*

John: *So you can implement that kind of... and also in ‘Topic’ as well...*

The pauses illustrate once again that the strategies and pedagogy are hard to name colloquially.

Susan: *I was going to say...*

John: *How do you think this, this, this felt, or how do you think they did it, you know, that kind of question...*

Susan: *Because, although I’m still not up to the point yet where I’m thinking about questioning every time I plan, whenever I plan History, it just happens, I suddenly go ‘Oooh’ and I’m posing a question, let’s think about this.*

R: *I’ve seen one of your History plans when you start off with a reflective question and then you go deeper and deeper into how does it compare with something, how would you evaluate it, I’m thinking of the one in particular you showed me last time.*

Susan: *Yes, I remember that. It just seems to crop up more in History whereas I don’t think in Maths or in English even, I’ve done one single lesson which has made me think about my questioning.*

John and Susan are not at identical stages in their implementation of Thinking Skills strategies. John is still ‘trailing’ the strategies and understanding how they work in the context of his classroom while Susan is comfortable with how the strategies work in History, but concerned about making the transfer to other subjects such as Maths. In

terms of positioning on the Meta-Activity framework, John is working through R1 and T2, using colleague discussion S1 to facilitate the process. Susan, in considering ‘adaptability’ of strategies, has moved through T2 and S2 (dialogue in the classroom) and is working at R2, which is the type of continued response that occurs when strategies are becoming more embedded in the classroom and the teacher wishes to extend her practice.

***John:** I think in Maths what works, though, is the diagrams, that we did a couple of weeks ago, that is the Odd-one-out and how did they all link, so that could be good in Shapes...*

***Susan:** Definitely that, the Odd-one-out, but it’s interesting that for me at the moment I can’t slip this into Maths, it doesn’t jump out at me, thinking about Questioning.*

***R:** Did you get that sheet that Clare sent round, with those taxonomy-based Maths questions? ‘Cos I reckon that might be a handy one. How long have you both got – have you got until 2 o’ clock?*

***John:** Yes*

***R:** In that case, what I’ve brought does fit quite nicely into what you’re saying which is finding a more natural way of getting the deeper types of questions into the classroom and also having wait time more naturally instead of having to physically wait and also I think it would reduce the hands-up thing anyway because it’s more like a mini task than a question so I think the hands up thing is just going to get by-passed. So I wanted us to have a quick look at visual frameworks and I think, because we’ve been talking so much about Thinking Skills, I thought it might be quite nice to do it in a way that reflects Thinking Skills, so if I give you those, a sheet here with types of conceptualising, you can see (how) the taxonomy relates... you’ve got Analysing Causes and Effects, Describing Ideas, Sequencing and Ordering, Seeing Analogies, so things you can use in more than one topic and here are the eight, well, just sketches of, the eight types of framework that these people – I’m just flashing it at you – have identified work for those concepts. Now I think some can be improved on, but, as a starting off, do you want to see if you can match the pictures up to the concepts. You can work as a pair. Here are your 8 maps. So we are kind of having a quick Thinking Activity.*

I present a new Activity using different types of visual frameworks to illustrate cognitive concepts. The aim is to help to deepen the understanding of the pedagogy for

both teachers, but also to offer another versatile tool for classroom use. Susan and John engage in the activity, talking about matching the concepts with maps.

Susan: Defining in context... because you take this central idea and you can define it, but it's got to be linked in...

John: This is definitely sequencing and ordering... you see a lot of them could match any one, though.

I then go through explaining each one and giving examples of use in the Year 4/Year 5 curriculum.

R: I think it's a nice way of thinking about the deeper types of questions you want to ask, coming up with a framework that best suits it and so coming up with something more structured for children.

John, as noted previously, likes to have a very structured understanding of the positioning of a strategy in a lesson.

John: So for example in a lesson, like what we do in a Maths lesson, you could in fact do one of these ideas as a plenary, couldn't you?

R: Well, in fact you could do it in many ways. You could use this one, for example, put the number in here and give the factors, or the pairs of factors, (here).

John: Correct.

R: ... You often use Venn Diagrams for comparing and contrasting... you certainly use branching data diagrams.

Susan: So for that one, were doing contrasting localities at the moment, so you could stick 'London' in that bubble and 'Sedbergh' in the other bubble and ... ask them to find three similarities and three individual characteristics, as a starter?

R: Then later, when they're good at it, perhaps they could add some more.

In this group, like the Year Four group, engaging in the Meta-Activity seems to be much freer of conflict and clashing group dynamics than in the larger, mixed department AFL groups. Perhaps this is because the two teachers have a more similar focus in their classroom, both as Form Teachers with overall responsibility for a range

of curriculum areas, leading to greater synchronicity in the type of Activity which is suitable to their needs.

***John:** I quite like some of these, I must say. ... (Looking at the causes-effects framework) You could do something like Boudicca: Why did Boudicca fight? What were the results?*

... It's quite interesting. It definitely makes you think about ... and it's so easy really.

John again finds it difficult to identify an apt moniker for Thinking Skills in practice, but the process of embedding the Meta-Activity into the classroom is clearly taking place. There is still the need for structured guidance for some teachers, whereas others are more confident in placing the strategies into context.

***John:** Can I ask you, Amelia, what should we be doing for this? Should we be...*

***Susan:** That's a bit of a broad question!*

***John:** No, I mean, should we be planning lessons to incorporate any of this, and then feed it back, because I just find that... I do want to experiment with this, but, do we just go ahead and do it, or...*

***R:** I reckon the easiest way to make this happen and get the support you need is to try something specific, whack an e-mail to all the people in the group, saying what you tried and how you found it, because I think we need to be having a dialogue about it... so we can really make it a part of what we're doing.*

John was, however, thinking as much about the implementation of the paradigm as a whole, in school, as in his own lessons.

***John:** But also I think our meetings, when we meet, should be more structured (**Susan** murmurs agreement). 'This is something we'll do' in the next two weeks. Now you go out and do it and report back on that specific ... in other words, like this content, which I think is fantastic, should be our focus for the next two weeks.*

Susan and John agree to make this their focus and report back at the next meeting. Our session ends.

Summary of Susan, John and researcher triad

This meeting showed some similarities with the Year Four Group meeting which began this Chapter. In both cases, the group found it easy to focus on the Meta-Activity and engage each other in productive dialogue. In both meetings, towards the end, there is a focus on what type of process needs to happen to allow for greater embedding of Thinking Skills into classroom practice. In the Y4Gp, that involved curriculum change while in the triad, that involved a more systematic approach to trialling strategies as a cohesive group and reporting back. Both of these suggestions are the type of R2 activity that takes CPD beyond the individual teacher's use of a strategy in the classroom and into the realm of initiating possibilities for whole-school infusion.

7.6 Activity Attack and Reversed Ambiguity [Assessment for Learning Open Questioning Group 2 (AfLOQ2)] :

17th October 2006

This meeting begins with an acknowledgement that just before half term, teacher energy is at a low ebb. Group members are Liz, Susan, Anna and myself.

R: This is a meeting where everyone is tired, so we are just going to give feedback and not tackle new stuff until after half term.' (Anna laughs)

I invite people to talk about anything they have tried.

Liz: Yes, I did try the 'No Hands up thing' and the children find it absolutely impossible. I mean they love it, well some do, some don't, some get really frustrated but others really like it.

This is a forceful start, initially negative, but also with an element of ambiguity. It is unclear whether it is the teacher or some of the children who find 'no hands up' 'impossible'. Although 'no hands up' was never a strategy which I had specifically recommended, it seemed to link well with Thinking Skills strategies which encouraged reflection on a rich question. In this context, the issue of 'hands up' tended not to arise because there is not a single answer that is being sought. Therefore, when teachers

express difficulties with the concept, there is a possibility that a simple recall question was posed, rather than a rich question for discussion. Also interesting about Liz's start is that she has not gauged the overall perspective of the group, so is stating her position in respect of the Assessment for Learning initiative prior to hearing how the other members of the group have found it. There is a significant pause after this remark, where the other teachers do not rush to affirm her viewpoint. Liz continues more reflectively.

Liz: The problem with it is ... I tried to explain that when they had a point to raise or they had a question to ask, they could put their hands up, but when I was asking a question and wanted a response then that was when I didn't want them to put their hand up, there is a time and a place for a hand up ... and I tried to explain that I could ask anybody the answer and they all had to be involved...

Here Liz understands half of the technique, the Group Alerting element (keeping a class in suspense because anyone could be called upon), but not the other part that involves the rich question to elicit thinking and stimulate peer dialogue, as opposed to the children feeling the pull of the teacher as the authority to whom they are responding.

There is still a very quiet response from group. Liz then demonstrates the children's attempts to get her attention: *'What they do then, is this'*... and demonstrates how a child might squirm and squeak in order to try and attract attention without putting a hand up. The other teachers respond with some muted laughter. This echoes to some extent Hannah's behaviour in AFL P/SA1 where she makes jokes about the Target Evaluation Board Activity and so it becomes difficult for others to focus on the CPD activity. Similarly, Liz has successfully moved the group's attention away from any tool (T2) that they had tried in class. The group is focused instead on an obstacle and the tone is now very light-hearted. In doing so, Liz has undermined the technique, yet without any discussion (S1) and to some extent also the whole process of CPD which I am facilitating. What started off as a type of 'False Engagement' with the activity, by initially seeming to talk about a technique that had been tried in class, but then dismissing it without discussion (Activity Attack), has now become a form of activity avoidance because the group is now engaged in laughing at an imitation of children's behaviour.

(As I transcribed this, I was on the edge of my seat to see what happened next. If it was me who leaps in, the locus of the Activity is still with me, still trying somehow to be passed on, and not internalised or owned by the other teachers. I was extremely happy when I heard that it was another teacher who cut across Liz's demonstration).

Liz : (Laughing and acting out a child demanding attention, pulling a face) They're all grinning at me.

Susan: That's not the point really. For me, I'm still going to ask anyone, no matter what they're doing. ... I just don't mind seeing a bit of reaction and excitement in a child.

Although Susan is working with the idea of Group Alerting, rather than rich questioning, her interjection has the effect of refocusing the group, including Liz. I now contribute.

R: Maybe we are putting the emphasis on the wrong area. Maybe, if it's the kind of quick-fire question where you do want to have a 'hands up' ..

Liz: ... I have got better at asking questions, like 'What do you think' rather than 'what is the answer to..'

Anna then returns to the group's starting point and describes her use of Odd-one-out in RE lesson. Susan is still thinking about the problem posed by Liz with 'no hands up'.

Anna: Fantastic RE lesson (all about) water symbolism ... amazing discussion, (children) desperate to contribute.

Susan: One way is to tell them at the beginning 'I'm going to ask you a question in a minute and I want you to think about it first.

Susan is staying very focused on the 'no hands up' strategy, exploring an S1 discourse and focusing on children's thinking. This has the effect of validating and supporting the strategy, and the CPD objectives in general, in contrast to the dismissive approach earlier. I reopen the subject of open questioning, the original stated objective of this group.

R: Regarding open questioning ... how much has it helped you to assess ... in terms of assessment, what's it doing for you?

Liz: Not a lot

Susan: I'm not really there yet. I've done Odd-one-out, but I've not really planned my questions yet.

The difference in these two responses is very interesting. Both are expressing difficulty with open questioning, but the first does not invite continued dialogue and can be interpreted as a failing in the strategy. The second also expresses difficulty, but the locus of the difficulty is placed with herself in terms of a learning progression, that this is a stage she has not yet reached. The implication here is that the strategy is a positive one, just not one which she has learnt to utilise effectively.

R: What about in the broader sense...

Susan: Children saying the same thing in different ways..

R: Are there things you can do to respond to that?

The dialogue with Susan seems to evoke a more positive response from Liz. Despite her earlier assertion that open questioning has not helped much, she gives some clear examples of what she has tried, including linking it to Bloom's taxonomy words discussed in AfL OQ1, and speaks positively about the outcome.

