

# **A Primary Head Teacher's Exploration of Lesson Study**

*A thesis submitted to the University of Hertfordshire in partial  
fulfilment of the requirements of the degree of Professional  
Doctorate in Education (EdD)*

**By John Paul Mynott**

Submission Date: March 2017

## A Primary Head Teacher's Exploration of Lesson Study

### ***Abstract***

This thesis is an exploration of a head teacher's experience of Lesson Study. It aims to consider how Lesson Study develops teacher learning through consideration of collaboration, expertise and professional conflict.

The methodology embraces the lived experience of introducing a collaborative method of teacher development, Lesson Study into a primary school and exploring its impact. The research is conducted through an exploratory layered method, considering the Lesson Study teams, the whole school and the head teacher's thoughts and reflections on and about Lesson Study.

The exploration in this thesis found that Lesson Study is far from *breath-takingly simple* (Dudley, 2013) and that there are many complexities and variables within each Lesson Study group that need to be considered carefully in order to enhance any opportunity for teacher learning. This thesis describes how these different elements, collaboration, expertise and professional conflict, interacted in two different Lesson Study teams. These findings, are presented alongside the head teacher's reflections. Building on these reflections the thesis starts to articulate how Lesson Study could offer teacher learning opportunities and which elements of school culture, teacher expertise and understanding would need to be developed, honed and considered in order to create an outcome which results in teacher learning.

This research provides an exploration how teacher learning may be generated through Lesson Study work. It extends the current literature on teacher learning in Lesson Study by identifying and exploring professional conflict alongside collaboration and expertise. Teacher learning opportunities are not simply created in the context the research took place. It concludes that while teacher learning can be generated through Lesson Study; the conditions

## A Primary Head Teacher's Exploration of Lesson Study

and culture of a setting, alongside the skills, knowledge and expertise of the teachers involved in each team are also crucial.

### *Acknowledgements*

Thank you to all of the participants of my research for your thoughts and perspectives on Lesson Study and my writing. I am grateful to everyone who has listened to me formulate my ideas that make up this thesis, and for the candour and grace everyone has given throughout my research.

Thank you to my supervision team of Dr. Barry Costas, Prof. Joy Jarvis and Dr. Vicki Fitt who have been invaluable in their support, considerations and thoughtful opinions throughout my research journey.

I am very grateful to Prof. Peter Dudley and Dr. Linor Hadar for their permission to use their diagrams within this thesis.

Thank you to Scott for your encouragement, support, proofreading and multiple beverages throughout my research journey. You inspired me to continue with my research through my cancer treatment and have been incredibly patient while this thesis came to its realisation.

**Chapter 1: Foreword, Methodology and Research Methods**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
1.0	<i>Beginning</i>	10
1.1	<i>Writing Styles</i>	14
1.2	<i>Research Questions</i>	26
1.3	<i>Research Design</i>	34
1.4	<i>Research Approach</i>	52
1.5	<i>Positioning Me</i>	64
1.6	<i>Data Gathering</i>	70
1.7	<i>Analysis</i>	74
1.8	<i>Interpretation</i>	81
1.9	<i>Ethics</i>	83
1.10	<i>Overview of the story to come.</i>	87

---

**Chapter 2: Lesson Study: A Literature Review**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
2.0	<i>Introduction</i>	89
2.1	<i>Lesson Study: An Overview</i>	92
2.2	<i>Defining Lesson Study</i>	95
2.3	<i>How does Lesson Study work? Do its origins affect its implementation?</i>	103
2.4	<i>Why consider Lesson Study as a tool for professional development for teachers?</i>	108
2.5	<i>Which gaps currently exist in the literature and how does my research fit within them?</i>	118
2.6	<i>Why is there a lack of literature on teacher learning through Lesson Study?</i>	122
2.7	<i>Is there a lack of awareness of how Lesson Study works to develop teacher learning?</i>	123
2.8	<i>Linking auto/ethnography and Lesson Study</i>	124

## A Primary Head Teacher's Exploration of Lesson Study

<b>2.9</b>	<i>Teacher written research on Lesson Study</i>	126
<b>2.10</b>	<i>Framing Professional Teacher Learning</i>	132
<b>2.11</b>	<i>Conclusion</i>	134

---

### **Chapter 3: Lesson Study Needs Conflict: Research Analysis and Interpretation**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>3.0</b>	<i>Introduction</i>	136
<b>3.1</b>	<i>Team 1 First Lesson</i>	139
<b>3.2</b>	<i>Team 2 First Lesson</i>	151
<b>3.3</b>	<i>Team 1 &amp; 2 First Lesson Comparison</i>	157
<b>3.4</b>	<i>Theorising Professional Conflict</i>	165
<b>3.5</b>	<i>Dissonance</i>	168
<b>3.6</b>	<i>Dissonance in Lesson Study</i>	172
<b>3.7</b>	<i>Discontinuity in Lesson Study</i>	173
<b>3.8</b>	<i>Conclusion: How does Lesson Study develop teachers?</i>	174

---

### **Chapter 4: Lesson Study and Professional Conflict: Research Analysis and Interpretation**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>4.0</b>	<i>Introduction</i>	176
<b>4.1</b>	<i>Team 1 Lesson 2</i>	177
<b>4.2</b>	<i>Team 2 Lesson 2</i>	183
<b>4.3</b>	<i>Team 1 &amp; 2 Lesson 2 Comparison</i>	188
<b>4.4</b>	<i>Further Lessons</i>	191
<b>4.5</b>	<i>Collaboration</i>	199

## A Primary Head Teacher's Exploration of Lesson Study

<b>4.6</b>	<i>Expertise</i>	205
<b>4.7</b>	<i>How does this fit in the wider context of Lesson Study?</i>	210
<b>4.8</b>	<i>Conclusion: How does Lesson Study develop teacher learning?</i>	211

---

### **Chapter 5: Collaboration: How does Lesson Study develop teacher learning?**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>5.0</b>	<i>Introduction</i>	213
<b>5.1</b>	<i>Structuring Collaboration</i>	215
<b>5.2</b>	<i>Theorising Teacher Learning Outcomes from Lesson Study</i>	219
<b>5.3</b>	<i>Positioning Research Data on the Theoretical Outcome Model</i>	223
<b>5.4</b>	<i>Considering Collaboration within Lesson Study</i>	230
<b>5.5</b>	<i>Conclusion: Searching for 'just right'</i>	239

---

### **Chapter 6: Expertise: How does Lesson Study develop teacher learning?**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>6.0</b>	<i>Introduction</i>	240
<b>6.1</b>	<i>Expertise of the Lesson Study Process</i>	241
<b>6.2</b>	<i>Planning and Conducting Lesson Study</i>	244
<b>6.3</b>	<i>Reviewing Lesson Study</i>	251
<b>6.4</b>	<i>Pedagogical Expertise</i>	259
<b>6.5</b>	<i>Sequences</i>	261
<b>6.6</b>	<i>External Expertise</i>	264
<b>6.7</b>	<i>Knowledgeable Expertise in School</i>	267
<b>6.8</b>	<i>Conclusion</i>	269

---

---

**Chapter 7: Conclusion**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
7.0	<i>My experience of Lesson Study</i>	271
7.1	<i>Changing Lesson Study to work for me</i>	280
7.2	<i>How does Lesson Study develop teacher learning? Contribution to new knowledge</i>	284

---

**Bibliography/ References/ Appendices**

---

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
8.1	<i>References</i>	290
8.2	<i>Appendix</i>	302

---

**Figures and Diagrams**

---

<b>Chapter 1</b>		
<b>Figure</b>	<b>Figure Title</b>	<b>Page</b>
1.1	<i>Visualisation of dominant culture</i>	26
1.2	<i>How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 – reprinted in Dudley, 2015)</i>	29
1.3	<i>A visualisation of the steps to teacher learning opportunities</i>	30
1.4	<i>Visualisation of layers within research design</i>	35
1.5	<i>Structure of Pilot Lesson Study Summer 2013</i>	40
1.6	<i>Model of Lesson Study for academic years 2013-2014 &amp; 2014-2015</i>	45
1.7	<i>Stages within a Lesson Study Lesson</i>	51
1.8	<i>A diagram representing individuals within a school's dominant culture</i>	54
1.9	<i>Visualisation of dominant culture and schools</i>	56

## A Primary Head Teacher's Exploration of Lesson Study

1.10	<i>Four areas of concern to auto/ethnography</i>	58
1.11	<i>A simple visualisation of my multiplicity</i>	65
1.12	<i>Process of analysis in research</i>	74
1.13	<i>Categories of theme explore in transcripts</i>	76
1.14	<i>Extract from transcript from Team 1's Lesson 1</i>	77
1.15	<i>Extract from transcript from Team 1's Lesson 1 with affirmation/ conflict highlights</i>	78

### Chapter 2

Figure	Figure Title	Page
2.1	<i>Model of the Lesson Study process based on a model in Stepanek et al, (2007)</i>	99
2.2	<i>Divergences of Lesson Study cycles based on an original cycle by Stepanek et al, (2007)</i>	100
2.3	<i>A typical Lesson Study with three research lessons (RL) cycles (Dudley, 2011, reprinted in Dudley, 2014)</i>	101
2.4	<i>Teacher learning in Lesson Study: Claims to be tested by further research (Dudley, 2013)</i>	119

### Chapter 3

Figure	Figure Title	Page
3.1	<i>Dissonance within Team 1's Lesson 1</i>	144
3.2	<i>Scale of Dissonance with Team 2's Lesson 1</i>	153
3.3	<i>Table of main findings in Team 1 and 2's Lesson 1</i>	157
3.4	<i>Scale of Dissonance based on Festinger (1957) - Dissonance</i>	169
3.5	<i>Scale of Change when reward and threat are involved based on Festinger (1957)</i>	169
3.6	<i>Scale of dissonance within a Lesson Study lesson</i>	172
3.7	<i>Dissonance and duration within a 5-lesson cycle</i>	173

### Chapter 4

Figure	Figure Title	Page
4.1	<i>Model of Lesson Study for academic years 2013-2014 with inserted training</i>	177
4.2	<i>Diagram showing how Teresa increases the dissonance through challenging Alex on her work with Nish</i>	185



## A Primary Head Teacher's Exploration of Lesson Study

4.3	<i>Table of main findings in Team 1 &amp; 2's Lesson 2</i>	188
4.4	<i>A visualisation of a collaboration continuum cycle</i>	204

### Chapter 5

<b>Figure</b>	<b>Figure Title</b>	<b>Page</b>
5.1	<i>Layered model of professional development based on the professional community paradigm (Hadar &amp; Brody, 2012)</i>	214
5.2	<i>Dynamic four-stage model of personal professional trajectories (Hadar &amp; Brody 2012)</i>	216
5.3	<i>Model of potential teacher learning outcomes in Lesson Study</i>	219
5.4	<i>Visualisation of the social consensus and dissonance in Team 1</i>	226
5.5	<i>Visualisation of the individuals around Team 2's Lesson Study work showing dissonance arrows</i>	228
5.6	<i>Model of potential teacher learning outcomes in Lesson Study with consideration of a rating for dissonance generation</i>	231

### Chapter 6

<b>Figure</b>	<b>Figure Title</b>	<b>Page</b>
6.1	<i>Table summarising feedback in Lesson Study Teams 1 and 2</i>	252

### Chapter 7

<b>Figure</b>	<b>Figure Title</b>	<b>Page</b>
7.1	<i>A plan of a four-lesson Lesson Study Cycle, with elongated preparation period</i>	282

*Chapter 1: Foreword, Methodology and Research Methods*

---

*Foreword Contents*

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>1.0</b>	<i>Beginning</i>	10
<b>1.1</b>	<i>Writing Styles</i>	14
<b>1.2</b>	<i>Research Questions</i>	26
<b>1.3</b>	<i>Research Design</i>	34
<b>1.4</b>	<i>Research Approach</i>	52
<b>1.5</b>	<i>Positioning Me</i>	64
<b>1.6</b>	<i>Data Gathering</i>	70
<b>1.7</b>	<i>Analysis</i>	74
<b>1.8</b>	<i>Interpretation</i>	81
<b>1.9</b>	<i>Ethics</i>	83
<b>1.10</b>	<i>Overview of the story to come.</i>	87

---

***1.0 Beginning: A foreword***

Welcome to my research story. I have always found starting a story difficult because I know that a good story needs to hook the reader's interest from the beginning as it is only if they read on that a story may be comprehended and digested. Leavy (2015) points out that stories can leave a deep and lasting impression on our humanity and as such we use them to teach young children, but this notion that our humanity can be influenced by our stories means as a researcher I have to carefully consider how I want my research story to act. I think that a research story should enable its reader to wrestle with a problem or question which might help provide a solution (Richardson, 1997), even if that presents awkwardly (Santoro, 2014; Carless, 2013). A really good story might even enable its reader to see the transparent (Flagg,

1998). My own experience of stories, tells me that my story should endeavour to be simple. As this is a research story, I envisage that my main audience will be researchers and teachers and as such I will try to write my simple research story with that audience in mind.