Liz: (I've tried) 'Think Pair Share' and 'Odd-one-out' ... (sometimes I say) 'only tell me something different from Mei-Mei's answer' and that is working really well. That has worked really well, sort of building on answers.... it has brought out better discussions because they actually have to think about what the other is saying...and it's really having to evaluate, compare, contrast, it does bring in a lot of those.. I've really found those words fantastic for my OLI () I am getting better at asking questions. That I do feel is beginning to happen.

Liz is now engaging in an S1 discussion, perhaps modelled by the remainder of the group. There is a marked contrast to Liz's previous Activity Attack and her implication that she has not used Thinking Skills activities in her classroom. Here she mentions four specific Thinking Skills strategies: Think, Pair, Share; Odd-one-out; using metacognition to build on peer-led dialogue and using Bloom's Taxonomy to structure

her own questions. This seems to be an opposite of the type of ambiguity demonstrated by Hannah, where her stated desired outcomes did not prevail in her classroom. Here, the ambiguity is reversed: initial comments downplay the pedagogic paradigm shifts which are occurring in the classroom. One speculative reason for this may be that the difficulties encountered in Upper School when introducing new paradigms may have led to the development of a social culture in which the prevalent discourse is to maintain a cynical stance when encountering CPD. Thus Liz's earlier comments may have been habitual, rather than rooted in her own experience of embedding Thinking Skills. Yet, almost despite herself, strategies are appearing in her classroom with pleasing results. This serves as a reminder that the dynamics and hence progress of CPD tends to be a fluid, ever-moving process.

7.7 Engagement with the Meta-Activity:

The teachers who arrived at the Assessment for Learning Groups having already achieved some sense of embedding the new paradigm into their own classrooms seemed more willing to engage in the new AFL activity. They seemed more willing to develop a new domain alongside other teachers. This manifested consistently as an ability to engage with the Meta-Activity, either through dialogue (S1) which deepened understanding of the Activity or through engagement with the Tool provided as part of the CPD process.

The teachers who had encountered difficulties previously seemed to pull away from the co-creation of the new paradigm. There was little engagement in S1 discussions and reluctant engagement in the specific Activities presented as part of the CPD process.

Any engagement with the Meta-Activity can be seen as productive because the new language which delineates the domain is being created and used. This includes, and in fact may depend on, critical viewpoints being voiced within the forum set up for consideration of the Activity. Thus the ideal, when considering involvement in and engagement with CPD activities and ideas, is not an unquestioning acceptance of the principles and strategies being presented, but a critical engagement with those ideas in consideration of their adaptability to the teacher's own sphere of influence.

Examples of Activity Engagement can be characterised as:

- **Theoretical Activity Engagement:** This would involve an S1 discussion of pedagogy, specifically to deepen understanding of theory and precepts (for example discussing whether Bloom's Taxonomy should be called 'Higher Order').
- **Systemic Activity Engagement:** This would involve attempts to alter current school practice to facilitate the paradigm shifts, such as reducing curriculum content in order to enable more group-work.
- **Practical Activity Engagement:** This concerns a practical focus on T2, such as creating a Target Evaluation Board that can be e-mailed to other teachers or working out the structure of a lesson incorporating a Thinking Skills Activity.

Reverse ambiguity could be found in all three cases. This would be indicative of the teacher avowing one perspective, such as being opposed to the new Activity, but actually making subsequent use of it. This would be in contrast to the more typical ambiguity; avowing the perspective of a positive attitude to the new Activity, but not in fact using it. Reverse ambiguity suggests greater possibility for change, as if an old paradigm is still being avowed, but the usefulness of the new paradigm is becoming harder to ignore. Typical ambiguity suggests less possibility for change, because the old paradigm has remained entrenched in practice.

Non-engagement with the Activity is an indicator that a new domain is not being formed or, in the case of a non-participatory individual amongst a group of other teachers who are engaging with the Activity, that the individual is not willing to become a member of the emerging domain. This non-engagement can take the form of Activity Absence, or Activity Sabotage. Both may have an impact on the group as a whole.

Activity Absence covers two possibilities:

- **Activity Refusal:** This could manifest as a refusal to engage in the CPD opportunity at all, or if physically present, to engage as minimally as possible in both group activities and group discussion.
- **Activity Shortfall:** This would occur if the Activity/Tool fails to meet the needs of the teachers or is insufficiently engaging, such as lacking structure or being unable to stimulate Cognitive Dissonance. The group AfL P/SA2 which looked at a procedure for self-assessment provides an example of this.

Activity Sabotage may also occur in a number of ways:

- **Activity Attack:** In this case, the Activity is dismissed as being unsuitable or ineffective, in a manner which does not invite discussion and generally relies on the organisational status of the individual to claim authority on the subject. This may influence the group if the individual has charisma or hierarchical power, and if so, it inhibits S1 and therefore prevents or severely limits the ability of the group to create a new discourse.
- **False-engagement:** In this case, the individual appears to be focusing on the Activity, but in such a way that old discourse and old norms are being perpetuated. This creates an illusion that engagement is occurring, but in fact S1 opportunities are being stifled, usually by extensive off-track teacher talk. This phenomenon has been encountered previously in Thinking Skills CPD:

‘The term ‘false-users’ describes teachers who have an idea of instruction that could lead to deeper cognitive processes, and apparently use these methods but actually act in contrast to the spirit of the ... approach’. (Barak and Shakhman, 2008, p. 198)

- **Activity Hijack:** This occurs when the Activity is not taken seriously and there is laughter around the mechanics of a task or diversion into other normal discourses (such as Liz mimicking lolling children in AfL OQ2). This ultimately also results in an absence of opportunity to engage in S1.

It is important to state that the phrases ‘sabotage’, ‘attack’, ‘hijack’ and ‘false-engagement’ are not intended as criticisms of any individual who demonstrates this type of relationship with the Meta-Activity. Houssart (2002) demonstrated activity refusal in children during mathematics lessons, concluding that despite frequent teacher perception to the contrary, the reasons for such refusal tended to lie in problems with the presented task rather than motivational or behavioural problems in the child. The intention of this thesis similarly is to illustrate the impact of the social context on the individual and vice-versa. Thus these observed interactions are not indicative of the personality of the teacher, their competence or willingness, but of their response to the CPD mini-environment to which they were exposed set within their existing school environment and all of the social dynamic expectations implied within. The individuals themselves are seen as mirroring these complexities and their response to CPD is a reflection of what is possible or not possible within these contexts.

The most extreme responses were seen in the two Upper School teachers: the ambiguous teacher and the curriculum dominated teacher. In light of the expectations and conflicting demands placed on Upper School teachers (Chapter Four), this is perhaps not surprising. The willingness to work hard and embrace new ideas is a facet of both of these teachers (who had both given hours of their time to this project and attempted new strategies in the classroom and were the only two Upper School teachers who sustained an interest over the full 18 months of the project). In the light of this, their respective responses to the Assessment for Learning group CPD meetings is particularly interesting, almost as if the reservations of the Upper School culture towards CPD had become voiced through these two individual teachers.

Where the host culture is more welcoming of the new paradigm, there seems to be more space for the personalities of individual teachers to emerge even when participating in different types of group. For example, Abi may have been the least keen to alter the curriculum in GpY4, but consistently engaged in the Meta-Activity and embraced the CPD with a view to placing it subsequently into lessons. This manifested even in the larger group AfL PSA1 where she refocused the group several times back onto the Activity, despite not enjoying close collegiality with other group members. Susan similarly refocused AfL OQ2 back onto the activity after Liz's Activity Hijack. This suggests that teachers may be able to remain congruent in a variety of group settings if they are not responding to strong external counter-activity pressures.

Of particular interest is the response of Helen, the Deputy Head, in at least two contexts. Professionally and personally, Helen shows great commitment to improving pedagogy within the school. Her role was to achieve greater consistency in the Upper School and the Assessment for Learning project was her initiative. Fascinatingly, on at least two occasions, Helen engages in Activity Sabotage and Activity Refusal. The first occasion occurs in the AfL P/SA2 group when she employs Activity Attack in response to a process of self-assessment recommended in the Shirley Clarke Formative Assessment volume (Clarke, 2006). The second occasion occurred when meetings were cancelled at short notice, including one for which I had not been notified (Field Diary December 6th):

Research crunch point! Walked into AFL self/peer assessment meeting place, Helen says 'I just feel guilty when I see you' and meeting is cancelled.

Cancelling the Assessment for Learning CPD group was not only Activity Refusal for Helen; it became Activity Absence for the rest of the group and thus a clear message about organisational priorities. This illustrates a distinct and important boundary between what actually exists in a culture or domain and the direction or goal that is projected or desired. Contained and exemplified within this powerful individual, the two competing Activity Sets collided and unsurprisingly, possibly even appropriately, the existing order took precedence and maintained its priority.

7.7 Overall Patterns of Activity Refusal/Activity Sabotage:

Although any teacher at any time could have engaged in Meta-Activity Refusal/Sabotage, the two teachers who exhibited consistent patterns of Activity Refusal/Activity Sabotage seemed to be the two teachers with the greatest obstacles to implementing the CPD (R1 and T2). What I would not have predicted was that these difficulties which were faced by them in their own specific roles seemed to lead them to seeking to deny S1 opportunities to the rest of the group, in an almost defensive manner. It is as if the (genuine) difficulties afforded to them by their contexts positioned them negatively against innovation altogether. Interestingly, this seemed even to have been an aspect of the discourse for the initial convenor of the Assessment for Learning initiative, Helen, as exhibited through the last minute cancelling of scheduled meetings (a powerful example of Activity Refusal).

This seems to highlight the importance of the social dynamics of the context in which the CPD is occurring. Very often, there are clear and identifiable reasons why it is difficult for a teacher, or group, to engage in the Object-Activity of embedding new strategies in their classrooms. What is less clear is why the problems with the Object-Activity should have such a distinct impact on the Meta-Activity of the initial CPD, particularly when engagement in an S1 discussion about those difficulties might facilitate potential solutions to those problems. Ironically, if opportunities for S1 continued to be made available, this might encourage the teachers engaging in Meta-Activity non-engagement to enter into an S1 dialogue and discuss critically the problems they face in implementation of CPD strategies, perhaps enabling contextualised or systemic problems to be changed.

Thus, one of the key boundaries to be negotiated when considering effective engagement with CPD is moving from Non-engagement to Engagement of the Meta-Activity. This seems to be the watershed, whereby if critical engagement can occur, organisational changes may be possible because discourse development occurs within the group, allowing for at least the possibility that a new domain may form.

CHAPTER EIGHT

DISCUSSION

- 8.1 The role of the Meta-Activity Framework
- 8.2 Boundary brokering
- 8.3 Linking the Meta-Activity Framework to other models of Thinking Skills CPD
- 8.4 Community of Enquiry and the self-perpetuating Meta-Activity Framework
- 8.5 Cognitive Dissonance, Metacognition and Meta-Activity
- 8.6 Practical Application of the Meta-Activity Framework
- 8.7.1 Dissemination and Progress
- 8.7.2 Getting the Stone to the top of the Hill
- 8.8.1 The Meta-Activity Framework's key contributions
- 8.8.2 Limitations and avenues for future research
- 8.9 A concluding thought

8.1 The role of the Meta-Activity framework:

Where the Meta-Activity framework differs from an action-research concept of Thinking Skills CPD is that it separates the Meta-Activity of CPD from the Object-Activity of classroom practice. This enables separate consideration to be made of the Tool and Dialogue which occurs as part of CPD such that it can be evaluated and understood differently from the processes which occur in the classroom. The frequent success of action research based CPD can be attributed to the context it provides in which CPD occurs. Within Action Research projects, there is often protected space made available for discussion to happen. The project may confer status. Perhaps most importantly, however, it enables groups of committed teachers to meet and engage in the type of boundary breaking dialogue which allows for the development of a common language and the creating of a new domain centering on the new paradigm. The extent to which that domain then remains stable and allows a culture of Thinking Skills pedagogy to persist in the host environment is then dependent on social dynamic and other contextual factors which impact on the conditions necessary to maintain that domain. This provides us with a window for understanding not only how social dynamics impact on CPD, but also demonstrates why Thinking Skills CPD becomes embedded in some schools and classrooms, but not others.