As some of my audience may be teachers and my research is about exploring opportunities for teacher learning, within Lesson Study, it is sensible to ensure that my research does not speak on behalf of teachers, but instead speaks in my voice about the research I have conducted. Lesson Study is a collaborative process of teaching, reviewing and re-teaching (Stepanek et al, 2007; Lewis, 2002). I will elaborate on my definition of Lesson Study and provide critique on the process and current literature throughout this chapter and Chapter 2. Diamond (1992) suggests that it is important not to ventriloquise teachers and Blase (1991) states that research in schools should not exclude the complex social-political dimensions that all schools, all teachers and all education exists within. If anything, I think with continual governmental involvement in schools the social-political dimensions Blase (1991) describes have been further complicated, with new school structures: academy chains; free schools and variations on leadership models further complicating school systems. As a primary school head teacher, conducting research as part of my doctorate in education, it is important to me that this research story embraces the culture and context it exists within and speaks about my observations and interpretations of the research rather than on behalf of the teachers in my school.

To do this, I need to think about how I leave in the messier details, as within this mess are the contextual features, the external pressures and the reality of research in my school. Moriarty (2013) wrote about this with her figurative 'blood' being left in when she wrote up her doctorate and how leaving enough of herself in her research as well as writing to her perceived audience was a continual challenge. I found Moriarty's (2013) writing evocative and felt that her emotions and insights enabled the reader to gain a deeper insight into her

writing. Although I do note, that in order to achieve her doctorate, she had to compromise on some of her creative avenues to conform enough to pass her viva and as such I think that her figurative 'blood' must have been tempered to an extent for it to have reached doctoral standards. Reading Moriarty (2013) has helped me clarify that I want to write a thesis that tells my research story complete with my thoughts, reflections and emotions within the writing, so that it is clear to my audience that this research is both exploratory and reflective of the learning I have made through undertaking that research.

---

*If I used my methodology as the starting point for writing my thesis rather than as a stage within it, it will frame my auto/ethnographic account like a foreword might for a novel or biography.*

---

When I initially tried to frame my research story, I found the placement of my methodology a challenge. I wanted my research to be explorative. I needed my thesis structure to be reflexive as I felt it would be through this reflexive action that I may identify my own learning. When I tried to include the methodology as a later chapter – after the literature review – it felt awkwardly placed. As I wanted the methodology to act as a matrix of the research story I have chosen to place it at the front of the story to frame the subsequent chapters, but not to break the research story. This methodology chapter will act as a foreword, contextualising and framing the remainder of my thesis which will be written in an auto/ethnographically influenced interplay with the case studies of my research.



## A Primary Head Teacher's Exploration of Lesson Study

*Throughout this thesis, I will produce italicised sections which are marked by the ornamental page break symbol above. These break-off sections are designed to allow me to re-visit and comment on my thinking and/or provide self-critique to my research and what I thought originally.*

*Lesson Study has moved on as a field while I have been conducting my research. In 2013 when I introduced Lesson Study into my school there were five articles published on Lesson Study in the United Kingdom (Xu & Pedder, 2015) and these were all written by Dudley (2011, 2012, 2013). This meant that the conversation had only just begun on using Lesson Study in England, although notably Dudley has been using Lesson Study since the early 2000s (Dudley, 2014) with English schools. Since 2013, the literature on Lesson Study – published in English – has rapidly grown and more detail on expertise, collaboration and Lesson Study as a method has emerged (Archer, 2016; Simmons, 2016; Fujii, 2016; Takahashi & McDougal, 2015; Dudley, 2015; Pedder, 2015; Takahashi, 2014; Fujii, 2014). As a result, there is a need to consider the contribution I am proposing in this research in relation to the literature as it was in 2013, and the current position of literature in 2016. This means that a conversation between my work, my research and the developing literature needs to be created throughout my work. I have chosen to do this in these break-off sections from the main text to indicate to my reader that these moments are reflexive and reflective of my research and the developments within the field of Lesson Study over time.*



The first section of this methodology will consider this thesis' research questions and how these questions will be explored throughout my study. I will then show how my research design has allowed me to collect research data that will enable me to answer the research

questions in the remaining chapters of this thesis. Following my introduction of my research design, I will spend time discussing my research approach and positioning. The positioning I discuss in this methodology chapter will be an overview of how the following chapters will reflect on my learning about Lesson Study and my school and in doing so how I have developed and clarified my positioning and thinking as a head teacher and a researcher.

In the remaining sections of this methodology (sections 1.5 – 1.7) I will focus on the research data of my study. In these sections, I will spend some time discussing how the research data was collected, analysed and interpreted within my doctoral work. These sections will provide the reader with a framework through which they will be able to read Chapters 3, 4, 5 and 6 of my thesis and provide an opportunity to critique the strengths and weaknesses of my research design and methodology.

### ***1.1 Writing Styles***

This doctoral dissertation will be conveyed through an interchange of creative writing, academic writing and direct observations, it will be a story written in a style influenced by writers of auto/ethnography and will involve moments of break-off from the text for me to hold a conversation with myself about my thoughts and findings.



*In my presented work, there is a conversation between my research and myself and rather than suggest that this is a unified relationship and/or the two parts are in synergy, I choose to show that while I believe the auto and the ethnographic influences are linked in my research, this relationship is also a conversation which will at times conflict and be challenging (Roth, 2005), just like I have found parts of Lesson Study to be. Roth (2005) talks about the dialectical relationship between the auto and the ethnographical and he makes the choice to*

## A Primary Head Teacher's Exploration of Lesson Study

*represent this relationship using a forward slash to demarcate the break in the compound name auto/ethnography. As I also see this dialectical conversation and emphasise this in my research I will write auto/ethnography with a forward slash to emphasis the conversation between the terms, like Roth (2005).*

*Just like the conversation implied by the forward slash in auto/ethnography, I will use these break-off, italicised sections to hold a conversation with myself about the body of the text I have written.*

*I have been inspired and influenced to write in my own personal academic prose by auto/ethnographers. Writers like Adams, Jones & Ellis (2015), Adams (2014), Alexander (2014), Carless (2013), Moriarty (2013), Muncey (2010) and McNiff (2007) showed me with their own personal academic prose, that it was possible to be evocative with your writing, show your thinking, reflections and learning, while maintaining your narrative and criticality. I feel that in embracing my personal narrative in writing up my research I am able to provide a wider depth to the circumstances and experiences that I engaged with in my exploration of Lesson Study.*

*At times, I have found that there are decisions and avenues that I explored that if I had known the outcome of my study when I started this work, I would have chosen to go in a different direction. This hindsight allows me to be self-critical now, but I must also remember that if I had not explored the avenues I went down with this research, I would not now be more informed. As such it is important to illustrate why those decisions offered me insight into both how I could have done things more successfully and why my research has shown me this.*

*As this is an exploration of Lesson Study, hindsight is very useful to provide a critical lens to research, but in my research, the imperfections and limitations of my research need to be considered to further understanding of Lesson Study, as I have not only identified that*

## A Primary Head Teacher's Exploration of Lesson Study

*professional conflict and collaboration are problematic, I have also shown in this thesis that my limited understanding of them when embarking on Lesson Study research meant that I put my teachers in situations that would be challenging but not always conducive to their learning; a key finding in my work.*

*Yet, I will also show that by doing this and exploring Lesson Study in the way I have done through my research, it has illuminated to me some very significant aspects of Lesson Study that need to be considered more fully and that, I feel, have not yet been discussed in Lesson Study literature, thus emphasising the new contribution my research makes.*



The writing styles in this thesis will be:

**1) My story – Identifiable by extracts demarcated with two lines one to start and one to end each section, with the section of my story written in italics.** This story will be narrative in style and while representative of my thoughts and feelings as I undertook and analysed my research, it is also a piece of creative writing designed to elaborate on the emotions, thoughts and sentiments which might be lost in the academic prose. I have chosen not to date these story elements as it is important that these moments are recognised by the reader as thoughts, feelings, descriptions and concerns which are moments in time. While these moments in time might be lasting, fleeting, vividly remembered or instantly ignored, they are essential to my writing, and to enable the reader to see into my positioning. Without these elements of story, it might be possible to miss resonances and reflexivity that I consider so important to my auto/ethnographically influenced style. These sections are distinct from the self-reflective break-of sections as while often fleeting these thoughts represent some of the complexity of exploring my school and my research.



2) **Letters to a head teacher colleague – identifiable by boxed in writing in the format of a letter.** Writing in the format of a letter to a head teacher talking about the work with other people. This will include the setting up, work within and outcomes of the research. Like the story, these letters are important to the story as a whole. The letters differ from the story elements above, as they are a more formal – hence the letter format – to a colleague, in this case an anonymous head teacher. I will use these letters to express thoughts that I would be happy to talk to a colleague about and that are less personal and less fleeting than the elements of the story. I have decided to date the letters to provide the reader with a sense of chronology. Although these letters form part of the auto/ethnography influenced style of my thesis, so they should also be read as a fictional method (Leavy, 2015; Moriarty, 2013; Humphreys, 2005) to represent the whole meaning of my work. I hope that they make some of my method clearer and more accessible to the reader as I hope they provide context, and bring the everyday school life, my duality as head teacher and researcher and my own thoughts into my research's exploration. These letters serve as a reminder that schools are complex social places (Blase, 1991) and there is a background of everyday school life within my research and within me as the researcher.



*I will build a mixture of avenues to tell my story. I will use letters to another Head Teacher to describe the professional feelings, thoughts and concerns I have. I will use diary texts to record the sentiments that I would be less likely to put in a letter to a colleague.*

*These distinctions seem small, but I think they are significant. Leavy (2015) talks about how researchers who use narrative to breathe humanity into their work. I wanted to do this, and I felt that some of this I could do by creating the letters to the head teacher, as this would be*

*presenting the aspects I would more readily tell someone else. This could then be juxtaposed with the more personal elements that still feel uncomfortable to say or the personal reflections I made in my research journal. By writing the letters I was able to move past my discomfort with admitting to myself that the research was messy and that it was within the exploration of the imperfections of the research that I might find my own learning.*

*In using such a personal approach, I must consider that my thoughts are not subjective, and will be influenced by my surroundings and the way I perceive my school, my work, myself. These can all be considered flaws as they mean that my research is not replicable but in terms of my research where I am highlighting my voice as a practitioner exploring Lesson Study, the flaws that I embody are also important to understanding how I explored Lesson Study. These insights helped shaped this research so they also helped me to understand the limitations of literature on Lesson Study surrounding my thesis's research question.*



**3) Extracts from my research journal – identifiable by boxed in and dated sections of italicised font.** These extracts are memories or quotes which are pertinent to the research. These snippets add details, provide context and might be direct quotes of other people or from my research journal, which I kept throughout the duration of my research. These are remembered and recorded moments within my research. They provide a framework within my research to create a further sense of chronology, and can be used by the reader to see the moments of emotion, reticence or doubt that I experienced in my exploration. These memories help further contextualise my writing, within my school and personal thought contexts, and support my positioning in relation to my work on Lesson Study and my definitions of dominant culture. These extracts from my research journal are also part of my

research data, presented to the reader of this thesis to show that through exploration my thoughts and understanding of Lesson Study grew and changed in response to my experience and that of my teachers.

**4) Transcript Extracts with fictional embellishments – identifiable from boxed in script-like documents entitled with the Lesson Study Team details at the start.** Extracts from transcripts - these are transcripts of recorded conversations with individuals in the research. Apart from myself, everyone else has been given a pseudonym to protect their identity; these pseudonyms will be names, as like the choices of writing style the names help create a sense of completeness to this work. I have chosen to add these transcripts into my writing, not as a breaking with auto/ethnographical styling, but as a means to provide further depth to my discussion and exploration. Parts of the transcript are direct extracts from the transcripts I have created from my recordings. To widen the understanding of the context of each part I have also added fictional embellishments to the transcripts to give a depth and a wider sense to them. These fictions are italicised and are there to give a wider sense of the individuals to the reader. The teachers within the transcripts have reviewed these sections to ensure that my fictions present their experiences and feelings from their Lesson Study work. I borrow this fictional element from writers like Moriarty (2013), Carless (2013) and Adams (2014) who use scripts/ transcripts which are remembered, adapted and fictitious to tell and retell their experiences and their own personal narratives.

My use of transcripts also links back to Lesson Study writers like Dudley (2013) and Pella (2011) who have used transcripts to demonstrate teacher learning in Lesson Study, and I will use them similarly to show the moments of potential learning I can see in Lesson Study. I see the transcripts working in relation to the three other extracts of auto/ethnographical influenced writing in my thesis, as together they provide moments of reflection for me as the

writer and force consideration of what I perceived Lesson Study to be and mean, and how I interacted with this perception throughout this work.

### *1.1.2 Defining auto/ethnography*

I articulate my research story within its dominant culture, as I see that dominant culture. In brief dominant culture is the assumed positioning that an individual might tacitly take. It is complicated by the fact that each person is likely to perceive this dominant culture in a slightly different way, the thinking in dominant culture is largely subconscious, and it is only when an aspect of dominant culture is highlighted by a moment of dissonance (Festinger, 1957), such as a differing perspective, that what has previously been invisible may become apparent to the individual inhabiting the dominant culture. Flagg (1998) suggests that this is when an individual is no longer blind to the transparent aspects of the culture they live within and for me once a transparent aspect of dominant culture is noticed it allows the individual, in my research – me, to look at that feature and decide if this is a feature of my dominant culture that I need to consider revising.

Below is an example taken from my own recent experience where an element of the dominant culture around me was made apparent.

*At an adoption event, with my partner, we were asked to take part in a role-play about the processes of adoption. There were two same-sex couples in the room out of a group of seven couples. In the role-play a child was removed for adoption from a heterosexual couple, placed in foster care with a heterosexual couple and then subsequently adopted by a heterosexual couple.*

*Both same-sex couples ended up being in the role play playing 'straight' members of the heterosexual couples. At no point was any consideration given to the makeup of the training group.*

*A discussion in the car home with my partner:*

*J: Do you think that the role-play was representative of the people on the course?*

*S: What do you mean?*

J: Well everyone was straight; all the couples in the scenario were heterosexual couples with a mum and a dad.

S: I am sure it wasn't deliberate.

J: I am not saying it was deliberate, but it was like that building programme last week when they were making fun of the builder offering to rub pain relief cream on the other builder's leg.

S: Casual homophobia?

J: Not intentionally, and maybe I am over thinking things.

Memory of Adoption Training August 2015

The memory shows that within a simple training event dominant culture can play a part. The role-play was about adoption processes and was not in itself homophobic or offensive, the creation of heterosexual 'role' couples from same-sex couples was insensitive to the couples involved but exemplifies the dominant culture around me. The prevailing dominant culture is that couples with children are heterosexual, and this is how the role play has been constructed. The fact that same-sex couples have been legally allowed to adopt for 10 years, and there were two same-sex couples in the room has not changed the dominant culture. That dominant culture excluded me, my partner, the other same-sex couple and any single adopters present. It also reinforced a notion of family to everyone, and that notion said that I was different to the assumed notion of family and my difference conflicted with an element of dominant culture which had, until that moment, been transparent to me.

I believe that it is important to ensure that when you are writing auto/ethnography and auto/ethnographically inspired writing, it is framed within enough of the dominant culture of the audience you are writing to. This ensures that it does not come across as just a sentimental auto/biographical piece, but also meets a critical review by an audience (Wall, 2008; Forber-Pratt, 2015; Allen, 2015). I think more successful auto/ethnography will be a piece of writing that provides discontinuity with its audience and provides insight into another perspective of

the world they inhabit and their perception of that world. So, I propose that auto/ethnography goes beyond the definitions of it being a type of research that connects the auto-biographical and the personal to the cultural, social and political (Ellis & Adams, 2014; Adams, Ellis & Jones, 2015). It is also more than telling personal stories, which while compelling, can lack resonance with their audience, as they do not embrace enough of the dominant culture to facilitate the moment of discontinuity they desire to express. With these considerations, I suggest that auto/ethnography is a personal narrative that is scaffolded (Carless, 2013) in such a way as to make it digestible to an audience that may lack an understanding of the writer's own sub-cultural position and is designed not only to tell a story about the writer's experience, but also to inform the reader. In the case of this thesis that means this work needs to be written to its academic and professional audiences and provide them with moments of discontinuity (English, 2005).

The creative writing elements of my thesis are the most obviously auto/ethnographically influenced elements of my work as I use them to translate my research to my audience. Auto/ethnography is likely to have emerged from disciplines surrounding anthropology (Muncey, 2010) and has developed since the 1970s gaining greater momentum as a research field in the 1990s and into the new millennium (Chang, 2008; Muncey, 2010). However, it is a divergent field and the pursuit of a precise definition for auto/ethnographic research has highlighted the lack of synergy within the auto/ethnographic community (Chang, 2008; Muncey, 2010, Denzin, 2011). Chang (2008) surmises that this divergence is because auto/ethnography means different things to different people (Chang, 2008: 46). The auto/ethnographers who write about sexuality and/ or gender (Adams, Jones & Ellis, 2015; Ellis & Adams, 2014; Adams, 2014; Santoro, 2014; Alexander, 2014; Carless, 2013; Paradis, 2012; Adams & Holman Jones, 2011), critical race theory (Flagg, 1998; Cann & Demeulenaere, 2010; Leonardo, 2005; Solórzano & Yosso, 2002; 2005) or from any other

point of view have their own perspective on their lived experience to tell (various examples detailed by Whitehead & McNiff, 2006: 118-119), and in doing this, I imagine it is hard to be ready to listen to another perspective from someone who may also have emotive feelings, and see the theory rather than the emotions. As a result, I think Chang is right in the sense that each individual approaches auto/ethnography from their own perspective, but I am not convinced that means auto/ethnography means different things to different people. Instead, I prefer to think of auto/ethnography as being a genre of research that has not yet reached a point where its diverse starting points have achieved a shared vocabulary within which they can discuss and share their work.

Sharing your work as an individual writing about something which is personal, painful or a challenge to the perceived culture you inhabit, is challenging when you feel isolated due to your difference or perceived difference from those who surround you. This isolation is encapsulated by some auto/ethnographers as being described research comfortably residing *within the edgelands* of research paradigms (Muncey, 2010: 29). As a researcher, whose writing is influenced by auto/ethnography, I do not feel that the personal nature of writing and its openness always feels very comfortable, and I am not convinced writers like Santoro (2014) feel completely comfortable sharing their personal pain. I would suggest that it is the sharing of the discomfort an auto/ethnographer feels through experiencing their writing that makes it compelling to its eventual audience, so if it feels uncomfortable to say, it is likely to be challenging to any potential reader.

Denzin (2011) takes the complications of defining auto/ethnography further by suggesting that in a research system where the countable and measurable seems to be more truthful the personal and individual can present as being less credible, and Denzin seeks a 'gold standard' of auto/ethnography where the writing is established in a more credible and accessible way. I think that the establishment of this more credible standard is possible but it will also involve a

more critical reflection on how auto/ethnography works and to do so there will need to be a movement towards unifying very different perspectives through a shared rhetoric. I also think it is important to consider that auto/ethnographic writing will be like other research, some of it will feel more credible while other writings will draw stronger critique.

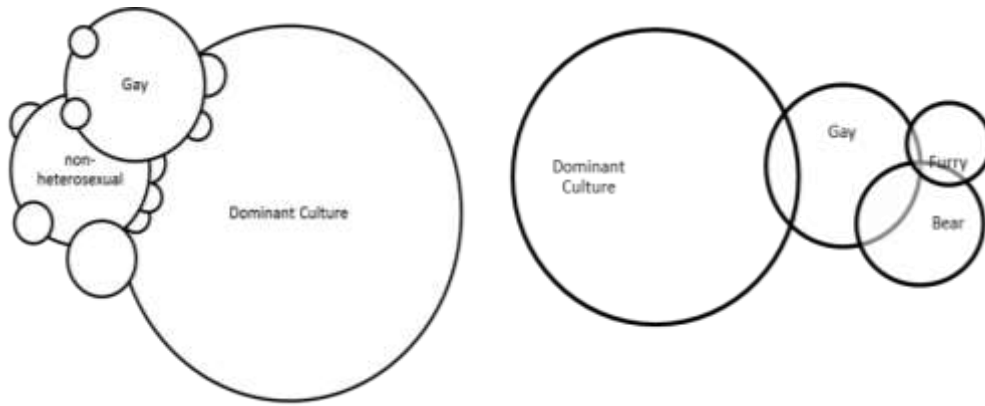
Critiques of auto/ethnography (Allen, 2015; Forber-Pratt, 2015; Denzin, 2011; Wall, 2008) suggest that criticisms of auto/ethnography are not always embodied into auto/ethnography. Allen's (2015) review of Adams, Jones & Ellis' (2015) work suggested that the authors' overview of auto/ethnography did little to deal with the concerns that weaken auto/ethnography. I think Allen's critique is fair, as while I found Adams, Jones & Ellis' (2015) methodology an interesting overview of auto/ethnography it did not respond to critiques of auto/ethnography. Wall (2008) suggests that these concerns are validity, reliability and legitimisation, but Forber-Pratt (2015) is able to clarify this further by suggesting that auto/ethnographers must consider if their work makes sense to others – their own family, an academic, a non-academic and someone who does not know them well. I would concur with Wall (2008) and Forber-Pratt (2015) but suggest that what they are seeking is a scaffold to comprehension for the reader of any work. As Forber-Pratt (2015) makes clear in her work, it is about making the story accessible to the reader. In order to satisfy a divergent audience Forber-Pratt (2015) suggests four key areas: 1) Finding the voice; 2) Negotiating Procedures; 3) Validating Research and 4) Reflection. Even though my research only takes influence from auto/ethnography, it is important that I consider my research critically through Forber-Pratt's (2015) four validation categories so that I am as confident as possible that my work is facilitated to reach my own divergent audience. I will return to these validation categories in my interpretation of my research section.

Carless (2013), Adams (2014), Alexander (2014) and Santoro (2014) all share their own personal experiences of exclusion from family, friends and sporting events. In each of these



examples there is something that pushes the individual writer to the edge of a group. Alexander (2014) who has three brothers is never in the wedding party, like his brother, but always at the wedding. Carless (2013) is unable to partake in the comradery of a sports team for fear of isolation. Adams' (2014) mother mourns her loss of a daughter-in-law while simultaneously refusing to speak of her son's long-term partner. While Santoro (2014) laments that his identity as a 'bear' that is too hairy, too heavy and too body conscious is further isolated not only from the prevailing culture, but also from the perceived Adonis culture of the gay muscled man. Each example shows that the individual writer is at the edgelands of dominant culture, but again I would contend that not all of them sit there comfortably, as Muncey (2010) suggests auto/ethnographers do. Omissions from any auto/ethnography might well tell a different story to a writer wishing to show discomfort with their involvement in their family is not going to tell their audience all the warmer and more accepting moments they might have encountered, and so we may only have a partial personal construct like Kelly (1963) suggests. A challenge which I have to contend with in my work and with story-telling is that it is a partial picture and I think is therefore limited in how much it can say, because it will only ever present the thoughts in a certain way which may not be an entire story.

Santoro (2014) illuminates further sub-cultures that surround sub-cultures of dominant culture and I have presented my interpretation of these sub-cultures in the diagram below.



**Figure 1.1:** *Visualisations of dominant culture*

Figure 1.1 above is a visualisation of how dominant culture works with non-heterosexuals. The left-hand side visualisation shows dominant culture to be a centralised circle which has sub-cultures orbiting around it. This is clarified further in the right-hand side visualisation that shows that gay culture overlaps the dominant culture and parts of that culture will be parts of the dominant culture, but sub-cultures of gay culture will then also be part of gay culture but might, or might not be part of overall dominant culture. It is possible to suggest that it will be impossible to fully define dominant culture, as for each individual they will be likely to operate in a variety of sub-culture circles and their circles will be different from any other individual.

I will explore dominant culture further in section 1.4 where I will move away from sexuality theory to explore my positioning within my own school's dominant culture as a starting point for the learning I have made through exploring Lesson Study and its relationship with teacher learning in my school.

## **1.2 Research Questions**

As the title of my thesis suggests, my research has always intended to be an explorative study. It is an exploration of teacher learning within Lesson Study, told from the point of view of a primary head teacher: me.

## A Primary Head Teacher's Exploration of Lesson Study

As I will show in my literature review on Lesson Study (Chapter 2), I felt when I embarked on my doctorate in 2012-2013 that the research into the teacher learning that does or does not happen within Lesson Study was sparse and inadequate to support its rapid development in the English speaking educational world. While there have been a number of studies published since 2012-2013 when I started my research into Lesson Study (Takahashi, 2014; Simmons, 2016 – exploration of the Koshi or Expert in teacher learning in Lesson Study; Dudley, 2015; Xu & Pedder, 2015 – portrayal of the importance of teacher learning in Lesson Study; Fujii, 2014 – Understanding misconceptions to Lesson Study and Takahashi & McDougal, 2015 – considering collaboration in Lesson Study) which have started to address the limited literature on teacher learning within Lesson Study, there remains a limited overview for and from school-based practitioners of how Lesson Study may develop teacher learning.

As a school leader, it did and does worry me that even though there is a limited amount of academic literature stating how teacher learning is improved through Lesson Study, this limited overview has not slowed the continued percolation of Lesson Study into the school system in England. Lesson Study is increasingly talked about by head teachers and education advisors I meet as being a *great* way to develop teachers.

*January 2013*

*Dear Head Teacher,*

*Recently, I was at a Head Teacher briefing session by my Local Authority and they were discussing Lesson Study. I wonder if this has been a topic in your local network too?*

*Well in my local briefing, Lesson Study was described as being a great way to develop teachers and to get them to work collaboratively. Although there did not seem to be a great deal of detail behind their claims and well... I like to know how things work. So I am a little curious, and I wonder if you are too. How does Lesson Study develop teachers? Is collaboration sufficient to engender teacher learning or is there something within the Lesson Study cycle structure that prevails in supporting teacher learning?*

*I think Lesson Study could be a very interesting thing to look at further, as I think there are some unanswered questions. I think I will look into Lesson Study some more and write to you to let you know what I find out.*

*Warm regards,*

*JP Mynott*

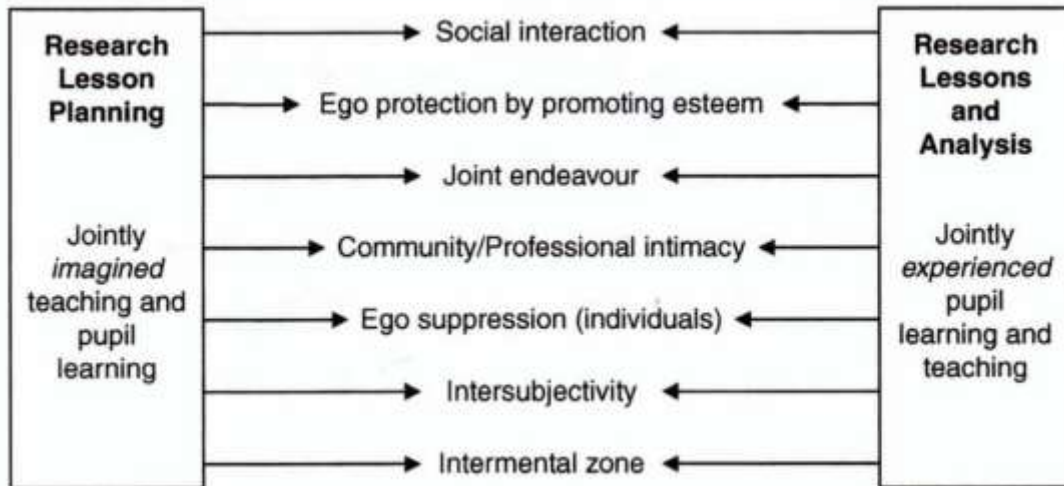
I remain curious about the inner workings of Lesson Study, just as I was when I first encountered it, just as I am when I hear people talk about it. Indeed, I felt, at the beginning of my research, just as my letter describes, that I was being given this opportunity, this promise, that Lesson Study would be a powerful vehicle in supporting teacher learning. I was both excited at the collaborative nature of the Lesson Study, and by the way it seemed to develop teachers through a gentle and teacher focused development pathway.