When others have applied an Activity Theory lens to teacher continuing professional development, interesting questions have been raised but conclusions have been narrowed by a premature dropping of the framework (Edwards, Gilroy and Hartley, 2002). Their foundation is rooted in a social dynamic awareness:

'...we ask how might teacher education respond to the need to create learners able to generate as well as use knowledge?... We answer our question by invoking sociocultural interpretations of teaching and learning which see relationships between learners, teachers, knowledge and contexts as a dynamic weaving together of opportunities and constraints which shape both teaching and learning.' (p. 101)

Due emphasis is given to the interplay between the social environment and the individual in the change process of both, though the use of 'but' puzzles me as the entire statement seems intrinsically Vygotskian:

'Mind is being socially formed in the Vygotskian sense, but it is also interacting with and impacting on the cultural niche in which activity is occurring. ... together with an understanding of the fuzzy nature of boundaries between person and culture, points us towards intervention to support the development of practice at the level of the social practices of the niche.' (p. 116)

There is even a hint at the double-layer which is key to the Meta-Activity Framework, with that layer occurring clearly in the lesson plan:

'The argument presented in this chapter suggests that, in England at least ... the lesson plan which contains within it (both) the curricular intentions of the university for the student teacher and those of the school for the pupils is likely to be the most important tool.' (p. 117)

Then the argument falters for two reasons. The first (expanded below) concerns why the immense emphasis on the *'cultural niche in which the activity is occurring'* should be primarily confined to the social groupings of the Initial Teacher Training environment rather than the infinitely richer and more complex school environment in which the teacher will spend a much higher proportion of his/her time. The second addresses the rather 'wish-list' conclusion that there should be more of a research culture in schools, perhaps with greater links to universities. While this would undoubtedly be a positive step, the problems facing teacher education will not be solved by focusing on desired outcomes without at least an outline of the processes and mechanisms of how to achieve them. The final conclusion is to add even more to the already over burdened curriculum for Initial Teacher Training:

'We are therefore ... arguing for more teacher education; for a teacher education which is informed by close-to-practice versions of the social sciences, among which we would include history; for a teacher education which is not limited to curriculum and how it is delivered; and for a

teacher education which is geared towards teachers who seek and interrogate uncertainty.' (p. 134)

From a strong start, this conclusion seems uninspiring. Ironically, a subsequent citation from Edwards et al (Barton, 2003) utilises their early pithy critique of current teacher training practice, before suggesting yet another addition to the curriculum:

'That an over bureaucratic, system serving and standardized prescription admits little diversity, a diversity which an educational system within a democracy should embrace and foster, not suppress (Edwards et al 2002:2)'. (no page numbers; electronic resource accessed January 2010)

Followed by the suggestion that:

'A valuable innovation in future courses ... would be part of the intention to enhance inclusive thinking, values and practices, would be to include disability/equality awareness training as an essential part of course provision.'

While I have no particular dispute with this at face value, my concern is that competing course content in initial teacher education may prove to have exactly the opposite effect from that intended, resulting in a stifling of critical dialogue and reflective interaction under an avalanche of curriculum requirements.

Van-Huizen, van-Oers and Wubbles (2005) take a more integrated Vygotskian approach to achieving success in initial teacher training programmes. They rightly comment:

'... the Vygotskian tradition has not been examined explicitly and consistently in order to devise a paradigm of teacher education'. (p. 274)

There is a keen emphasis on the role of dialogue within the social context in stimulating and promoting changing practice:

'A first principle to be derived from the Vygotskian theoretical framework is that professional learning and development are best conceived and conditioned as an aspect of evolving participation in a social practice. Participation involves being drawn into a setting that includes a programme directed to the realization of values and goals, forms of social interaction and co-operation in an institutional context, and the use of cultural resources. In such a setting, productive action and understanding are dialectically related ... For all participants in such a setting, learning and development may be regarded as continuing and integrating aspects of their participation, which can be fruitfully related to the continuing development and renewal of the practice itself...'
(van Huizen, van Oers and Wubbels, 2005, p. 274)

Yet, as stated above, the richness of the above understanding appears to be aimed at the simpler, shorter-term environment of Initial Teacher Training, rather than directed at the rich, complex, working environment of teachers' actual in-school practice. Perhaps this can be unpicked as being a very literal understanding of the concept of apprenticeship involved in legitimate peripheral participation:

Newcomers in a social practice, such as trainee teachers, may be accepted and treated as one particular category of these learning practitioners. The reception of newcomers in an activity system and the conditions to be provided for their apprenticeship have been examined in a general way by Lave and Wenger (1991) in their concept of legitimate peripheral participation. (p. 274)

If one was to consider the concept of apprenticeship to be applicable to any teacher engaged in understanding a new paradigm or pedagogic shift, rather than only on teachers newly entering the profession, it becomes possible to apply our understanding of situated learning to established teachers engaging in professional development as part of their on-going professional practice. Thus the new situation is not teaching as a whole, it is the establishment of the new 'domain' within an existing teaching environment. In this case, the new domain is that of community of enquiry. Teachers engaging with that CPD are on the periphery of this new paradigm and the extent of their participation in the identified Activity is measurable by the extent and type of engagement they have in the group dialogue.

*'Comparable with the goal of fostering active and self-regulated **student** learning, we regard **teacher** learning as an ongoing process of engagement with activities that result in changes in teacher practices and changes in teacher beliefs regarding teaching and learning.'* (p. 163 Meirink et al 2010) emphasises in original

Meirink et al reinforce the concept that it is the act of Activity Engagement which is crucial to achieving and maintaining changes in teacher belief and teacher practice. This study seeks to emphasise that such engagement for teachers is not inevitable. As illustrated in Chapter Seven, there may be many reasons why teacher engagement with CPD opportunities may be obstructed. Conflicting Activity Sets are problematic for teachers and the problems remain insurmountable if teachers are unable to use collegial space to acknowledge and discuss these issues.

*'Teachers in teams should ... **experiment** with alternative teaching methods in their practices in such a way that it contributes to solving a **shared** problem. Merely exchanging ideas appears not to be sufficient for teachers to learn from collaboration with colleagues in teams.'* (p. 176)

This reinforces the concept of S1 in the Meta-Activity triangle, not only as space for teachers to discuss CPD and pedagogy, but as space for difficulties to be acknowledged and voiced. Failure to do so has far reaching implications: not only do the problems go unsolved, but the burden on teachers caused by these problems seems to impact on teachers' ability to engage with learning new ideas.

'The ... groups employed routines that differed in the affordances they offered for individual and group learning, in the ways they positioned teachers in relation to problems of practice and in the degree of agency they signalled in resolving and responding to teaching problems that arose. At the same time, these routines were concrete manifestations of larger conceptions of their work and resources available for learning.' (p. 212 Horn and Little)

It is only when the space for such Systemic Engagement is provided, and teachers are able to commit to that process, that an opportunity arises for boundary brokering to occur.

8.2 Boundary brokering:

Successful boundary brokering occurs when the new paradigm succeeds in establishing a protected space within the existing organisational structure and reaches a level of priority which endeavours to maintain and expand upon that space. The concept of 'brokering' is intended to convey the subtle processes of negotiation between participants when establishing their new domain.

'The process of boundary crossing confronts one with difference and unfamiliarity and thus may stimulate collective concept formation. This can be understood partly in terms of combining tools, perspectives and practices as different constituencies listen to each other as they try to make meaning and solve problems.' (Leat and Lin, 2003, p. 408)

Examples of successful boundary brokering include:

- Year 4 teachers' Systemic Activity Engagement in which they decide that the curriculum needs to be modified in order to incorporate a more investigative approach to Anglo-Saxon history.
- Liz's reverse ambiguity in which her avowed perspective is successfully challenged by her own experience of using Thinking Skills in the classroom.

Unsuccessful boundary brokering occurs when the new paradigm comes into direct contact with the existing paradigm and a conflict occurs. Examples of boundary brokering can occur on both a micro and a macro level. At the micro level, the dominant paradigm may manifest as a point in which a lesson cannot accommodate the new paradigm. Examples occur more frequently in the Upper School where those existing paradigms are given the greatest priority:

- When Hannah gives feedback on the problems which occurred when she introduced a Thinking Skills activity and it led to 'confusions with x squared.' This led to her withdrawal from further exploration of the Thinking Skills pedagogy because confusion was unacceptable in the context of her attempts to deliver the curriculum clearly in time for Common Entrance Exams. In the alternative paradigm, confusion could have been viewed positively as a problem solving opportunity afforded by cognitive dissonance. This effectively demonstrated a specific point in time when the new paradigm was unable to broker the boundary and so the existing paradigm remained unchallenged.
- Liz's discussion with me about the Seed Dispersal drawings illustrates a point in which the discussion about the drawings may have conveyed an image of seed dispersal that the teacher 'did not want'. From a Thinking Skills perspective, the lengthy debate which this prompted between the two Science teachers could have formed the basis of a discussion had by the children, resulting in a richer understanding of the topic as a result of stimulation via cognitive dissonance.

In both of these examples, the ambiguity expressed by the Headmaster when he talked about setting priorities for teachers (*I am very conscious myself of giving a double message and I think where that double message starts to impact is in Year 5 – Chapter Four*) is illuminated by these teachers' response to an activity, representative of the new

paradigm, which cannot fit into the lesson as long as those existing priorities continue to remain dominant.

On the Macro level, boundary brokerage is revealed by both Helen's remarks about 'guilt' and the Headmaster's comment about the researcher's role as the 'teaching conscience' of the school. This was also amplified by Hannah's remark about teacher CPD making her feel guilty (Chapter Six). What is being illustrated here is the point at which the new paradigm is desired by teachers, but it cannot broker the boundary raised by the more entrenched existing priorities of the school. In each of the three examples just given, each person was left with a sense of sadness or regret as the unbridgeable gap between the aspirational and the possible became clear. In each of these situations, at that moment in time, the boundary could not be brokered.

In the Middle School and Lower School, however, the existing paradigm is not so dominant, allowing for boundary brokerage to occur more easily. Specifically, this occurred most prominently when the Year Four group decided to talk to the Head of Middle School to arrange for reductions to the curriculum content for Anglo-Saxons and an increased emphasis on children making deductions about Anglo-Saxon lifestyle based on artefacts found in the Sutton Hoo excavation. One of the reasons why this example of boundary brokerage was more successful is because fewer changes needed to be made to accommodate it. While effort did need to be made to accommodate the changes, the paradigm changes could be achieved in conjunction with the Head of Middle School. In the case of Upper School, however, such changes in curriculum could only occur in conjunction with a radical rethink of the school's entire function; a much more daunting prospect.

8.3 Linking the Meta-Activity Framework to other models of Thinking Skills CPD:

Higgins, Baumfield and Leat (2003) outlined four levels in the process from the introduction of Thinking Skills strategies to full school immersion (outlined in Chapter Two): Trialling; Adapting; Metacognition; Infusion. These levels can be mapped onto the double triangles of the Meta-Activity Framework.

'Trialling' could be seen as T2, using a strategy in the classroom. This suggests that the Tool is seen immediately as something for use in the classroom, without the need

emphasised by the Meta-Activity framework for it to be examined and explored by groups of teachers first, before being trialled in the classroom. This is a crucial aspect of the framework. When discussing Meta-Activity with the Deputy Head in January 2010, one of her comments (taken from the Field Diary entry 20th Jan) was *'very interesting – teachers don't realise they need the top triangle, they think they can just get T2'*. Asserting the importance of this 'top triangle' is not just relevant to teachers' ability to discuss ideas and benefit from support, it provides teachers with the conditions necessary for essential changes to school practice to be made to enable the new boundary to be brokered. The Deputy Head commented: *'Make room for dialogue, then teachers can challenge the things we don't want'*.

'Adapting' can be seen as R2 because the process of using the Tools in the classroom has already occurred and is subsequently being expanded by the teacher by modification of the Strategies to fit other classroom contexts. Metacognition could be considered a part of S2, the discussion resulting in the classroom as a result of T2, particularly as the teacher becomes more confident at mediating the discussion. This type of discussion can evolve the classroom dialogue from being curriculum focused to being metacognitive, considering and naming the Thinking Skills being utilised, with a view to greater understanding and transfer of such skills to other subject areas and facets of life. The fourth part, infusion, would pertain to the Meta-Activity/Object-Activity triangles becoming part of a self-reflective, self-fuelling cycle and becoming an established part of the whole-school culture, as part of an active community of enquiry.

When seen mapped onto the framework in this way, there seems to be a submerged assumption of the role of teacher discussion of the new strategies, rather than specifically placing it within the CPD process. Thus the four-part progression described by Higgins et al is contained within, but strengthened by, the Meta-Activity framework.

One detailed framework for understanding teacher learning and change in the context of CPD is Clarke and Hollingworth's four part model (2002). Although not specifically related to Thinking Skills, the model is concerned with paradigm-shift as a result of CPD. Like the Meta-Activity framework, this model views the individual teacher as the unit for potential change, within four potential and interconnected 'change-domains' (p.951):

- External Domain: external source of information or stimulus
- Domain of Practice: professional experimentation
- Domain of Consequence: salient outcomes
- Personal Domain: knowledge, beliefs and attitudes

These domains highlight areas which are embraced by the Meta-Activity Framework, either implicitly or explicitly. Explicitly, the External Domain relates to T1, choice of CPD Activity, and Domain of Practice relates to T2 and S2, use of a new strategy in the classroom. Salient outcomes is an important aspect of the Meta-Activity framework because it is argued that success, or lack of it, in implementing new strategies in the classroom is a key factor in whether or not teachers subsequently engage in other CPD initiatives.

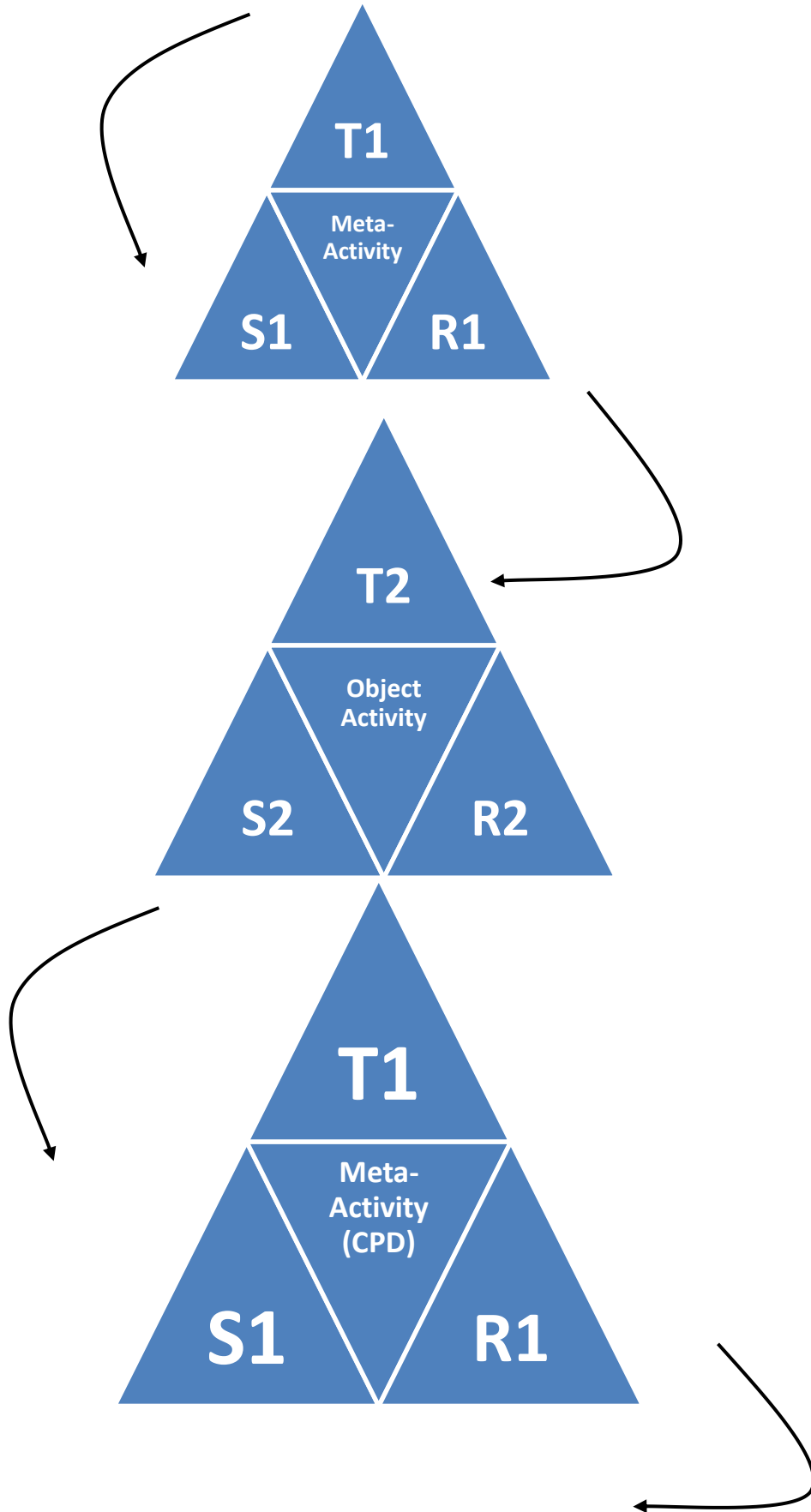
The four domains are interlinked via '*reflection and enactment*' (p. 951). This has strong conceptual similarities with the notion of Activity Engagement, specifically Theoretical Engagement and Practical Engagement and denotes the conscious action of a teacher who is engaging in the change process. Less explicit in the four domain model is the need to evaluate the role of school context when considering the extent to which change is possible. The Meta-Activity Framework is more explicit about the role and impact of the school environment. It also suggests a more linear process of change, with a clear starting point, so is perhaps particularly relevant when there is the intention to initiate a change process. The two models appear to have significant overlap which could be a fruitful area for extended future consideration.

8.4 Community of Enquiry and the self-perpetuating Meta-Activity Framework

A community of enquiry is the outcome of a school-wide infusion of Thinking Skills; a successful paradigm shift evidenced by school discourse, priorities and pedagogy (see Chapter Two). This type of embedded Thinking Skills CPD illustrates the fluid nature of paradigm shift, which can be mapped onto a self-perpetuating Meta-Activity Framework. The response to CPD (Activity Engagement) is linked to a teacher's previous experience of what may or may not be possible within their own context. CPD modifies the classroom experience, altering the teacher's response to subsequent CPD. Facilitated groups enabling S1 discussion encourage systemic changes to occur, leading to more and more successful experiences in the classroom which impact on the

teacher's subsequent level of engagement with the next CPD opportunity. Thus the long term process of successful implementation of CPD will depend not only on individual teachers' experience of success in the classroom, but also the extent to which teacher-led ongoing changes occur within the school context as a whole. Successful paradigm shift could therefore be seen as a continuous and perpetual cycle engaging both Meta-Activity and Object-Activity Triangles.

Diagram to show perpetual, sequential movement between Meta-Activity and Object-Activity Triangles:



8.5 Cognitive dissonance, metacognition and Meta-Activity

Cognitive dissonance is absolutely crucial in ‘lighting the spark’ and is perhaps the bridge between the formal learning contained by the curriculum and the individual’s meaning making as part of their peer group. In AfL P/SA2, the lack of cognitive dissonance in the Activity provoked by a dull activity had a detrimental impact on the quality of S1 dialogue which occurred in the meeting. In groups with a vibrant S1 discussion, a relevant and stimulating CPD activity had been introduced. Metacognition, however, is not crucial in the early stage of the process when introducing the Tool and is perhaps best when not imposed initially as teachers start to become immersed in the activity itself, but where it becomes crucial is as the meta-language in which teachers can discuss the cognitive process. This is powerful for pupils in the classroom because it highlights their cognitive skills (by giving a name to the cognitive ‘tool’, it makes it readily accessible as part of the discourse), leading to more successful transfer of these skills into other contexts, such as additional curriculum areas and other aspects of life.

It is metacognition as language about cognition (S1) that enables ownership, not just for pupils, but also for teachers particularly when they are constructing a new domain within their school. There is a subtlety here, highlighted by Fennema and others’ work on Cognitively Guided Instruction in Maths (Fennema *et al*, 1996; Franke *et al*, 1998) that emphasises that metacognitive understanding is more powerful when generated by individuals rather than being transmitted. This makes the S1 discussions crucial and the ‘membership’ of people within that domain, as opposed to the ‘membership’ of the people not in that domain, may prove to be predictive in terms of people who later embed CPD into their professional practice. S1 is maybe even more crucial than T2. T2 can include the teachers who try out a strategy in class but may not persist in using it even if they like it and find it rewarding and productive for their pupils, because their school context eventually militates against it. However in S1, the common language of a new domain is being built up in the form of metacognition, thinking about the cognitive process, as part of a group of teachers. The mechanism for predictability of subsequent embeddedness then seems to come about because, firstly, a new community of practice is being built and secondly, an awareness of the role of cognitive dissonance is developed, facilitating the S2 discussions in the classroom which are so indicative of an emerging paradigm shift.

The S1 discussions may face two types of challenge. One is when the challenge is made part of the S1 discussion and made explicit. This can be seen as helpful because the S1 dialogue is maintained, enabling the possibility of teacher-led changes. The other is when the challenge is achieved by disrupting, sabotaging or not engaging with SI – eg Hannah uses Activity Sabotage, Liz uses Activity Refusal and Activity Attack to illustrate disengagement. This is counter productive because it either halts the process of new language being developed or it withholds oppositional perspectives which, if made explicit, can be very powerful in co-creating a robust framework and consolidating understanding. What is interesting is whether or not other group members allow this to happen. Sometimes it is me who brings the discussion back to the table, but other times not. It seems possible that this may be an indicator as to the extent to which a new domain has or has not been created by teachers and hence how likely it is to persist in the face of staff departures (Adey, 2006; Black and Wiliam, 2003).

There is a fundamental power or sense of agency afforded by the ‘Meta’ concept. Metacognition enables people to think about thinking and evolve a language accordingly. Meta-Activity enables people to consider the processes of their action and make decisions about how that activity is to be maintained. ‘Meta’ links back to Vygotsky’s understanding of consciousness and of what it means to be human, having authorship over our actions.

‘The most significant moment in the course of human development , which gives birth to the purely human forms of practical and abstract intelligence, occurs when speech and practical activity, two previously independent lines of development, converge.’ (Vygotsky, 1978)

Consciousness of action as mediated by speech in social groupings is the driving force behind change. As Vygotsky implies, it is the self-awareness of human intention which guides and shapes progressive practice. This is why the awareness of the role of Meta-Activity of CPD is crucial to enabling desired, teacher-driven change to occur.