Yet, while I held this excitement, I also had many questions, and these were not sufficiently answered when I engaged with the literature on Lesson Study, which as Xu & Pedder (2015) demonstrate, is very focused on outcomes and does not sufficiently provide information on how teachers learn in and through Lesson Study processes.

It was my discontentment with the current literature on Lesson Study and my curiosity surrounding teacher learning within Lesson Study that provided my research question:

**How does Lesson Study develop teacher learning?**

Within this larger question were two smaller questions based on my reading and on Dudley's (2011) diagram – Figure 1.2 – which hints at possible ways teachers learning is stimulated in Lesson Study processes.



*Figure 1.2: How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 – reprinted in Dudley, 2015: 17)*

My smaller questions were:

- 1) **Is the collaborative nature of Lesson Study key to its promotion of teacher learning or do other components of a Lesson Study cycle support its development of teachers?**
- 2) **What expertise is needed to facilitate teacher learning through Lesson Study?**

These questions focused on aspects of Lesson Study that Dudley (2011, 2012, 2013) indicated were interlinked to teacher learning in Lesson Study and were outcomes of Lesson Study for teachers. I combined this with my understanding of Fernandez & Yoshida's (2004) overview of a Lesson Study cycle in Japan and felt that it would be important to my own understanding to explore both the expertise and the collaboration needed within Lesson Study cycles.

Integral to all my research questions was my definition of teacher learning but it remains very difficult to define. I see teacher learning currently as a combination of moments, within a sequence, that may bring about the opportunity for teacher learning.



**Figure 1.3:** A visualisation of the steps to teacher learning opportunities

I will explain how I reached my current definition of teacher learning as this thesis unfolds but figure 1.3 contains a simplified visualisation of how I see the progress occurring. I consider that teacher learning may occur when a teacher is presented with a moment, experience or thought that conflicts with their current thinking as in Festinger's (1957) cognitive dissonance examples where a participant's consonance is challenged by a moment of dissonance. This moment of dissonance can then either dissipate to nothing or it might be further challenged and turn into a moment of discontinuity (English, 2005) – or a moment where the individual has to make a choice about whether they want to continue to believe their previously held view or explore changing that view, modifying that view or seeking out further information to support a change in thinking. If the individual decides to change then they move to the third step in my visualisation which is that they then have the opportunity to learn and potentially change their practice.

Whether the opportunity is taken and sustained is something very hard to determine, as an individual might say they have changed and thus demonstrate teacher learning, but without long term monitoring and observation of their teaching practice it is not possible to say they have learnt. This dilemma about whether someone has learnt something or not is a problem

that writers on dissonance and change have found in their research (Chadzidakas, Hibbert & Smith, 2007; Girandola, 2007; Burns, 2006). Chadzidakas, Hibbert & Smith (2007) exemplify this dilemma well as while individuals say they value Fairtrade and ethically produced products they do not take these values shopping with them, buying non-Fairtrade or un-ethical products at the store rather than the ones they claim to value. So somewhere in their own thinking they have undertaken the process I have described in figure 1.3 but have not changed/ learnt as they have continued with consumer habits that do not fit their described values system. This example demonstrates the challenge of knowing whether teacher learning has indeed happened as while the individual may say they have learnt, their practice may not have changed. As such, it is probably only my own teacher learning that I can talk about in this thesis with any real certainty and even that teacher learning may need to be reflected on overtime to see if I genuinely did learn from this explorative study on Lesson Study. Of course, I need to also be critical of my own learning, as being presented with the opportunity to learn about Lesson Study and acting on that opportunity are different things. I will take up this theme again throughout my study but also as a key aspect of my conclusions.

From my research questions, I was able to draw out themes that I felt would be useful to explore through my analysis and interpretation. These themes were collaboration, expertise and professional conflict and how each of these relates to teacher learning. It should be noted that professional conflict emerged as a theme to consider from my research data and was not identifiable to me as a theme as I started my research. Nevertheless, it has become a significant theme in my research as Chapters 3, 4, 5 and 6 will demonstrate.

### *1.2.1 Collaboration*

Collaboration is placed as an underlying process of Lesson Study. This was recognised as being a key component of early writing – in English – on Lesson Study (Stigler & Hiebert, 1999; Fernandez, 2002; Lewis, 2002; Fernandez & Yoshida, 2004) and this has been

sustained in recent writings (Fujii, 2016; Archer, 2016; Simmons, 2016; Takahashi & McDougal, 2015; Takahashi, 2014). Within Lesson Study, collaboration is seen as teachers planning, teaching and reviewing lessons together. Dudley (2015; 2011) captures this in his diagram – Figure 1.2 – in the threads: Social interaction, Joint endeavour and Community/Professional intimacy. It is also expressed further through the notion in some writing about Lesson Study that everything is collaboratively completed (Dudley, 2013; Lewis, Perry & Friedkin, 2009). By this I understand Lesson Study to be collaborative within the Lesson Study team, with each individual working with and responding to each other to share and disseminate their existing knowledge and skills.

### *1.2.2 Expertise*

In 2012-2013, I did not feel that there were as many indications of expertise being a theme in Lesson Study and the notion I had initially was that it was the collaborative elements which would allow teachers to learn from each other.

There were hints as to the need for expertise in writing like those of Hart, Alston & Murata (2011) and Lewis (2009) where there were discussions about how university staff were involved in supporting and developing teachers involved in Lesson Study. Pella (2011) in her study deliberately selects teachers who she considered to have higher levels of expertise in their teaching field and that were recommended by their principals to take part because they were already seen as school-based experts. This means that expertise instantly becomes a feature of her research but is not something she focuses on in her discussion. It was this absence of discussion around expertise which reduces its presence in Lesson Study literature. So, to me in 2013 the notion of expertise became obvious and had not yet been considered as a theme in how Lesson Study might work to develop teacher learning.



Expertise is a very broad term. To me, in Lesson Study, it means two things. Firstly, someone who is an expert on Lesson Study as a method. In England, this could be someone like Dudley who has researched and published on Lesson Study over the past decade (Dudley, 2011, 2012, 2013, 2014, 2015). The expert on Lesson Study would be able to discuss how Lesson Study works and how it might be conducted. This is something Dudley can do (Dudley, 2013) but as recognised by Xu and Pedder (2015) this understanding of how Lesson Study works to develop teacher learning – particularly in England – is limited. The second type of expertise would be contained in an individual who knew something more about the subject or pedagogy of the content of a specific Lesson Study team's work. For me when exploring this theme, it is important to consider that this second expert may well be different people at different points so identifying this theme in analysis will be important in establishing how Lesson Study facilitates expertise-sharing to develop teacher learning.

### *1.2.3 Professional Conflict*

My third theme, professional conflict, is one that I did not find mentioned in the Lesson Study literature when I undertook my literature review. Although I do note that Dudley (2013) and Pella (2011) start to circle this notion, with Dudley (2013) talking about how teachers get *in step* with each other, and Pella (2011) discusses her *transformative* moments. However, I feel that neither author has gone quite far enough with this theme, and this is central to the new contribution my study makes to the field of Lesson Study, as I will argue that professional conflict, combined with expertise and collaboration are all key elements in a more successful Lesson Study: one that enables teachers to learn.

Figure 1.3 shows the journey towards the opportunity for teacher learning and essentially, I think it is the journey to the opportunity for teacher learning that can be characterised as professional conflict. Chapter 3 will explore this definition in more detail.



*As a discovery within my research, which I now think is a key contribution of my research, the role of professional conflict within a Lesson Study group is almost non-existent in the published literature in 2013. I mentioned how Pella (2011) and Dudley (2013) were the nearest to it, but looking back through their articles I think I am reading between the lines more than conflict being articulated within their arguments.*

*In Dudley's 2013 article he talks about teachers getting in-step with each other on a point, but what I think actually happens in Dudley's article is: Wanda presents an idea that Rose disagrees with, whereas Dudley suggests Rose is getting in step and as such Rose proposes something which seems to add to Wanda's discussion on using open questions but it takes a few more minutes of discussion for the closed questions to dissipate (Dudley, 2013: 114).*

*As this theme became more central to my research it was clear that this absence in the literature was significant and I have tried to capture this in my literature review – in Chapter 2.*



### **1.3 Research Design**

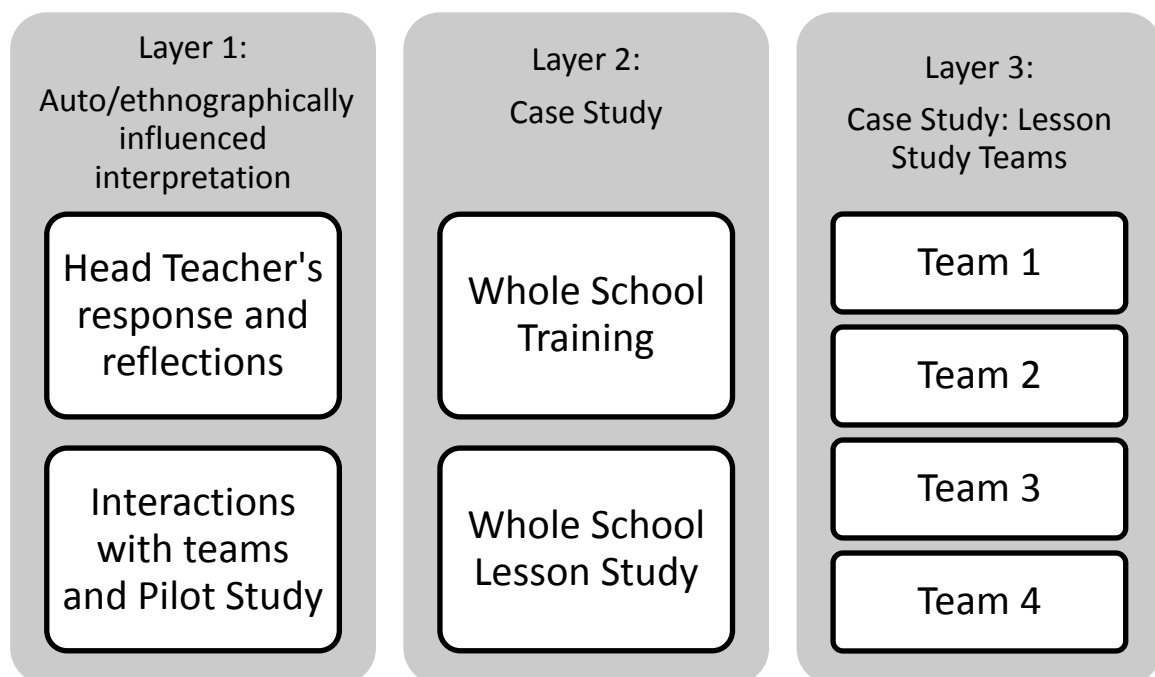
There were many ethical considerations to draw on before creating my research design. I wanted to explore Lesson Study in a way that meant I was not measuring outcomes (Xu & Pedder, 2015, show that this has been a focus of most literature into Lesson Study) but was engaging with the people – the teachers – in Lesson Study. In order to do this, I felt that I needed to adopt a layered approach to my research design. This layered approach would allow me to think and reflect on different components within Lesson Study processes,

## A Primary Head Teacher's Exploration of Lesson Study

exploring not just the research lessons but also using my constant presence within the research environment – my school – to provide a wider perspective on Lesson Study. Within a school, I would be able to see and hear the teachers between Lesson Study sessions and note down any incidental information that would contribute to my research data.

This constant presence within my research is one of the ethical themes that I need to expand on. I will do so later in this chapter (section 1.9), where I articulate the ethical considerations I needed to make in my research to reduce the risk of harm to any of my research participants.

Each layer – see Figure 1.4 for visualisation of layers - in my research design contributes to the overall research but also offers a different quality to it, which will be discussed below.



**Figure 1.4:** *Visualisation of Layers within Research Design*

Layer 1: My auto/ethnographically influenced interpretation of the research and my lived experience through conducting and being part of the research. This layer is largely about my reflexivity and thinking about Lesson Study. It contains my direct experience with Lesson

## A Primary Head Teacher's Exploration of Lesson Study

Study – my conversations, my thoughts, my reflections and my own involvement in Lesson Study (Pilot Study). This layer surrounds and envelops the other layers in my research.