8.6 Practical Applications of the Meta-Activity Framework:

The Meta-Activity framework can be seen as the ‘how’ of CPD and the social dynamic model as the ‘Why’. This links to Reeves and Forde’s (2004) conceptualisation of professional practice because the Meta-Activity framework outlines the process whereby CPD embeds successfully and suggests reasons when there is failure of CPD to achieve pedagogic paradigm shifts. Where the social dynamic framework maps out the overall influences which impact on CPD, the Meta-Activity model uses the specific notion of Activity to identify the exact point at which CPD succeeds or fails to become embedded in a teacher’s practice. The model as a whole provides a structure for identifying how CPD becomes fully embedded in a school. If one was exploring school structures for creating effective CPD, one could examine the requirements for each stage of the process in respect of the particular school context (notice the infusion of social dynamic themes):

Table 7: Types of questions for schools working within a Meta-Activity Framework:

T1	What types of CPD best fit our context? How appropriate is it to our teachers? How much autonomy/budget is available? Does the school have a coherent and well articulated vision? Is it consistent with teachers' perspectives?
S1	What opportunities for discussion were available as part of the CPD provision? How well was the CPD presented? How interested were the teachers? If not, was this to do with the appropriateness of the CPD or existing dynamics or problems with teacher morale?
R1	After the CPD has ended, what time is available for teachers to integrate ideas and strategies into practice? Are there protected opportunities for teachers to continue an ongoing dialogue with each other?
T2	Are there opportunities for teachers to experiment with new ideas in the classroom. Does the curriculum afford time and space for Thinking Skills activities or investigative practice? Is there room for a teacher to experiment with strategies and still keep pace with the curriculum? Do mandatory summative assessments dominate the school timetable?
S2	What type of discussion occurred/was developed in the classroom? Is more reflection/support/CPD needed for the teacher? Is there time in the lesson for discussion following a strategy? Do the overall school goals align with this type of pedagogy?
R2	What happens next? On the individual level of teacher, does he/she seek opportunities to continue to develop the domain with others and enrich practice with more CPD Thinking Skills meta-activities? If this domain becomes developed enough, does this domain spread to the school as a whole? Does the school seek to become a Community of Enquiry as its chosen domain? Or does the domain remain fairly localised in a few individuals or subject-specific or Year-specific groups? Can this framework perpetuate as a cyclical activity? Are there opportunities for pupils to extend their thought and social awareness beyond the curriculum? How does the school as a Community of Enquiry fit into its current social/educational context? Does an exam-driven society/domain (for example) militate against full actualisation of a Community of Enquiry? If so, can the school join with other schools in its 'peer group' and create the necessary changes?

The aim here is to use the model, not to prescribe a homogenous model of CPD to fit all schools, but to provide a framework which could be used by a school to develop the appropriate structure for CPD to meet its unique requirements. A school able to embed Thinking Skills into its pedagogy will be a school who considers these questions as part of the ongoing dialogue.

8.7.1 Dissemination and Progress

When I returned to the school to disseminate findings, I met with the Deputy Head and three of the five key teachers to discuss the Meta-Activity Framework and assess its relevance to the original site of the case study. The Field Diary entry for 18th November 2009 illustrates the danger of forgetting that the point at which the data collection ends is static only in illusion; the school itself continues its journey:

*‘Susan mentioned the Head’s new focus on rethinking the curriculum, linking in ideas to (the) School Improvement Plan. I, having left 2 years ago, had therefore missed some aspects of domains which were forming more slowly. I had therefore focused on where boundaries can’t be crossed, **at that particular point in time**, but had underestimated the power of the intentions and social groupings which had formed, creating a foundation for later changes. This leads to a view of the old paradigm and new paradigm, not as inflexible ideologies which clash, but as fluid understandings which can achieve integration and harmony over time.’*

This is echoed by remarks made by the Deputy Head on January 20th, 2010 (Field Diary) : *Now we want to challenge Common Entrance, change it.*’ A teacher-led challenge to one of the most dominant Activities prioritized by the school would represent an extraordinary step forward in the quest to develop a whole school Community of Enquiry.

8.7.2 Getting the stone to the top of the hill: lessons for sustaining Thinking Skills in professional practice

Leat (1999) likens the process of implementing Thinking Skills initiatives to *‘rolling a stone uphill’* in terms of the momentum required to implement and sustain pedagogic change (p. 389-90). He explores the role of teacher efficacy in achieving successful implementation, citing three types of efficacy: personal efficacy (belief that one has the necessary skills); outcome efficacy (that the new pedagogy is beneficial) and teaching efficacy (belief that one can bring change to bear on external influences) (p. 399). The focus at this point in the paper is predominantly on the individual teacher, although emphasis is placed on the role of colleagues subsequently:

'Thus all innovation ... needs radically different approaches to in-service education. These are likely to include consortia or networks of teachers...' and '... detailed discussions of teaching methods and provision of time for key staff to work alongside colleagues.' (p. 400)

The Meta-Activity model would suggest a switch of emphasis. If the Meta-Activity Triangle of CPD was accepted as a vital part of sustaining Thinking Skills CPD initiatives from the outset, the context of collegiality would already exist, providing the opportunity for teaching efficacy (teacher-led problem identification and solving) to occur. One might also expect that protected and valued opportunities for S1 dialogue to occur would also contribute to personal and outcome efficacy, based on the importance of the social context in reinforcing understanding, skills and self-belief. Should this be achieved, the 'rolling stone' of Thinking Skills CPD may then be better placed to maintain its own momentum.

8.8.1 Meta-Activity Framework's key contributions:

The initial research question asked whether teachers' utilisation of Thinking Skills CPD could be explained by a Meta-Activity Framework. The Meta-Activity Framework makes explicit the activity undertaken by teachers prior to the activity which takes place in the classroom. The contributions made by this are as follows:

- *Explanatory principle:* One initial dilemma concerned the discrepancy between different schools' response to Thinking Skills CPD, specifically the different levels of embeddedness occurring as a result of CPD initiatives. Teachers frequently valued the Object-Activity and its effect in their classrooms, but Thinking Skills as a pedagogic initiative failed to permeate a school as a whole. While a social dynamic perspective would focus on generalised conflicts between prioritising activity sets, the Meta-Activity Framework isolates the specific initial activity of CPD, in particular the opportunities available for teachers to engage in productive discussion about the Meta-Activity. This space for discussion enables teachers to consolidate theoretical and practical understanding, tackle school-wide problems and develop a common language which enables a new, Thinking Skills domain to form. The formation of this new community of practice enables teachers to choose their new paradigm, in this case, developing a community of enquiry. When this process is able to occur

fully, Thinking Skills is more likely to remain embedded in the school and the paradigm shift achieved.

- *Making submerged Meta-Activity conscious in order to structure professional practice:* Attempting to infuse the Object-Activity of pedagogic strategies and theories into the classroom without due attention to the Meta-Activity process hampers both teachers' professional practice and the formation of the new domain. Heightened awareness of the provision necessary to enable proper engagement with the Meta-Activity encourages teachers to seek space within their time-table both for initial and ongoing discussion with colleagues and to reinvigorate lesson plans with new strategies. An understanding of Meta-Activity provides a school with a structure for planning and implementing CPD to enable maximum effectiveness.

*'Research of the past two decades has confirmed the importance of the **collective** capacity of schools ... a combined focus on routines and resources has permitted close investigation of teachers' professional interaction and has enabled us to see how such capacity may differ in consequential ways at the level of meaningful groups (department, grade [year group] level) even within the same school. If collective capacity is forged in part by cultivating professional community, then we will benefit from conceptual frames and tools that enable just such close investigation of professional community at the level of practice and over time.'* (Horn and Little p. 212-213)

The importance of the notion of Meta-Activity has a tendency to be underplayed in some models of CPD. One example (Timperley *et al*, 2007) employs a six-part 'Cycle of Inquiry' (p. 26-27): 'Knowledge and Skills needed by teachers; leaders promote learning for teachers; teacher CPD; engagement of students in new learning experiences; impact of action on students; student outcomes'. This does not specifically acknowledge the potential need for systemic changes to occur in order to enable processes of effective CPD to happen nor does it mention the crucial requirements of time and space needed for R1, in which teachers take concepts and strategies and modify them to fit specific lessons. The reason for making these explicit is because these are the two main reasons why Thinking Skills CPD fails to embed. Therefore to address this problem, these areas need to be made overt in a model of CPD such that they are accessible to conscious, collaborative resolution.

- *Analytical use of Meta-Activity Framework to reveal patterns of teacher engagement:* Out of this model emerged glimpses of themes and patterns which characterise individual teacher's engagement with CPD. Future research (see below) would be invaluable to explore the ramifications and robustness of the categories of Activity-Engagement, Activity-Sabotage and Activity-Refusal and explore their implications in other contexts. In particular, the relationship between teachers' patterns of engagement and the types of problems that are thereby highlighted could prove to be a useful tool, both in research and in diagnostic improvements to professional practice within schools.

8.8.2 Study limitations and avenues for further research:

The nature of this case study is such that the patterns observed were generated by a small number of teachers in one particular context. In particular, patterns of Activity Refusal were largely obtained from only two Upper School teachers. To mitigate this, these patterns emerge consistently on a number of different occasions, five for Hannah and six for Liz, but continued exploration of patterns in other Upper School teachers facing similar constraints would be useful.

Due to the reflexive nature of the research journey, a number of the weaknesses in the study were used to alter both methods and emphasis as the study progressed. Examples (see Chapter Three) include the initial attempt to conduct action research projects with individual teachers; the use of the social dynamic framework as an analytic tool to examine teachers' discussions and the premature focus on resources as the pivotal factor in CPD. With hindsight, the ambiguity of role inherent in spending such an extended period of time working on CPD with individual teachers prior to working in groups meant that it was sometimes difficult to remain 'research-focused' in the face of temptations to try to alter school-wide practice.

This research was not designed to examine the specifics of classroom practice, other than a few lesson observations, some sample lesson plans and examples of class-work produced to enhance the contextual understanding of the researcher. These were seen as peripheral to the main focus of the study and used illustratively only. Thus the potential predictive characteristics of teachers' S1 discussions remain largely speculative as no

established link has been shown between the level of engagement in CPD Meta-Activity in general, and the extent of Thinking Skills strategies being used in the classroom (T2), the amount and depth of S2 discussions occurring in the classroom and the persistence of the initial CPD over time. A future study could examine whether or not there is a predictive link between Meta-Activity engagement and the type and extent of Thinking Skills strategies subsequently used in the classroom.

'... the analysis points to the utility of the conversational routine as a conceptual tool for assessing the learning potential that resides in collaborative group interaction.'
(Horn and Little 2009 p. 212)

The types of Activity Engagement, Activity Refusal and Activity Sabotage would benefit from additional investigation. Are these patterns replicable in other contexts? Are there aspects which have been overlooked, or is this set complete? Can a link between type of Refusal/Sabotage be identified with types of problem facing the individual teacher? If the problems are tackled, is there a subsequent impact on the patterns of Activity Sabotage or would one identify more examples of False Ambiguity as a teacher wrestles with the changing paradigm? On the practical side, can it be shown that greater school focus on structures to support the processes of Meta-Activity will result in greater embedding and dissemination of Thinking Skills practices?

8.9 A concluding thought:

In 2007, I presented a short paper at the Doctoral School Summer Conference, categorising the pilot project interview questions into the categories suggested by the Social Dynamic framework suggested by Reeves and Forde. An extract from the Abstract reads:

The first set of interviews was loosely structured and followed no particular theoretical structure. Using a grounded-theory approach, themes were allowed to emerge unfettered. Part way through the process, a Social Dynamic Model (Reeves and Forde 2004) seemed to offer a useful theoretical framework to interpret the emerging themes. Moreover, this framework became a research tool in that the final set of interview questions were structured to reflect the 7 category framework of this model.