Layer 2: The whole school case study of introducing Lesson Study and the learning that doing so provided both from the introduction and completion of Lesson Study cycles but also from the training that was conducted and modified throughout the research period. This is the layer where the Lesson Study cycles are generalised and whole staff training or overviews will be discussed. It is an important element as, unlike much of the Lesson Study research (as discussed in Chapter 2), it looks at a whole school approach to Lesson Study, and in doing so will provide moments of resonance to readers who may be considering Lesson Study work in their own schools or institutions.

Layer 3: This layer is concerned with the individual Lesson Study teams and the processes and experiences they have in their Lesson Study cycles. Each Lesson Study team represents a case-study within the larger case-study of Layer 2 and each individual within each Lesson Study team might influence the research data in Layer 1 through the participants' ongoing interactions and conversations with me. The participants are the classroom teachers who make up each Lesson Study Team. There are four Lesson Study teams in the Lesson Study cycle 2013 – 2014 when the data for this thesis was collected



*The gaps between the layers and the interrelation between them are harder to talk about in a methodology, as within these gaps lie the individual thoughts, feelings and assumptions I would make and consider every day of this research. I use thoughts, feelings and assumptions here because I do not think it is possible to escape my preconceptions of Lesson Study, which*

## A Primary Head Teacher's Exploration of Lesson Study

were informed by my reading – as part of my literature review – on Lesson Study. I made the early assumption that Lesson Study would promote teacher learning, and this is conveyed through my research question: *How does Lesson Study develop teacher learning?* The implicit notion behind the question, being that Lesson Study would develop teachers. I saw this as a promise – although I am aware that a method does not promise anything – because there is an insufficient amount written on less successful Lesson Study work as I explore in Chapter 2. This absence, in hindsight, is suspicious, but as a researcher and practitioner, the initial indication from the body of literature I had engaged with prior to starting my research suggested that teachers would learn/ develop through Lesson Study.

Retrospectively, I could have been more cautious, but equally, in doing this piece of research I am able to represent how a primary school head teacher – me – may be presented with evidence, literature and the perceived promises these may embody and it is only through exploration that it becomes apparent that not everything is as it seems.

Even today, one of the contributions my research makes to knowledge of Lesson Study is that it is an exploration within which I show a less than perfect set of Lesson Study experiences. Some of this is naivety, but also while Lesson Study research has progressed during my doctoral research there continues to be little said about how Lesson Study works to develop teacher learning or the problems that may be encountered by a practitioner introducing Lesson Study into their setting. Notably Fujii, (2016); Simmonds, (2016); Archer, (2016); Takahashi & McDougal, (2015), Takahashi, (2014) and Ebaegu & Stephens, (2013) have mentioned that there may be barriers contained within educational culture that need to be considered when transplanting Lesson Study into new settings, yet their contributions do not suggest pathways for practitioners to avoid being less than successful.

## A Primary Head Teacher's Exploration of Lesson Study

*Aside from my assumption – initially based on the literature – that Lesson Study would develop teachers, I think that my research, as my response to the exploration of Lesson Study, provides my voice on Lesson Study, my exploration of it and as such, it includes my narrative, which includes how I thought, think now and how I made assumptions. Pelias (2004) writes about his methodology of the heart, and while I draw from this, I also draw from my experience and my knowledge of people to create something imperfect, but something through which my voice may create resonances with readers. These resonances may be more powerful with some, just like Carless' (2013) work has a resonance with my own experiences of university sport, but my thoughts and assumptions were the ones I had or continue to have – they just remain in full view in this research rather than hidden.*



At different points in the research, the focus will be on different layers. Chapter 3 largely focuses on Layer 3 and the data collected from different Lesson Study teams. I analysed this data using codes I will articulate in the research analysis section to follow. I then interpreted this data through consideration of some ideas of learning and conflict (Festinger's 1957 theory of Cognitive Dissonance and Achinstein's 2002 conflict theorising) contained within this thesis. Chapter 4 revisits the promises of Lesson Study versus the experience of it as described in Chapter 3 broadening this out to use Layer 1 and 2 of the research design. Chapters 5 and 6 then draw on all of this information to discuss the themes of conflict, collaboration and expertise in my school, over the course of my research.

The following three subsections relate to the research design within each layer, and relate this to the further elaboration which will follow in the thesis to come. The subsections are designed to explain any methods I used to undertake my research within each layer.

*1.3.1 Layer 1*

As mentioned above, I am using an auto/ethnographically influenced reflection on my research to present it. This approach needs clarification as there are many things to consider in using a personal narrative style to present a piece of research. I choose an auto/ethnographically influenced approach, to my research writing, because I want my research to be an exploration of Lesson Study, and while I have specific questions in mind – as outlined above – I am also open to the information that my research data will provide me. One of the major challenges of using an auto/ethnographically influenced approach is ensuring that the presentation of the research maintains enough of me to be a personal account (Pelias, 2004), but also provides enough scaffolding for the reader to access my thoughts and experience moments of understanding or resonance (Carless, 2013).

As I was creating Layers 2 and 3, I undertook a small-scale pilot project with Jasmine and Miqdad, two teachers in my school. Undertaking this small-scale project was designed to give me both direct experience of Lesson Study and to enable me to test out my proposed Lesson Study research model which was based on Dudley's (2012), Fernandez & Yoshida's (2004) and Stepanek et al's (2007)'s models of Lesson Study cycles.

Completing the pilot study gave me direct experience of being a member of a Lesson Study team and also how it felt to be the teacher teaching during an observed lesson as part of the Lesson Study process.

The pilot study had the key elements suggested from my reading and looked like the cycle presented in Figure 1.5.

## A Primary Head Teacher's Exploration of Lesson Study

<b>Summer Term 2013</b>	Plan and prepare Lesson Study Lesson 1	Teach Lesson Study Lesson 1	Review Lesson Study Lesson 1	Plan and prepare Lesson Study Lesson 2	Teach Lesson Study Lesson 2	Review Lesson Study Lesson 2
-------------------------	----------------------------------------	-----------------------------	------------------------------	----------------------------------------	-----------------------------	------------------------------

*Figure 1.5: Structure of Pilot Study Lesson Study Summer 2013.*

This structure drew directly from the advice in Stepanek et al (2007) and had a lesson plan for the observed lessons (Appendix A and Appendix B) which was populated in the planning meeting and then finalised by the teacher teaching the observed lesson. This lesson plan served as a structure for the observers during these pilot lessons. Each lesson then had a review session after the lesson, where the Lesson Plans were used as a framework for discussion.

The biggest barrier that I faced in the pilot study was time. Jasmine, Miqdad and I had realised, through the pilot study that we needed to factor in time into our Lesson Study structure to compensate for the very busy working lives of the teachers at our school. It became very clear that for Layer 2 to be able to function, and for all the teachers to engage in Lesson Study processes I would have to think structurally about the time that was allocated so that teachers were able to feedback on the Lesson Study lessons on the day that they were undertaken. I planned this into the structure of Lesson Study I used in Layer 2.



*Ofsted phoned during the first lesson – meaning that the school was to be inspected for the two days that followed. A school inspection meant that we paused the Lesson Study work – as while it was important – it did not outweigh final preparations for an inspection that would determine if the improvements we felt we had made, as a school, would be recognised.*



## A Primary Head Teacher's Exploration of Lesson Study

*Time in the pilot study was also constrained by my cancer diagnosis and my subsequent chemotherapy treatment. Sitting for six hours having four different types of chemotherapy every two weeks, on top of the various side effects meant that I felt like the pilot study was having to fight to find time in our days. And time was something that was highlighted as being important to facilitate Lesson Study work (Stepanek et al, 2007; Dudley, 2014). So, it seemed that my experience was aligning with the literature on how to do Lesson Study. I needed to address the time challenges in my further research, which meant I needed to consider the timetabling of Lesson Study. There were cover implications to ensure that all lessons were supervised correctly while Lesson Study work was being undertaken and I also needed to ensure that teachers were able to meet straight after a lesson so that they could discuss it. While it was unlikely they would have a three-day delay - due to Ofsted – it was important that I was able to give space and time to my teachers to enable them to meet and discuss the lessons they were teaching in their Lesson Study.*

*Reflecting on the pilot study, after completing the fuller piece of research, it is clear that while I took on board some considerations I did not factor in that there were elements I did not see at this early stage of the research. While time came up, I did not consider expertise. I know now that I did not uncover this theme in my pilot study and this leads me to assume that at the time of my pilot study I was being guided by the findings of literature rather than questioning of them. As expertise was not clearly mentioned, I did not notice how it affected the outcomes of my pilot study, and in doing so did not prepare my main study for any challenges surrounding expertise, like I did for time. However, hindsight has enabled me to revisit this in my later discussions and consider the expertise levels in my pilot group when we started the work. As well as considering the traits that Jasmine, Miqdad and I had that may have influenced the outcomes of the Pilot Study.*



In the pilot study, the teacher in the first observed lesson was myself, and it was clear in our initial feedback that most of the comments were linked to my teaching and teacher behaviour. We discussed this as a group and our second lesson was more focused on the children's interactions. It was clear that in doing so we opened up a completely different perspective on the effectiveness of our planned lessons.

*Me: I did not notice that, Jasmine.*

*Jasmine: Ama did not get the concept of the whole at all. She pretended to understand, showing you her board and putting her hand up but she was just going along with the routines of the class, she didn't know why those two fractions made a whole, or what a whole was.*

*Me: So when she got to her table she could not do the work.*

*Jasmine: Yes, she had no clue what to do when I got there.*

*Extract from Pilot Lesson Study, Lesson 2 Review Meeting July 2013*

This tendency was something that Dudley (2012, 2013, 2014) discusses in his review and his handbook on Lesson Study just like Stepanek et al (2007) recommends focusing on pupils' learning in order to assuage the focus on the teacher. Clearly, for Miqdad, Jasmine and I, we had some institutionalised behaviours, which probably stemmed from our work as leaders, who had to regularly observe and grade teaching. This meant that when we were in a Lesson Study lesson we needed to adapt and change our behaviour so that we were able to see what was going on in the lesson rather than what the teacher was doing.

This tendency to focus on the teacher, rather than what was happening in the lesson, was something I knew my staff would need training on in the whole school Lesson Study model, so I decided that I would incorporate training sessions on Lesson Study into the cycle's

model which I would use in Layers 2 and 3. I suspected that they would be similar to Jasmine, Miqdad and I because they, like us, were used to teacher observations as part of teacher accountability – linked to development – and as such were used to their observations focusing on their behaviour – as teachers.



*The pilot study again confirmed information I had read about in my literature review on Lesson Study, this time that there was a need to focus on the pupils' learning. In hindsight, this was a false positive for my research as it then meant it took a lot longer to explore how Lesson Study developed teachers. I found information that confirmed the reading I had made, but I did not examine this further during the pilot study. This was a mistake, because if I had considered the teacher's role more at this point I may have uncovered more about expertise and professional conflict which I could then have planned into my main research.*

*I am not suggesting that there is no need to focus the pupil – when doing Lesson Study work – (Dudley, 2013; Dudley, 2014; Fujii, 2016 all indicate that focusing on the learning intended is beneficial in Lesson Study work) instead, I am suggesting that by focusing on the pupil there is a disregard to how the teachers need to discuss the Lesson Study work in order to provide moments of teacher learning. The actions and decisions of a teacher are important to that discussion because they inform how the lesson was conducted.*

*I can see, now, that within my pilot study there were glimpses of the dialogue that suggested that Jasmine and Miqdad were providing me with professional conflict, and that in doing so we were able to rethink and explore our teaching around the concept of the 'whole' in fractions in a different way. Yet, my noticing of these only comes from revisiting my pilot study following my work. There was no alignment with the literature I was reading in 2013*

*that providing professional conflict between teachers was necessary for Lesson Study to work. Indeed, Pella (2011) and Dudley (2013) with their learning moments only suggest that there are points of realisation for practitioners involved in Lesson Study. Revisiting my early research with the knowledge of my completed research, I see that there were nuances that I could have seen if I had not been seeking a place within the established literature. These nuances are explored further in my research.*



### *1.3.2 Layer 2*

My pilot project had shown me that there was enormous potential to notice different things – particularly in the children's learning - through working collaboratively with planning, teaching and observing and I went into introducing Lesson Study to the wider teaching team with that in mind.

I had done two lessons in one half term as part of the small-scale study and it had been difficult to find the diary space to do that. When I revisited the literature, I reflected further on the notion that Dudley (2012), Fernandez & Yoshida (2004) and Stepanek et al (2007) all seemed to suggest that lessons could be done over a longer period of time. A Japanese example (Fernandez & Yoshida, 2004) suggested that lessons were planned over the course of the year, and so I decided that I would implement Lesson Study with a frequency of one Lesson Study lesson per half term, with time for planning and review built into the cycle. Figure 0.4 demonstrates the ordering and structure of the planned work in introducing Lesson Study in 2013 – 2014 and its continuing work in 2014 - 2015.