*This paper compares the first set of interview questions with the last set, in order to examine the changes in the themes considered salient to the researcher. ... one category was present in the first set that is not highlighted within the 7 category framework of the Social Dynamic Model: **responding to need/solving an existing problem.** (emphasis added)*

The Meta-Activity Framework analysis has highlighted that disruptions in engagement with the CPD Activity often stem from unspoken systemic or cultural obstacles that militate against full adoption of the proposed changes. The Social Dynamic framework, as it stands, does not acknowledge specifically the need to address contradictions that exist for teachers within their context, partly perhaps because it is a descriptive tool rather than a process model. The Meta-Activity framework, which is a model based on movement and action, allows space for the concept of problem-solving, specifically in the Discussion phase (S1) of the Meta-Activity Triangle. Moreover, it offers a tool to discern when problems exist, but are not being acknowledged, through the notions of Activity Refusal and Activity Sabotage. Once problems are identified and acknowledged, teachers in like-minded groups are likely to have much greater impact on their existing context to enable profound pedagogic change.

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Section One: Research Journey

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Section Two: Thinking Skills CPD

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Research outline

- Teacher Professional Development – Not enough research (National Foundation Educational Research – less than 1% of current research focuses directly on teachers' needs). Large surveys show that teachers feel that:
 - a) professional development often does not meet their needs
 - b) their role can be reduced to that of technicians delivering content
 - c) their professional judgment and creative flair is not sufficiently recognised or utilised
- Research will focus on 3 groups: Reflective group, Behavioural group, Teaching Strategies group (see over). Ideally, I need 4 people in each group, from both middle and upper school.
- The research is on what teachers do with different types of professional development focus. Therefore, once you are established in one group, there is no barrier to utilising ideas from other groups or even changing groups altogether. I will be observing your professional decisions, not restricting them.
- Because time is so precious, each group will focus on what you already do or would like to do if you had more time. Time spent is intended to be worthwhile, contributing to a sense of satisfaction and achievement. Ultimately, all practices should *save* time as greater effectiveness in the classroom will reduce time spent on going over work with less able pupils and reduce time spent on managing off-task behaviour in the classroom.
- Participants will have a written protocol, including a confidentiality agreement and a clear outline of expectations and time commitment at the beginning of the project. Participants may exit the project at any time.
- In September, anyone who would like an insight into the Behavioural approach or the Teaching Strategy focus will be invited to try a one-off 'taster' – either a tailor-made lesson plan or a behavioural strategy to use in their classroom, before making any commitment to the project.

Research protocol for collaborative teacher-researchers

Research outline:

The overall project is investigating teacher professional development; specifically comparing the effects of a behavioural approach (assertive discipline) with a teaching strategy focus (thinking skills) and a reflective approach (no structured intervention). To do this, each teacher will choose his/her preferred group and undertake a mini action-research project, with support, over a two-year period. After the implementation phase (Term 1), teachers in all groups are free to use any techniques they like provided that they keep a record of any changes they are making.

Time commitment:

All groups are asked to keep a reflection journal, recording their subjective impressions of their classroom practice and overall state of mind. This will be discussed with the researcher and anonymous copies taken. If a teacher would prefer to keep any particular entry private, this can be accommodated. The reflection journal would never be shown to anyone else within the school.

All groups are asked to take part in six lesson observations per term. These observations are part of the professional development process. They will include data gathering relevant to each individual teacher's project (see below) and will be discussed with each teacher afterwards. From term 2-6, there may be the option of video-prompted recall to aid the professional development process. This will not be essential if individuals feel that it would impact on their teaching.

All groups will have two recorded interviews per term, with general questions available beforehand if desired. Active researchers (behavioural group and teaching strategy group) will need to spend time implementing their chosen changes. In order to offset this, I will be available for one period per fortnight helping in any way I can. This could include:

- a) Discussing lesson plans
- b) Finding/creating/modifying resources
- c) Practical support – display boards/photocopying
- d) Developing theoretical understanding
- e) Problem solving.

In the implementation phase, more support may be necessary at the request of individual teachers. This could include modelling methods in the classroom, preparing sample lesson plans based on syllabus content or spending more time together to discuss any aspect of the project. It may be possible to modify the time commitment to take account of particularly busy times of year and/or personal circumstances. For example, observations and interviews could be scheduled so as not to coincide with the busy end-weeks of term.

Confidentiality:

Participants will not be mentioned by name in any written documentation relating to the research. Within school, please indicate below whether I may or may not mention your name, group and general research area to other interested members of staff. I will not discuss any specifics of your project with anyone other than yourself and the University of Newcastle supervisory team. Videos will not be kept. Transcripts of the interviews will be published anonymously and you will retain the right to veto the use of any particular interview or portion of an interview if desired.

Exit:

You have the right to exit the project at any time. However, I would be grateful if individuals could discuss any arising difficulties with me beforehand, in the hope that modifications could be made that would enable continued participation. In the event that leaving the project is inevitable, it would be helpful if I could have an 'Exit Interview.' This will enable me to have a greater understanding of aspects of the project that I may have overlooked and to make the necessary changes.

Collaborative Action Research:

Together, we will be exploring aspects of professional development that are valuable to teachers. To this end, we are both researchers and both experts in our respective areas. It will be the synergy of our professional backgrounds that will result in increased understanding of how certain approaches work in your specific context, and what effect that has on you.

Some teachers will prefer to observe their classes and write their impressions in the weekly reflection journals. Other teachers may want to focus on one or two individuals in their class and monitor their academic and behavioural response. Some teachers may want to record specific data, such as the number of times they ask a class to work on-task or the number of hands that go up in response to a question. This will be up to you and will be discussed in our early meetings.

Ethics: The research will be conducted in accordance with the ethical guidelines published by the British Educational Research Association (copy available on request).

Findings: All participants will be informed of the research findings and given a complimentary copy of any publication based specifically on this project. The findings will eventually be used to inform academic and educational policy and practice in the future.

Permission:

I am comfortable / uncomfortable with my name and general research area being mentioned to other staff of Thomas's, Battersea.

I understand that my name will not be used in any other context.

I am willing to take part in this research, on the basis of the description given above.

Name:

Date:

Signature:

25 October – Thoughts at half term

Original three group design of reflective/behavioural/teaching strategies isn't working because I don't believe that effective classroom management is best served by a behaviour-only approach, especially one that focuses on individuals' behaviour (compare Canter 200? and Kohn 200?). However, I am aware of a strong researcher effect, so must compare my views with a research engaged school focusing on an exclusively behavioural programme and read reports/articles. Perhaps even interview teachers from such a school?

So the question still remains – to what extent is the positive effect based on thinking skills compared to simply being part of a research project? Partly, this can be answered by the some of the teachers' enthusiasm for the teaching interventions:

Thinking skills teachers who have used strategies for at least 3 weeks now:

Amy (4) , Abi (4), (Sophie 3), Lee (2), Susan (3), Liz (4) – All reporting positive feedback and all have spontaneously made comments to me about their progress. Abi, Susan and Lee have shown me work produced in class, Liz is very anxious to have met with me for planning before her classes start and Amy has come up to me spontaneously to report back on a technique.

Subjectively, there seems to be less excitement generated by those focusing on behaviour. Certainly, when 14 teachers were presented with the same choices and offers of time commitment, 9 out of 14 have specifically chosen the thinking skills option, 2 out of 3 of the reflective group have tried strategies being used by their Year Group colleagues, while 2 out of two of the behavioural group have failed to 'get off the ground'.

Incidentally, Liz and Samuel have added methods to their revision notes in line with a study skills programme running in school at the moment, which has some links with Thinking skills and collaborative learning. We may be beginning to see a cumulative effect of two or more sources of a paradigm shift. In order to support/dismiss these impressions I will need to look at longitudinal studies of other research engaged schools and see which interventions/shifting paradigms have had the greatest long term effect on teachers' self-sustaining generative change.

A more powerful control group might be:

a) teachers who have had no part in the project at all – questionnaire/interview at end of two year period to see if any ideas have 'percolated'?

b) teachers who are part of the mini-project. These teachers didn't have an active interest in pursuing their CPD, but will try something that is seen as a direct response to their needs. Questionnaires/group or individual interviews? How frequent?

Thinking for learning

In terms of research, it can be hard to define exactly what a ‘thinking for learning’ lesson looks like. All of the following criteria are considered to be related or important to this type of teaching. I am interested in your views on these criteria. Could you grade them, in order of importance, in your view, and in terms of difficulty to implement? Please use 1 – 5 with 5 being the best (ie most important/most easy to implement). Some people may prefer to write comments as well – this is absolutely fine.

I have left a space for additional comments. If you think I have missed out any key areas, please say!

	<i>Importance</i>	<i>Ease of implementation</i>
• Open ended questions	_____	_____
• Peer dialogue	_____	_____
• Co-operative problem solving	_____	_____
• Constructing meaning (Mysteries/Discovery)	_____	_____
• Metacognition (thinking about thought processes)	_____	_____
• Cognitive Dissonance/Ambiguity	_____	_____
• Reducing ‘teacher talk’	_____	_____
• Philosophical inquiry	_____	_____
• Opinion sharing	_____	_____
• Specific group roles/expectations	_____	_____

The following are factors that may or may not help a teacher to create a ‘thinking for learning’ lesson.

• Space in curriculum to try new ideas	_____	_____
• Time for resource creation	_____	_____
• Ready made ‘thinking’ resources	_____	_____

- Time for teacher discussion of pedagogy _____
- Focused/individual CPD _____
- Self Confidence _____
- _____
- _____
- _____
- _____

Any other thoughts/comments?

Interview protocol

The interview will be recorded, so that I can go back and listen to your comments and opinions. I will not transcribe the whole recording, but might transcribe small pieces of an interview that are particularly interesting. If I do this, I will show you my transcription to make sure you are happy with it. Your name will not be given to any other person and will not appear on the transcript or final research. It will be treated as confidential.

Ultimately, you will have full control over your recording. If for any reason you do not wish the interview to be used at all, I will destroy part or all of the recording at your request.

I have read the above protocol and am happy to be interviewed:

Date _____ Signature _____

Interview Questions

Individual

General

- How have you found the project so far?
- How would you describe what we have been doing differently in our planning?
- What has been useful/not useful?
- What would you have liked to have tried, but couldn't? What prevented you?
- Have you recommended any strategies to any other teachers? Which ones?
- Are there any you would not recommend?
- Has anything helped you with more challenging pupils/classes?
- In the classroom, what kind of lesson makes you feel rewarded as a teacher? Frustrated as a teacher?
- What kind of structure for continuing professional development and/or ongoing support would you like to see in place?
- What from this project would be helpful in ongoing CPD?
- Of current 'good practice', what helps you and what stifles you as a teacher?
- In general, what inspires you and what hinders you?

Opinions

Some teachers continually try out new ideas to improve their teaching practice, others less so. This project is interested in what factors keep teachers motivated enough to continue improving their teaching and what inhibits them from doing so. What do you think?

Some areas that interest me and on which I would love to have your views:

* Does the willingness to discuss the processes of teaching and learning with pupils (metacognition) help teachers feel more satisfied with their class?

* Lesson planning – are well planned lessons always better than less well planned lessons? Are there any ‘key components’ that are likely to result in a better or worse lesson?

* If a teacher did not have to deliver a fixed amount of content and if he/she had time and support, could a lesson be arranged to minimise the behaviour of challenging children?

June 20, 2006

Dear Colleagues,

We are coming to the end of the first year of the project; I am astonished that it has come so quickly. Most of all, I want to thank you all so much for your participation. Not only have you been so generous with your time (and I know how little there is to spare), but the warmth and encouragement have, quite literally, kept me going. Of course, your written views and interviews are the backbone of the project and I have felt privileged to have received such thoughtful and reflective responses from you all. I feel like I now have a deeper and richer understanding of the challenges and passions of teaching and some awareness of the full respect that the profession deserves.

I will be putting an 'end of year audit' in your pigeon holes to capture your final thoughts before the Summer Break, but in recognition of the huge task of report writing, it really is brief and, hopefully, fun. Also, I need to call in my books, so I will put a slip into each pigeonhole with the books which I think you have borrowed.

If you could, I would like to know what you thought of the book/s and whether or not you used any of the strategies. Also, if you just never found time to read, it really helps my project to know that too! If you could jot down your thoughts on the back of the 'Audit' sheet, I would be very grateful.