## A Primary Head Teacher's Exploration of Lesson Study

<b>Autumn Term 2013</b>	Initial Staff Training on Lesson Study	Plan 1 <sup>st</sup> Lesson Study Lesson	Teach 1 <sup>st</sup> Lesson	Review and Plan 2 <sup>nd</sup> Lesson Study Lesson	Teach 2 <sup>nd</sup> Lesson Study Lesson	Review 2 <sup>nd</sup> Lesson and start to plan 3 <sup>rd</sup> Lesson
<b>Spring Term 2014</b>	Finalise 3 <sup>rd</sup> Lesson Study Lesson	Teach 3 <sup>rd</sup> Lesson Study Lesson	Review and start to Plan 4 <sup>th</sup> Lesson Study Lesson	Finalise 4 <sup>th</sup> Lesson Study Plan	Teach 4 <sup>th</sup> Lesson Study Lesson	Review and Plan 5 <sup>th</sup> Lesson Study Lesson
<b>Summer Term 2014</b>	Finalise 5 <sup>th</sup> Lesson Study Lesson	Teach 5 <sup>th</sup> Lesson Study Lesson	Review 5 <sup>th</sup> Lesson	Prepare presentation to staff about finding	Give presentation to staff on findings	
<b>Autumn Term 2014</b>	Initial Staff Training on Lesson Study	Plan 1 <sup>st</sup> Lesson Study Lesson	Teach 1 <sup>st</sup> Lesson	Review and Plan 2 <sup>nd</sup> Lesson Study Lesson	Teach 2 <sup>nd</sup> Lesson Study Lesson	Review 2 <sup>nd</sup> Lesson and start to plan 3 <sup>rd</sup> Lesson
<b>Spring Term 2015</b>	Finalise Plan 3 <sup>rd</sup> Lesson Study Lesson	Teach 3 <sup>rd</sup> Lesson Study Lesson	Review and start to Plan 4 <sup>th</sup> Lesson Study Lesson	Finalise 4 <sup>th</sup> Lesson Study Plan	Teach 4 <sup>th</sup> Lesson Study Lesson	Review and Plan 5 <sup>th</sup> Lesson Study Lesson
<b>Summer Term 2015</b>	Finalise 5 <sup>th</sup> Lesson Study Lesson	Teach 5 <sup>th</sup> Lesson Study Lesson	Review 5 <sup>th</sup> Lesson	Prepare presentation to staff about finding	Give presentation to staff on findings	

*Figure 1.6: Model of Lesson Study for academic years 2013-2014 & 2014-2015*

Built within this whole school Lesson Study model were training points for staff that were planned to be undertaken at the beginning of each cycle and would build on the learning from the pilot study and from the further reading I had undertaken – which I will discuss further in my literature review on Lesson Study in Chapter 2. I envisaged these training points to provide teachers with the background information and learning they needed to conduct Lesson Study.

Of course, one of the weaknesses of my approach to Layer 2 was that it was very researcher led, which was similar to my pilot study, but I was to undertake a different role in Layer 2. I would not be an active participant in planning, teaching and reviewing within each Lesson Study cycle, and in doing so I would be taking a step away from being able to guide each group through the process. Borko (2004) talks about this transition away from the small study

## A Primary Head Teacher's Exploration of Lesson Study

to a slightly larger study as having a diminishing effect on the outcomes of the development activity, and the larger and further away from the initial researcher the development work becomes the lesser the developmental return. While I was wary that stepping away from the direct involvement in the Lesson Study teams might mean that they were not as aware as I was - following my reading into Lesson Study – I felt that if I were to really explore how Lesson Study enabled teacher learning, I could not be in the Lesson Study teams as I felt that my knowledge of Lesson Study and my position in the school and the research would mean that I would not be able to explore how teachers – ordinary primary school teachers – experienced Lesson Study.

I also felt that it was important to return to my initial curiosity surrounding Lesson Study. I had discovered things in the Lesson Study Pilot that I had not expected and while I would be able to use that to prepare my teachers to embark in Lesson Study work, I also wanted to enable them to experience Lesson Study as it is intended – a teacher-led development tool.



*I have tried to maintain throughout my research a desire to keep the research focused around an exploration of Lesson Study. It has not always been easy to do this. Some of this difficulty came from a lack of information about whole-school Lesson Study work. Nick (2015) has created a whole-school Lesson Study system in his school since I have undertaken my research but his writing does not talk about why there were unsuccessful Lesson Study teams or how teacher-led his Lesson Study work was.*

*I decided that as I had read about Japanese Lesson Study (Hart, Alston & Murata, 2011; Fernandez & Yoshida, 2004; Fernandez, 2002 & 2005; Lewis, 2002) I wanted to explore*

*teachers, rather than external staff setting up and working through their own Lesson Study cycles.*



In order to do this in Layer 2, I would help create frames within which they could work, shown in Figures 1.6 and 1.7. These frames would then allow teachers to make decisions about how they wanted to pursue their own Lesson Study work. This is what happened as the two teams I will focus on in Chapters 3 and 4 conducted their Lesson Study work in different ways. One, Team 2, elected to focus on one specific class group and teach all their lessons to this group – with different members of the group taking the teacher role at different times. While the other, Team 1, choose to teach one lesson at a time, deciding where they would move to next in their work as the previous lesson was considered and reviewed.



*On reflection, I could have taken more control over these decisions, but I wanted to maintain their exploration of Lesson Study throughout their work. Something that I have noticed in my work is that by allowing this variation I have been able to explore the themes of collaboration, expertise and conflict in ways I do not think I would have been able to do had I been more prescriptive in the ways in which Lesson Study was deployed.*

*It is also important to note, that while there is some similarity in approach of Lesson Study guidance (Dudley, 2012 & 2014; Stepanek et al, 2007; Fernandez & Yoshida; Lewis 2002), the actual workings of each Lesson Study cycle are less clear to a reader implementing Lesson Study. Fujii (2016) suggests this lack of clarity comes from Lesson Study work being 'like air' in Japan and that most of the work and nature of Lesson Study remains invisible to*

## A Primary Head Teacher's Exploration of Lesson Study

*observers, as tacit knowledge can. While I did not have the support of Fujii's (2016) text when I embarked on my research in 2013, I knew that I wanted to embrace the flexibility of Lesson Study to explore how it could develop teachers. In doing so I did not want to be overly prescriptive or restrictive to the Lesson Study exploration, as there was a balance to be made throughout this exploration of interference versus observation, and I wanted to see if I could gain more insight into exploring Lesson Study and how it worked or did not work to develop teachers.*



### 1.3.3 Layer 3

The design of Layer 3 builds on that of Layer 2. In September 2013, I held a staff training on Lesson Study and introduced the model in Figure 1.6 and my research into Lesson Study to the teachers. This model was the result of my reading on Lesson Study and the adjustments I felt necessary to ease the time constraints I had felt in the pilot study.

*I would ideally like everyone to have a go, but I will understand if people do not want to try it out just yet. I will talk to them about our small project and see what they say.*

*Extract from Research Journal: Sept 2013*

I designed my Layer 2 Lesson Study cycle to be flexible enough to accommodate and enable all teachers to be able to work as part of a Lesson Study group. I also made it clear that they did not have to take part in my research if they did not want to. I will elaborate on my research ethics in section 1.9.



*They all said yes and have created four groups.*

*Extract from Research Journal: Sept 2013*

The teachers decided for themselves who they wanted to work with - in their Lesson Study teams - and what their general interest areas might start off as being. Four teams were created from the initial meeting on Lesson Study and they all started to identify their own area of focus within Mathematics.

I choose Mathematics as it seemed to be a subject area used most frequently by Lesson Study researchers (Hart, Alston, & Murata, 2011; Fernandez & Yoshida, 2004) and it was an area I felt – at the time of designing the research – we had expertise in as a school.



*I asked the teachers to pick their own teams – which I would probably not do now and as I explain in Chapter 5. I chose to do this in 2013, because I had no reason not to. I did not have a whole school Lesson Study model to explore in the literature and there was little, if any, information in the published literature on how to create teams. Authors like Lewis (2002) and Pella (2011) had largely been using volunteers and the promise of professional development to create groups. As a result, there was little precedent to establishing teams through teacher choice, and also the Japanese example (Fernandez & Yoshida, 2004) suggested that everyone would take part in the study, so I did not anticipate that this freer choice would have any impact on the groups that were formed or their results.*

*As Chapters 3 to 6 will show this was, in hindsight, not the case and there were opportunities I could have taken at this juncture in the research that may have led to improved outcomes in*

## A Primary Head Teacher's Exploration of Lesson Study

*terms of teacher learning. Although exploring these as counterfactuals would not be useful, I would now reflect on creating groups with consideration to the individuals I was placing in those groups, particularly taking into account the expertise and ability to create and respond to professional conflict.*

*Yet, this is also a contribution to knowledge. If I had not allowed teachers to pick their own Lesson Study teams, I would not have found out what I did. Yes, in terms of moving forward with Lesson Study – as I explain in Chapters 5, 6 and 7 – this is possibly not the best for future Lesson Studies in my school, it did allow me an insight into the workings of Lesson Study which will then inform my future work.*

*The decision to allow teachers to pick their own teams was also linked to reducing the power dynamic between me and the teachers. As their head teacher and the researcher, I held lots of perceived power. Enabling teachers to select their teams meant that they were in control of this work and they were in control of choosing their foci and classes with whom they wanted to work. I was also giving the teachers the option of saying no to participating in my research as this was an ethical consideration of my work. In order to do this, I needed to provide choice, so that if teachers were not pressured into participating as they had already been assigned a Lesson Study team.*

*This meant that while I was providing a framework I was not expecting them to also work with people I had chosen for them.*



I had designed the Lesson Study model in Layer 3 to have three or four teams. The teachers split into four teams and four teams meant that within each cycle, each academic year, there would be a strong likelihood that different teams would complete the lessons and if any did

## A Primary Head Teacher's Exploration of Lesson Study

not complete I would still have sufficient research data to compare and review Lesson Study within my school.

Within Layer 3 I built on the work that I had undertaken with Jasmine and Miqdad in the pilot study and drew up processes that would support the Lesson Study teams in completing each cycle, an overview of which can be seen in Figure 1.7 below:

<b>Lesson Study Teams Planning, Teaching Reviewing Cycle</b>	<b>Stage 1: Plan and prepare Lesson Study Lesson</b> <ul style="list-style-type: none"> <li>• Talk through ideas</li> <li>• Outline Lesson Plan</li> <li>• Decide who will teach lesson</li> <li>• Plan Lesson into Lesson Plan (Appendix A)</li> <li>• Teacher of lesson finalises the lesson plan and send to all group members day before observation</li> <li>• All group members read lesson plan before observed lesson</li> </ul>	<b>Stage 2: Teach Lesson Study Lesson</b> <ul style="list-style-type: none"> <li>• Teacher teaches session and all group observe</li> <li>• Observers make notes on the Lesson plans to share after lessons</li> <li>• Teachers may observe individual children or groups.</li> </ul>	<b>Stage 3: Review Lesson Study Lesson</b> <ul style="list-style-type: none"> <li>• Review session is recorded using sound recorder</li> <li>• Someone chairs the review session</li> <li>• Each observer feeds back to the team on their observation</li> <li>• The chair summaries the information</li> <li>• The group consider the next steps and book in their planning meeting for the next lesson.</li> </ul>
----------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

*Figure 1.7: Stages within a Lesson Study Lesson: Planning, Teaching and Reviewing (Stages developed from Stepanek et al, 2007; Dudley, 2014; Fernandez & Yoshida, 2004)*

The design of Layer 3 specified some actions that the Lesson Study team participants would need to complete so that they were supported with the Lesson Study process – as I had supported in the Pilot Study – but also so I could revisit aspects of each planning, teaching and reviewing stage when I came to write up my research.

As Figure 1.7 indicates in Stage 1: Planning, the teachers produced a lesson plan for the observed lesson using the one I had used in the pilot study (Appendix A and Appendix B); in Stage 2 the teachers annotated these plans and in Stage 3: Reviewing, the teachers recorded their conversations. Each stage provided me with another type of research data, whether it

was a lesson plan or an audio conversation. These pieces of research data would allow me to return to different moments in the research as I analysed the research data.

#### **1.4 Research Approach**

My research approach is one of exploration. The exploration is of Lesson Study in my school within the layers described in section 1.3 – figure 1.4. I drew a mixture of methods together to make up this approach with the looking closely, experiencing my research and describing what I think I see from Naturalistic Inquiry traits (Lincoln & Guba, 1985; Erlandson et al, 1993), thick descriptions (Geertz, 1973) and through engagement with the personal narrative (Leavy, 2015; Bocher & Riggs, 2014; Traianou, 2014; Ellis & Adams, 2014; Lichtman, 2013; Lather, 2009). These methods are added to by influences from auto/ethnography (Adams, Ellis & Jones, 2015; Adams, 2014, Santoro, 2014; Alexander, 2014; Carless, 2013; Muncey, 2010) and from writers on sexuality (Adams, Ellis & Jones, 2015; Adams, 2014; Santoro, 2014; Alexander, 2014; Carless, 2013; Adams, 2011), critical race theory (Solórzano & Yosso, 2002; Solórzano & Yosso, 2005; Cann & DeMeulenaere, 2010; Flagg, 1998; Leonardo, 2005) and theories from minority writers (Alcoff, 2009; Tuhiwai Smith, 2012) which prioritise the validity of the individual's voice in telling the research story. As a result of my mixed approach and influences my exploration is my personal interaction with the research and is informed by my thinking about the research data, my observations and my reflections.



*A personal exploration means that I am writing from a personal point of view. This means I will embrace my assumptions and thoughts about the research. This is problematic because I*

*also need to justify these thoughts, assumptions and feelings critically. I also need to frame how I think I know these things, particularly if they are about other people.*

*One of the ways I have dealt with this is to check back with my participants when I have written about them, to see if that is how they would have considered the situation, whether I have made an unfounded assumption or misunderstood something. I did this repeatedly throughout the data collection, analysis and interpretation of this exploration, so that when I say something about a person it is an observation I have then followed it up with them.*



Earlier, I discussed the influence of auto/ethnography and my perception of dominant culture on my thinking. I would now like to consider how these, link together in my interpretative approach to my research and how it will enable me to write an incomplete personal construct (Kelly, 1963).

Unlike my example of the adoption event and the auto/ethnographies related to sexuality (Carless, 2013; Santoro, 2014; Alexander, 2014; Adam, 2015), I am not proposing that the primary teacher is discriminated against in the same ways as the writers above describe in their works. Instead, I proffer a notion to my reader that the voice of the teacher, in my case the head teacher, in a primary school is ignored and as such the thoughts of this group are positioned towards the edge of the dominant culture of education.

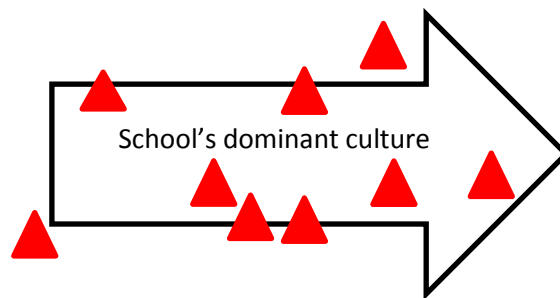
Understanding the culture that prevails dominantly within my school, and thus within my research enables the transparent elements to become apparent and may help me explore Lesson Study and its relationship to teacher learning more readily. De Mooij (2014) presents a values paradox between Japanese and American cultures, with the Japanese more group-orientated and the Americans more individualistic. Yet, very little consideration on cultural

conditions has taken place in Lesson Study work in the United Kingdom, which may suggest that the complexities describe by Blase (1991) within schools are not being considered in the research and as such we do not know if it is Lesson Study or school culture enabling the outcomes seen in Lesson Study reports by Dudley (2012, 2013, 2014, 2015).

#### *1.4.2 Dominant Culture in my School*

I thought my school, at the start of my research, had a collaborative culture. I hoped that writers like Atkinson & Rosiek (2009), who suggested that teacher voice was marginalised in education, would feel that my school was collaborative, a place where teachers could present their thinking. To me it felt collaborative but I also recognised a tendency of the teachers to be isolated in their own classrooms and I wondered if the teachers felt that the school was as collaborative as I did.

I would like to represent how dominant culture might be visualised within a school like mine.



**Figure 1.8:** *A diagram representing individuals within a school's dominant culture*

Figure 1.8 represents a school's dominant culture. I have used an arrow to represent that this is a shifting entity as dominant cultures do change and so the arrow is reflecting change. Now a primary school is a small dominant culture and as such I think it is possible to show individuals positioned within that dominant culture – the red triangles. These positions in this diagram are conceptual as they do not relate to real teachers, and conceivably a teacher

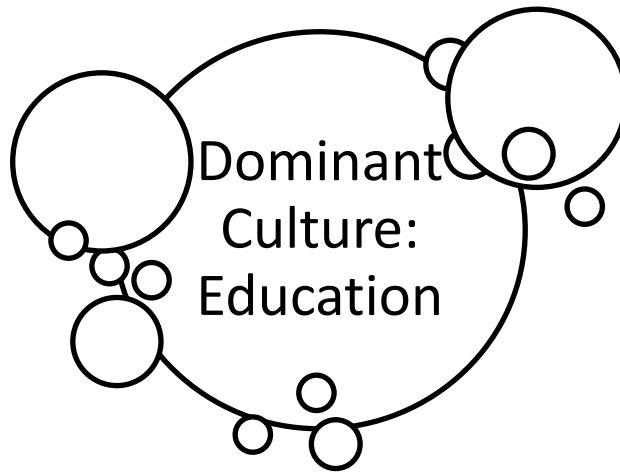
## A Primary Head Teacher's Exploration of Lesson Study

could move between the triangles at different points in their day, working lives and time in a school. What the triangles aim to show is a variation of positioning exists within the school culture, and that some people may feel more isolated from that culture than others and this may reflect a natural ebb and flow of a school's dominant culture.

As a school's dominant culture is smaller and the positioning of the individual teachers might move more easily than the integration of non-heterosexuals into dominant culture. The individuals will all also have their own dynamic that they bring to the culture and this will form and shape it, with synergy of views taking precedent over minority or peripheral views. It is important to remember that this is likely to be unintentional as this categorising will all be transparent to the members of the school, unless they are located towards the edges of the community.

The positioning of an individual within the dominant culture of the school would depend on the prevailing culture. Achinstein (2002) talks about different models of schools with ones that embrace conflict and difference and ones that actively seek to expel difference for the sake of group consensus. If the school took an avoidant stance (Achinstein, 2002) then it is likely that any discordant thinkers will be pushed out of the dominant culture and this will have an impact on new ideas prevailing in teacher learning. Whereas an embracing stance (Achinstein, 2002) would encourage different ideas within the dominant culture and these ideas would be developed and support a variety of teacher learning.

Of course, all this would be happening within a larger educational dominant culture which means that each school would be a sub-culture around the country's education system's dominant culture.



**Figure 1.9:** Visualisation of dominant culture and schools.

Figure 1.9 shows that each school would be a subculture around the dominant culture in education and depending on how aligned the school's culture was to the dominant culture, teachers could be positioned in line with the dominant culture or they might be in a school much further away from the dominant culture of education.



*Dominant culture in my school is something that I have considered greatly since starting my research. In 2013, I thought I ran a collaborative school where my teachers were embracing of change (Achinstein, 2002) but over time I actually think lots of the isolation of my teachers was transparent (Flagg, 2008) to me, and I think that the influences from the external pressures on my role as head teacher are possibly experienced differently by me to that of my teachers. When I consider Figure 1.8 as my school, I have to wonder if at different points in time I can occupy every triangle on that diagram as at times there are parts of my role which require me to do things that feel uncomfortable, such as administer extremely challenging tests to pupils who I know will find them very difficult. At those times, I can feel outside of the*



*edgelands of the dominant culture in my school, whereas at other times I feel very much central to the dominant culture of my school. As my research, has progressed I think that it is more apparent to me that I can never truly know all of the cultural elements that prevail within my school and within my dominant culture, but instead it is useful to reflect on the moments of learning that might present something hidden to me, and insure that I act on these opportunities to endeavour to make a change, if a change is necessary.*



#### *1.4.3 How is dominant culture represented in teacher auto/ethnography*

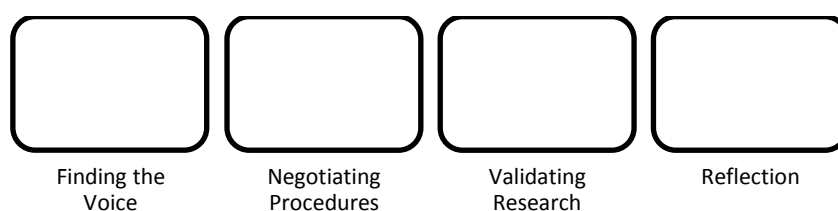
Feelings of exclusion and isolation appear in teacher written auto/ethnographies. Brooks & Dinan Thompson (2015) and Lynch (2013) present sensations of their own isolation as a physical education specialist and a student teacher respectively. Lynch (2013) presents a fractious community and Brooks & Dinan Thompson (2015) shows that the culture and focus of a school can isolate team members who are not considered important because she works outside for her subject. Both articles were written by teachers who had left teaching, and a critique I have is they own only feel able to write once outside of the system they are criticising, and if so why was that the case. Is there a prevailing aspect of schools that prevents teachers from writing their experiences? I can hope that in 2013, this is not how my staff felt about their positioning within my school, but in reality, I was only able to see what I could see at that point in the research and while I would describe my school as collaborative, the reality might have been different.

While I cannot speak for others (Alcoff, 2009), I think that my personal voice in this research is strengthened by my use of thick description (Geertz, 1973) of the context my research is based within my lived experience. Boylorn & Orbe (2014) suggest that writing in this style

will help me, and consequently my readers, understand more about lived experiences and Elbaz-Luwisch (2007) has stated that we need to pay attention to the teachers as individuals if we are to understand how they work. I think that a personal piece of research does just this; it will provide detail on how Lesson Study works to develop teachers, through lived experience of introducing Lesson Study into my school. This in turn will help readers understand more about how teachers think and work and how Lesson Study processes support development.

The flaw of a personal approach is that I am not objective. I am within my research and my presence will shape and change the research. However, I think this is also a strength as it allows me to see around the Lesson Study cycles and interact with the research on a daily basis, in a way that other researchers might not have been able to do. Pelias (2004) argues that it can be all too easy for researchers *to hide behind the illusion of objectivity* and I believe that it would be better to dispense with notions that objective research is at odds with personal narratives. I agree with Pelias (2004) and Flagg (1998) in that I think it is incredibly difficult for any researcher to be objective: can anyone really close out everything about themselves? Or the world around them? I think the answer is probably not. So, it is my intent to embrace the personal and rather than consider my voice limited (Mazzei & Jackson, 2009), I will suggest that my voice may add to understanding a part of Lesson Study that is understudied (Xu & Pedder, 2015; Dudley, 2013) to which I will be able to add via my auto/ethnographic work, like Ellis & Adams (2014) suggest auto/ethnographies can.

#### 1.4.4 Critique of auto/ethnography



**Figure 1.10:** Four areas of concern to auto/ethnography based on Forber-Pratt's (2015)

If I use Forber-Pratt's (2015) four areas of concern to critique two auto/ethnographic articles: Carless' (2013) *Cultural Constraints: Experiencing Same-Sex Attraction in Sport and Dance* and Paradis' (2012) *Boxers, Briefs or Bras? Bodies, Gender and Change in the Boxing Gym* it is possible to see aspects of auto/ethnographic work of which I need to be careful. I chose Carless' (2013) article as it is about a theme I have personal experience with and Paradis' (2012) because it is about a theme of which I have no experience. This contrast is significant because, as I have previously described, it is important within auto/ethnographic writing to facilitate the reader so they can experience moments of discontinuity, which may enable them to see outside of their dominant culture. Yet as each individual has, a bias based on their own individual culture and what is obvious to the writer might be less clear to the audience. Thus, while I have an affinity with Carless' (2013) article, I do not naturally have the same affinity or starting point with Paradis' (2012) and as such I hope that the comparison in this analysis will enable me to see and share the consideration points from my perspective in my auto/ethnographically influenced writing.

The first area was finding the voice (Forber-Pratt, 2015) and this is one area that has concerned more writers than just the two articles for this analysis. Moriarty (2013) gives an entertaining account of finding her voice in her doctoral thesis, while other authors such as Spry (2001), Adams & Holman Jones (2011) give time over to how they found their own voice in their research.

On my first reading Paradis' (2012) voice feels like it is holding simmering resentment, for being treated in the way she has been at the gym. I felt the anger, but I did not clearly get her message. It was in my second reading when I started to identify her voice more clearly. While it is sometimes hidden behind her desire to use Bourdieu's theory of social capital and position as applied within the *field* of the boxing gym, I think her voice is saying that the

boxing gym as a masculine and misogynist atmosphere is unwelcoming to women, and even female boxers can be hypercritical of themselves through this masculine lens. That boxing, while moving forward, has not kept pace with the dominant culture outside of the gym, thus making it a point within the dominant culture which is at a distance from the section of the dominant culture which has a more egalitarian grounding. I feel that when I was looking more closely for her voice, it emerged more within her article, but I feel that it was clouded by the use of Bourdieu's theory, which acted like a crutch rather than Paradis revealing her findings about the gym. Her conclusion embodies this as she softens her views on the misogynistic environment by suggesting that the gym is misaligned and then becomes almost philosophical about how social spaces like the gym will evolve in time. I do not disagree with her view that changes will happen in this gym in time, but I do feel that this particular piece of auto/ethnography is not sufficient in its clarity of voice to change the gym, if it were to be read by the gym owner. This relates to the notion I expressed earlier about auto/ethnography not always having its potential realised because it does not evoke enough within its reader to enable them to perceive the potential space around their current thinking. As such, its readers do not get to experience moments of dis-continuity which may help them see the potential space for movement or change around their current thinking.

Carless' (2013) article is more direct with how he finds his voice and he devotes the first section to talking about making his narrative accessible to the master narrative, which I have read as being akin to the dominant culture I have previously described. Essentially Carless is trying to make a similar point to Paradis, in that sport can be a macho and misogynistic world. The difference with Carless' article is the juxtaposition between the narrative about team sport at university and then his experience within the dance world. This interplay allows the reader to see why the team sport world is challenging and difficult for Carless as it shows that there is an alternative world in which he is not so afflicted. For the reader, this is

important as it allows the reader to do what Carless set out to do in the beginning of the article which is to provide a platform that allows the reader to see his points and then he is able to compound this in his conclusion where he draws on themes which are pertinent about the dominant culture and the socialising effect it has on individuals, which can present challenges if you are on the edge of the dominant culture.

So, the comparison here is useful as it suggests that it is very important that a piece of auto/ethnography is accessible to the reader and allows them to see the information that will support the intended moment of discontinuity. Carless (2013) is more effective here because of the contrast of the first challenging environment and then the ease of the second environment. While he is clear that the second environment is still not a utopia of egalitarian values, it is a powerful enough narrative to show the reader the discomfort that Carless needs to express. This means that I need to ensure that I scaffold my narrative in a way that allows the reader access to the key points of my study so that the work is able to provide a moment of discontinuity in the reader.