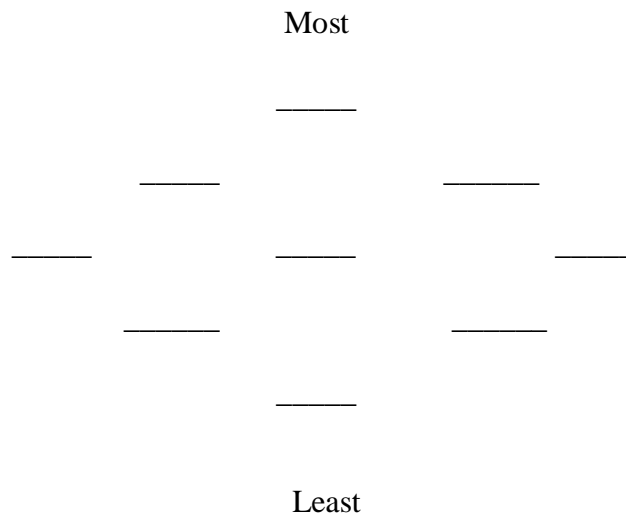
Finally, I am very happy to lend books over the summer once I have checked them all in - just write me a note to say which ones you want.

All that remains is to say that I have learnt so much from you all - thank you!

Best wishes for a super Summer Break

Amelia Roberts

Ranking preferences with Diamond Nine:



The following nine aspects of our work together have been numbered. Can you place the number of each aspect in the formation above to show which ones you most value in relation to the others.

1. Time to reflect
2. Talking to 'mentor'
3. Talking to colleagues
4. Analysing teaching
5. Paying attention to children's thinking processes
6. Obtaining stimulating teaching materials
7. Improving lesson plans
8. Learning new teaching strategies
9. Chance to experiment in classroom

If there are any which you do NOT consider important, leave it off the Diamond Nine altogether.

Would you like to continue the project next year?

What would you like us to focus and work on?

My supervisor, Dr. Baumfield will be coming to give us a talk next term. Which areas would most interest you?

June 20, 2006

Research Report

This has been an exciting and productive year. It has been an enormous privilege to work with such dedicated teachers, all of whom have been generous with their time and very open to new ideas. In all, 12 teachers across both Middle and Upper School have taken an active role in the research, in trying or exploring 'Thinking for Learning'; while a further four took part in the interview phase. Three teachers are interested in joining the project next year, bringing the expected total of teachers next year to 14. The Science Department has specifically requested a focus on developing the Yr 5/6 curriculum, with a view towards gradually embedding a more interactive teaching approach in Science across all year groups. We will be working on strategies that support the new ICT focus.

This year, teachers have explored:

- Thinking Skills as a route to differentiation
- collaborative group work to increase on-task behaviour
- multi-sensory/investigative work in Maths
- listening to children's thinking processes in Maths
- use of stimulating teaching strategies in Topic/History
- the role of Thinking Skills in MFL
- 'cognitive dissonance' in Science
- use of 'higher order thinking' in lesson plans
- 'Thinking skills' curriculum development in Science and Topic

Next year, I am hoping to link my research focus, Thinking for Learning, with the school-wide interest in Assessment for Learning. There is considerable overlap between the two and those teachers exploring Assessment for Learning in the classroom may benefit from additional support as part of my project. To facilitate this, I am hoping to be part of the A4L working party next year. This should also tie into the ICT resources being introduced next year. Additionally, my supervisor, Dr. Baumfield from the Institute of Education has offered an evening workshop to Thomas's teachers next term in support of their continued professional development as part of this project. I would also like to discuss some of my conclusions with both Middle and Upper school teachers, perhaps during a Wednesday staff meeting, for a more public commentary/critique on my findings.

Many people have been very supportive of my research, in addition to the teachers directly involved in the project. In particular, Laura has long been an advocate of personalised learning and has offered practical support and encouragement every step of the way. Maria and the office administrators have also been consistently helpful. In short, it has been a pleasure to base my Doctoral Research at Thomas's. I have learnt an enormous amount and I look forward to continuing the journey next year.

Amelia Roberts

October 31, 2006

Permission form for recording Assessment for Learning Meetings

The purpose of recording these meetings is to analyse how dialogues between teachers change as they become more familiar with teaching strategies that support Assessment for Learning. This will be invaluable to my PhD research as it will provide a record of how teachers respond when participating in Continuing Professional Development. It will also provide data for you regarding how Assessment for Learning is taking root in the school.

In return, I will source strategies and resources for you and facilitate discussions about their use in practice. At no point in the final research will your name be used (I use coded initials). Confidentiality of these meetings is assured. I will discuss the recordings and meetings with University supervisors, but without using your name.

The recordings are within your control; if you wish me to rewind or delete any part of our conversations I will do so immediately. I will also keep you informed of the progress and results of my research.

Thank you very much indeed for taking part in research which may eventually support the ongoing professional development of teachers and ultimately assist in the development of good classroom practice.

“I agree to being recorded as part of the Assessment for Learning working group”

Signed:

Date:

Research Feedback

*Part of my responsibility as a researcher is to feedback to you my thoughts, theories and conclusions so far. Part of making the research accurate and meaningful is to have your comments back, so I can adjust my views accordingly. Therefore, after each paragraph, I have left 3 lines for your commentary. This is **anonymous, so please do not put your name anywhere on the document.** I am interested in as many views as possible, including people directly involved in the research and those not at all connected to it.*

Choosing a focus for CPD (Continuing Professional Development)

At the start of the research, teachers were invited to take part in a research project looking at their reactions to Continuing Professional Development as offered by the researcher. Three groups were offered: Thinking Skills Strategies/Behavioural Strategies/Reflective.

Chart to show numbers of teachers in each group at 3 points of time during the project:

	Behavioural Group	Thinking for Learning	Reflective Group (control)
Outset	4	6	3
By first ½ term	2	9	2
By second ½ term	1	12	0

At first, 46 % (6 out 13) of teachers chose the Thinking for Learning group. This had increased to 92% (12 out of 13) by the end of the first term. Any thoughts on why this might have happened?

Thinking Strategies in the classroom

Many teachers expressed enjoyment or satisfaction when using more Thinking Skills Activities in the classroom. Teachers mentioned hearing interesting answers, helping them to understand how children were thinking and often getting children more involved. Disadvantages were that a good discussion could lead off a lesson's objective (especially in Maths and Spelling) and teachers might be unable to control the final outcome. Although learning was often felt to be richer, recorded work could be poorer if lessons ran out of time and this could leave a teacher vulnerable to criticism.

Discussion and materials

Many teachers said that they valued talking through lesson plans and strategies with me and wished that there was more time to do this within their school time-table. From informal observations of weekly Year 4 Form Tutor meetings, it often seemed as if there was only time to share materials and curriculum outline for the week ahead, rather than discuss in more detail how concepts were going to be taught or teaching strategies in general. It also seemed to me as if many existing lesson plans and resources (across all subjects and year groups) would have needed quite a lot of ‘revamping’ to be more ‘thinking’ or ‘interactive’.

Priorities

A recurring theme is that of dealing with ambiguity. For example, a child-centred approach to learning is important to many teachers I spoke to, yet many then feel forced by the pace of the curriculum to move on before they felt children were ready. Similarly, Assessment for Learning strategies can be compromised by the need to cover all the topics required for mandatory summative assessments such as end-of-term tests or exams. Additionally, the sheer busy-ness of the broad curriculum and extra-curricula activities can impact day to day classroom activity. The ambiguity is that both the intruding activity and the excluded activity are important. Often a teacher has to make daily decisions quickly about what to maintain and what to drop when lesson time is reduced.

Support systems and colleague networks

Perhaps not surprisingly, teachers with a strong previous experience of Thinking Skills, either through their teacher training or experience at previous schools, seem most comfortable with trying out collaborative learning in the classroom. Other teachers found that having a close colleague with particular interest or experience helped them to implement ideas. When subject groups or year groups had a particular interest in a technique or strategy, this seemed to support its development and encourage its implementation in lessons.

Overlapping ideas (The drip-feed effect)

Sometimes, becoming part of a focus group (such as Assessment for Learning) seemed to support teachers’ ongoing professional development. At other times, attending an external course or relevant Inset provided reinforcement for ideas and themes that had been discussed as part of the project. There seemed to be a ‘drip-feed’ effect if an idea

or strategy was heard from more than one source or was advocated by more than one person/organisation.

Opportunities to integrate Professional Development into practice

Sometimes, integrating professional development seemed to take a ‘back seat’ to more pressing concerns. Some teachers found it difficult to find time to re-read course notes or discuss with colleagues how to implement new ideas into a lesson plan. Duties, unexpected cover or an immediate pressing focus (plays, class poems, Maths week, charity events etc) could impinge on time needed to embed ideas or create resources.

Sometimes there seemed to be a clash of priorities, such as between an Assessment for Learning meeting and a Year 8 exam results discussion. Sometimes the professional development budget was not ring-fenced. Time specifically set aside for reflection and discussion of teaching practice was either not available within the time table or could be quickly consumed by other matters. Many teachers did succeed in finding time to integrate ideas and develop materials, often out of school hours, but I felt this tended to reflect the particular interest or enthusiasm of that person.

Spheres of influence/extent of decision-making power

Sometimes, teachers mentioned areas where they felt improvements could be made. I am actually uncertain as to the amount of influence individual teachers feel they have over different aspects of their work life. I believe that people have different amounts of power according to different groups. For example, a Form Tutor may have a high degree of autonomy in their own class, year group and specialist subject, but perhaps less in policy making, budget control or time-tabling?

Any other comments?

Classroom Strategies to support Formative Assessment

Open Questioning/Increased wait time:

- Think, pair, share
- Odd one out (uses ambiguity to stimulate thinking, also similarities/differences)
- ICT starters eg Concept Cartoons in Science
- Mind map/Venn diagram/Carroll diagram/PMI in pairs: these can all be adapted easily to be subject specific eg *3 circle Venn Diagrams can compare and contrast attributes of exoskeletons, endoskeletons and liquid skeletons.*
- Use of other visual frameworks to promote active thinking (Bubble Map, Double Bubble, Flow Map, Multi Flow Map, Brace Map, Circle Map, Tree Map, Bridge Map) eg *'causes and effects' of an event in history/geography using multiflow map*
- 'In a minute' question on whiteboard
- Group Alerting (question/s known in advance) - *(Using the power of suspense!). Everyone in the group has a number and you have a hat with all the numbers in it. You pull out the name of the person who must answer the question – stops*
- Other group tasks:
 - a) moving bits of paper (eg types of adverb, types of force, types of gas)
 - b) Diamond nines
 - c) 7, 5, 3
 - d) Placing a chopped up selection of key words on a diagram; include 'red herrings' for a competent group
 - e) Fill in a 'cloze procedure' passage with key words before a topic to assess prior knowledge and after a topic as a revision exercise
 - f) Sequence a chopped-up text
 - g) Definition game - *vocab and definitions, similar to sequencing. Instead of presenting with a list, ask your class to match up definitions with their terms (eg pollination, germination, photosynthesis / alliteration, rhyming couplets, provenance etc*

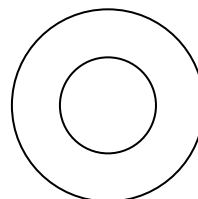
Peer/Self Assessment:

Thinking Strategies/Layers of inference

Target Evaluation Board:

Criteria:

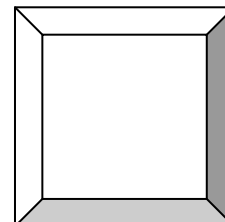
- 1.
- 2.
- 3.
- 4.
- 5.



Extensions: Think about inclusions? What is a perfect fit?
Exclusions ... what doesn't fit at all?
First ring as pass/fail entry criteria?
Some criteria can be weighted as two or more rings.

Layers of inference:

Place picture or text inside box. First layer is for what we can see. Second layer is what we can infer. Third layer is any further questions. Helps children to identify the difference between a fact and an inference. Start with a picture first.



- Good at start of topic; chn can answer own questions at end of topic
- Ideas can be subsequently colour coded or grouped
- Can use 'jigsaw "reading"' with parts of a detailed picture
- Could use 'Team memory game' as a starter
- Take out faces, ask about emotions and then ask chn to try and fit faces into the picture.
- Use as frame to support writing ... 'quality... is dramatically improved'

A creative approach to learning maths:

- 'It's your decision' Maths Cards
- Matching three cards – explain (eg 11, palindrome, 20-9) Chn move round room to find partners
- Number Star
- Sexy numbers – large laminates in front of class: numbers and = , +, -, X, smaller/larger than etc. Can be simple or complex problems.
- Team Memory Game eg shapes/rotation/positional language etc
- Maths Puppy for Maths anxiety
- Diamond ranking – assessment for learning (eg easier/harder, break down topic into specific skills – links to scaffolding and self-assessment)
- Number Spider eg 3 in middle, and any true statement branches off it (also good for A4L) like 'prime', 'factor of 36', '1/3 of nine', 'odd' etc
- Fortune Graphs – investing meaning into Maths

Thinking through the curriculum:

Looking at use of higher order thinking skills at different stages/ages of curriculum.
Started with:

- Developing criteria to evaluate pens
- Could have use Evaluation Target Board?
- Then framework to see how one could make it more/less complex
- Link to taxonomy, but we queried extent to which it is progressive

Assessment for Learning: Road to less marking:

- Teach expectations to children eg ‘2 stars and a wish’
- Road to Success (Clear pictorial map drawn as a road), outline a combination of skills and content, progression clearly shown – final title clearly visible
- Two examples – overall plan and steps to writing an essay
- Creating mark schemes
- Use of ‘skills checklist’ which is self and peer monitored (older – younger works well), but requires evidence. (see sheet) Takes practice; improves parents’ perceptions
- Self assessment tracker, especially in pairs, can work better than targets on their own (see sheet).

eLfi:

Whole structured programme for developing a ‘Community of Enquiry’ – looks good for CPD as well as developing thinking in chn.

Use ‘wisdom’ ladder – to evaluate diff people and actions eg animal’s hiding instinct; granny takes up a course etc – intended to stimulate conversation.

More creative homework:

- Choice
- More interesting/meaningful
- Football team – nationality of players as an ‘in’ to geography.
- Geography project ideas
- Choice of projects, with a Core Task, Points System and Feedback sheet.
- Could be used for shorter tasks
- Could include more ‘Thinking’ activities, especially to prepare ground for next lesson.

Other useful strategies:

3 5 7

Alone: Think of three things (gained from conference ... or facts about...)

In pairs: Generate 5

In fours: Generate 7

Diamond nines:

Ranking exercise. Learners given or generate nine items for ranking in a diamond pattern:

```
      X
     X  X
    X  X  X
     X  X
      X
```

Good for Assessment for Learning; can be done individually or in pairs/small group.

Opinion lines:

Strong Statement _____ Opposing
view
(H/W benefits outway disadvantages) (Disadvantages outweigh benefits)

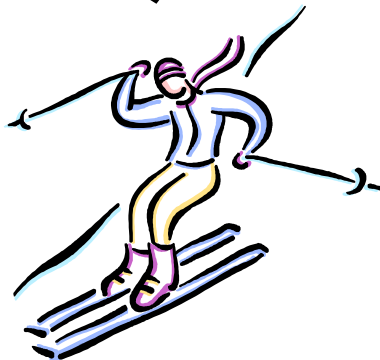
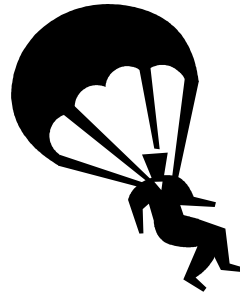
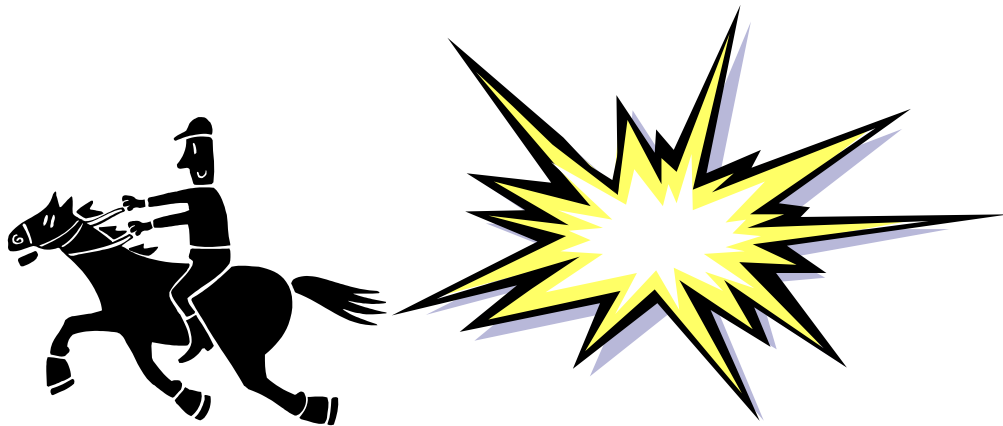
Chn stand somewhere on line to express views.

PMI

Ladder diagram – rungs to show process of achievement

Key word bingo –matching words and definitions (calling one, children spot the other on their cards)

Seed Dispersal Starter: Technique: *Use of Similarity as a rich, open question*
(May work well as a 3 minute 'Think, Pair, Share')



Matching Vocabulary to Concepts (Cut up and allow children to match up pairs)

Explaining Ideas	such as namely as already stated that is as previously mentioned so in other words for example for instance generally broadly speaking it seems this shows that one can see
Putting Ideas in Order	firstly secondly next then meanwhile finally later most importantly initially further afterwards lastly ultimately subsequently
Adding to Ideas	in addition also likewise in a similar way similarly moreover too furthermore besides in like manner another piece of evidence is a supporting argument is
Compare and Contrast	nevertheless yet however by contrast conversely still rather than notwithstanding for all that despite this but on the one hand though on the other hand at the same time although
Cause and Effect	because consequently thus in order that as a result for so that for that reason subsequently it follows that
Conclusion	therefore hence all in all all this evidence suggests so finally in conclusion consequently to sum up as a result thus this suggests all this leads to this resulted in

India Workstations

The resources are meant to be ‘prompts’ or ‘tasters’ and to encourage further curiosity. Every work station should have:

- The sheet ‘A snapshot of India’
- A textbook open on a relevant page
- Pictures

Otherwise, I have provided:

The People of India:

- Population sheet
- People fact sheet and prompt questions

India’s land:

- Country area sheet
- Perhaps add atlas and globe to this station?

India’s climate:

- An experiential look at the climate (suggest strong readers for this role)
- Perhaps add a climate wheel or graph?

India’s economy:

- A map of food-producing areas
- Fact sheet (perhaps scientific children for this group?)

Feel free to add anything else you feel inspired by!

Which continent is India on?

Name some of India’s neighbour countries:

Put these countries in order of size:

Great Britain	Australia	China	Brazil	
India	Russia	Canada	USA	France

How many people live in India?

1 billion (1 000 000 000)

100 million (100 000 000)

1 million (1 000 000)

*Which of these countries has the **most** people living there?
And the **least**?*

China America England

India France Russia

India's weather is:

Wet Dry Hot Cold Windy

How many languages does India have?

32 16 8 4 2 1

Match the names with the landscape:

Himalayas	River
Ganges	Mountains
Deccan Plateau	High, raised area
Western and Eastern Ghats	Desert
Thar	Mountains

What colours are contained in the Indian flag?

Which colour is for:

Buddhists:

Hindus:

Muslims:

Peace:

Which bird is the national bird of India?

Higher Order Thinking Skills (for extending Questioning)

???????????	Starter	Response
Recall	<i>List the ... Define the term ... Any more examples of.....?</i>	<i>Can anyone expand on.... Can anyone repeat that idea using scientific language?</i>
Analysis	<i>What techniques could we use? What does the graph show us? What information do we need?</i>	<i>What is another possible cause of ...? What else fits/ doesn't fit that group? Is there a pattern? What does that tell us?</i>
Comparison	<i>How is that the same? What might the differences be?</i>	<i>What does X's answer have in common with Y's answer?</i>
Inference	<i>Predict what would happen if ... What rule applies here?</i>	<i>What if....? Apply that generalisation to ...</i>
Evaluation	<i>Was the experiment well designed? Justify your answer.</i>	<i>How else could you have done that? What is your opinion on..</i>

Fortune Lines:

- Great for history, literature, RE or anything that involves people and a story line.
- Drawn as a graph with emotional content on the y axis and events on the x axis.
- Chn can generate their own key points (great for AFL) or you can give them the key events which they have to sequence.
- Protagonists/historical characters' 'fortunes' can then be plotted on the graph, in different colours to facilitate 'compare and contrast' essay answers.
- Great for differentiation, AFL and essay planning.

Living Graphs:

- Good for problem-solving in Maths, handling data, making meaning out of Science facts or Geography.
- Encourages chn to convert information from one form (representative) into another (descriptive/narrative).
- A bar chart/line graph is given showing a variation in quantity over time. This could be showing acceleration and deceleration of a racing car during a race, population in a seaside town during the year, volume of traffic during a day, amount of silt during a river's life-time etc.
- Chn are given pieces of information, such as 'car brakes for a tight corner', 'summer holiday ends', 'evening rush hour' or 'river floods' and asked to write/stick these events onto the graph to explain changes.
- Extension: later, chn can try to work out possible reasons for changes without the information being provided.

Mysteries:

- Versatile
- Chn are given a problem, such as 'which volcano will explode first?', 'who killed the princes in the tower?', 'which Christmas tree will light up first?', 'which holiday destination can the Clarke family get to with \$700?' or 'which area should the settlers build on?'.
• You provide a mixture of clues and red-herrings.
- Chn generate an answer, in groups, followed by a discussion and/or written summary with reasons.

Open Questions:

- Can often be spontaneous
- Rich starters, like Concept Cartoons in Science can be very stimulating, eg ‘will the snowman melt faster or slower if I put a coat on it?’
- Ask chn individually or in pairs to decide on an answer before you tell them; this way you can make sure many more chn are involved and thinking.
- Hands-up is great for a vote: ‘Who thinks x won the battle?’ ‘Who thinks boat A/B/C will sink first?’
- Extend thinking, such as by asking ‘explain why’ or ‘what is the most important factor’ or ‘can anyone extend that answer’ or ‘can anyone repeat that idea using scientific/geographical/mathematical language.’
- Ranking eg chemicals from most to least volatile, IT tasks from easiest to hardest, verbs from most to least irregular.
- Using a basic visual framework on the board – Venn and Carroll diagrams are a particularly versatile and motivating way of generating prior knowledge.
- Basically, you are trying to get chn to try to work something out or engage with it in some way before you deliver the answer.
- Bloom’s Taxonomy is useful here for the types of questions that stimulate richer thinking eg ‘What might have changed the outcome?’ uses evaluative and logical thinking.

Maps from Memory

- Very invigorating, therefore not ideal for every group
- Ideal for anything that has a lot of content contained in a diagram, eg geography, science, geometry.
- Would also work for anything if presented visually, eg a mind-map on literature, study skills, languages or IT.
- In teams, the first person gets 10 seconds to look at something, then goes back to the team and tells them/draws on A3 what they saw.
- Teams build up a picture of the map/diagram over 6 – 10 ‘turns’.
- Highly motivating. By the time you give them the correct and complete diagram, most children are eager to see what they missed out and add it to their own picture.
- Very multi-sensory and therefore, very memorable.