The second area of concern from Forber-Pratt (2015) was negotiating procedures. Discussing how the two authors negotiated procedures is challenging as while I can make assumptions on the way the authors talk about the structures, like Paradis' (2012) use of Bourdieu or Carless' (2013) talk about the need to approach the narrative of his writing from an avenue that will allow readers to access it from their own position. Instead I feel that Moriarty (2013) demonstrates this aspect of concern more clearly. Moriarty (2013) talks about her negotiation process, from convincing colleagues in her faculty that her work is valid and can be validated to meet university requirements, to the aim of robustly structuring the work so it interplays with the conventional academic discourse. Her story about her initial thesis submitted just prior to her maternity leave embodies the need she had to work within the conventional to present the new, as her supervisor's initial response to her work was '*What exactly is this?*'

(Moriarty, 2013:73). Which suggests that possibly this initial draft did not have the scaffolding in place, as discussed with Carless (2013) and Paradis (2012), to enable the reader, in this case the supervisor, access to the personal narrative and thus it was unsuccessful.

This reinforces the need to do as Forber-Pratt (2015) suggests and check whether the work makes sense to a variety of people including those who work within research settings to ensure that the auto/ethnography is able to be effective.

The third concern is about validation of research and we need to revisit Denzin's (2011) work on politics of evidence use in research. Denzin (2011) sets out that evidence is not the domain of the qualitative researcher as it is countable and measurable and instead the validation of research comes from the trust, transparency and quality of the finished piece. Denzin (2011) then goes further than this and suggests that significance, conceptualisation, methods, substantiation, coherence, quality of communication and ethics should also be evidence to validate research. If we return to Paradis (2012) and Carless (2013) what can be drawn from their work in regards to this validation process?

Carless' (2013) personal narrative is a series of stories, which appear like memories of events and interactions from his life. This method is very easy for the reader to engage with and as such it becomes coherent but the story genre also allows it to feel a little more fictional, something which is fully embraced by Moriarty (2013) where the auto/ethnography is presented through a fully creative lens, using plays and poems to show the meaning. The fictional feel of Carless' (2013) writing does impact on the instant trust that a reader can give to it, and it is his writing around these stories that provides the trust. This writing around the stories interplays previous scholarship with explanations which enable the reader to access the points of the writing. Paradis' (2012) auto/ethnography uses her field notes as the source

material and these have been chosen to interplay with her writing to add her personal dimension to her observations and writing. These field notes do feel trustworthy and less embellished than Carless' (2013) stories, but as already noted Paradis' article does feel less accessible to the reader and this suggests that validation of research might come through a series of decisions between how source information is presented and how the interplay with the academic text can enhance the validity or trustworthiness of the whole article.



*In finding my voice for my research I feel that I have been influenced by auto/ethnography but have not really completed an auto/ethnographical research piece. My research is informed by the fullness of auto/ethnography's presentation of research evidence (Leavy, 2015) and also the way in which I will present my work to my reader. However, I feel that my work is about the exploration of Lesson Study rather than my own personal experience of doing Lesson Study. As such I think that I need to consider the reflective aspects of auto/ethnography carefully throughout my work as these moments of reflection and reflexivity will need to provide self-critique to further my work, where I have drawn on elements of auto/ethnography in presentation and in writing style.*



Layer 1, as outlined in the research design section – 1.3.1 – is designed to enable me to place my work within the interpretative paradigm (Bocher & Riggs, 2014) as I am seeking to understand how Lesson Study might work, for me, in my school.

**1.5 Positioning Me**

*I wanted to explore the world of education. I wanted to think about how the teaching and learning happened. I wanted to tackle the tacit world of the classroom and find out how it could be improved.*

*Extract from Research Journal: June 2015*

I have spent a great deal of time in this writing process reflecting on the starting point for my research journey. I can remember the sentiment of the above extract well; I wanted to provide the reader with a narrative of the Lesson Study work in my school as a way of exploring Lesson Study and its role in teacher learning. I thought about how I might do this considering different approaches, but Diamond (1992) spoke of how some methods of research and the positions researchers adopt can end up ventriloquizing teachers. I did not want that to be the case in my research and as such, the only position that would be authentic for my research was one that reflected on my own experiences with introducing Lesson Study, and what I thought happened within Lesson Study to develop teacher learning.

*September 2013*

*Dear Head Teacher,*

*I wrote to you earlier this year about Lesson Study. I am thinking about doing my doctorate exploring those questions I thought of before: How does Lesson Study develop teachers? Is collaboration sufficient to engender teacher learning or is there something within the Lesson Study cycle structure that prevails in support teacher learning.*

*I hope you do not mind, but I am going to write to you throughout my study to share the research as I undertake it. It might be useful to you.*

*As for me, a little context, I am head teacher at an urban primary school, situated in an area of significant economic disadvantage. Three years ago, I was asked if I would expand my school to a two-form entry school from a one form entry school. And now in my sixth year as head teacher, I am leading a school twice the size of the one I started at.*



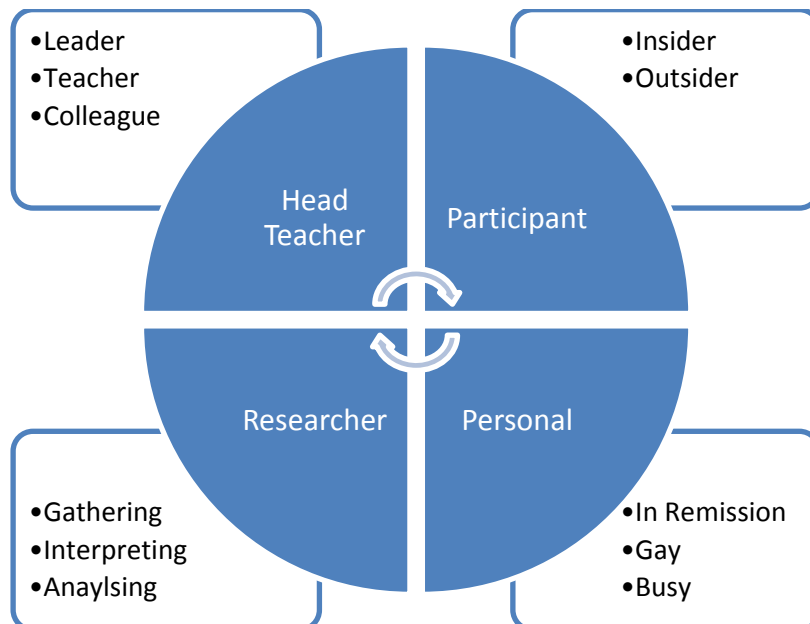
*I will write again soon.*

*Warm regards,*

*JP Mynott*

As I have explained there is a context within my school that this research is set within and my school may be similar or different to other schools in England, but there will be resonances between my school and others. The context of my school is unique and the Lesson Study I will talk about in this thesis is also unique to my school, although again it may have resonances with other studies.

*The context of the school is easy to explain. What about me? Do they need to know my context? How much do they need to know about my experience as a teacher, a leader? I am not sure how much I need to say here.*



**Figure 1.11:** A simple visualisation of my multiplicity

## A Primary Head Teacher's Exploration of Lesson Study

When it comes to my positioning, or my context Figure 1.11 provides a simplistic overview of some of the roles I have within this research. I am the head teacher, I am a participant, I am a researcher and I am an individual. At different points and in different layers of the research design the different roles I can occupy will have a different bearing on my research. The personal and the professional roles I occupy are able to inform each other, and have allowed me to see an aspect of dominant culture that has been transparent (Flagg, 1998) until I engaged in this research.

I am writing this thesis at a time when England is a high-stake education system (Ball, 2013). A system where teachers and schools are expected to achieve, perform better and provide for the economy of the future. I think as a head teacher I am only too aware of the weight of expectation on my role, which can make it hard to innovate. The change I have seen in six years as a head teacher has been significant, in my school, but also with the wider changes in education. The rhetoric on underperformance and where the government sees fault, is now squarely placed on the teacher, with the head teacher being culpable for any perceived failure (Morgan, 2015).

*October 2013*

*Dear Head Teacher,*

*I would like to tell you a little more about my teaching team.*

*My teachers are wonderful and I am committed to helping them develop, and this is one of the reasons we are introducing Lesson Study into our school. I really want to see if the benefits I have read about will help my teachers learn more, and develop in their teaching.*

*They are fairly inexperienced as a team, we do not have any teachers who have been teaching longer than a decade, but they are all very committed to working at my school. Many of my current teachers started out their careers at my school.*

*We have been looking at ways to work together over the past few years, and have tried ideas like joint observations and collaborative planning. It will be interesting to see what Lesson Study does as they work through the first year of the cycle.*

*Warm regards,*

*JP Mynott*

Of course, this means that I am in a challenging position as the relevant socio-economic challenges which surround my school are factors we need to take into consideration when meeting the needs of our catchment, but we also need to ensure that each and every child makes significant progress every day if we are ever to get close to the required standards of attainment by the end of the primary phase.



*The school's context is difficult to discuss in terms of what impact it has had on the research. The reason for this is that there is no comparison for this type of Lesson Study research currently. It is also difficult to compare schools as each one will present differently, and I may have a different perspective on the dominant culture of mine to a member of my teaching team.*

*Nick's (2015) school has conducted whole school Lesson Study work, but there is not currently another whole primary school study which explores Lesson Study, so the socio-economic aspects of the school's position, its staffing make-up and the experience of staff working collaboratively may well all have wider implications than can be currently ascertained, as there is no comparison. An exploration of comparison might be something useful to do to further this research in the future.*

*That said, my school staff were in some ways prepared by the collaborative approach we had taken to curriculum design before we started looking at Lesson Study. Since 2011 we had worked in year group phases (Nursery and Reception; Year 1 and Year 2; Year 3 and Year 4*

## A Primary Head Teacher's Exploration of Lesson Study

*and Year 5 and Year 6) to plan out our curriculum provision. This was a deliberate choice to enable teachers to work with each other to plan their curriculums and share their expertise. In doing so this decision meant that by 2013 my staff had had experience with working with each other on broad curriculum focuses, but this did not mean that they were extensively experienced with working with each other on lessons.*



I intend to remain optimistic and positive about education within England, as beyond the accountability of current system (Ofsted, 2015) there is so much more to education and professional development than what is measured through accountability.

*October 2015*

*Dear Head Teacher,*

*I have just been talking to one of the children in Year 4 about their writing. They are trying to convince me to let the Dalek children come to our school and then it occurred to me, I haven't told you much about my school. I know I have told you the overview but I have not really told you about our ethos, our staff and children.*

*It is probably fair to say the community is not financially wealthy but we have a whole lot more to offer than money. The vast majority of the children speak English as an Additional Language (EAL), which is fantastic; we represent the whole World and speak over 50 languages as a community. I have never worked with such amazing children as I have in my school; they are so full of talent, enthusiasm and personality, that every day is a wonderful adventure. They are total sponges to everything that we have given them, and we need to give them a lot as their starting points into Reception put them between two and three years behind their peers nationally.*

*Six years ago, the school was in real trouble, it had academic, behavioural and safety issues and was causing concern locally and nationally. It had a terrible reputation and a falling roll, but all that has changed now. We are oversubscribed and the reputation is changing.*

*I have a team of dedicated and hugely capable people who continue to help transform our school. One of the things I am constantly saying is how do we get even better? Sometimes the staff make fun of me for it. They even suggest that I am never satisfied!*

*I might just let the Daleks join the school; after all I do say everyone is welcome in our community.*

*Warm regards,*

*JP Mynott*

Something that can make it harder to express this wider depth to education is when the stress of my role is compounded by comments by government ministers who threaten to remove leaders from post if they underperform. At the time of writing Nicky Morgan, Education Secretary has announced that primary schools should insure that **ALL** pupils can pass a times table test at 11 and any school that fails to gain 100% pass rates for more than two years will have their leadership team removed (Morgan, 2015) or indeed from the Queen's Speech (DfE, 2015) which suggests the removal of leadership from 'coasting schools'. Both examples reinforce how high stakes education is for school leaders and it is hard to suggest that this is only a perception I have of how things feel more pressured.

---

*Who am I?*

*You will often see me wearing a tie and there is a collection of suit jackets behind my office door – although I never have the one I need.*

*I am probably trying to make something better, tweaking a process, an idea or a technique. And I have a passion for my school and everyone in it, all the children, all of the staff and all of the community around it. I really hope that I can help the school become the heart of its community and be transformative for those who come into contact with it.*

---

While my research is auto/ethnographically influenced the learning, I make and will summarise in my conclusion is about how I will act as a professional in relation to Lesson Study and build on my personal-professional exploration of Lesson Study rather than learning about myself.

## 1.6 Data Gathering

I explained in my research design section that my approach is a layered one. Each layer is able to collect different pieces of research data and I will use this data throughout my study.



*When gathering my data, and setting up my work I made some choices. I had initially wanted to film the Lesson Study lessons, as Dudley (2013) does in his study, but this was something my pilot study teachers made very clear that they would not have liked. Factoring teacher preference into the final research design was important as I wanted teachers to choose to take part, and I felt that videoing their planning, teaching and review sessions would have been a barrier for some teachers to take part. As a result, I opted for the groups to record their review sessions.*

*In hindsight, I think it would have been useful to have recorded their planning sessions as well, but I felt from the literature and from the pilot study that the lesson plans would provide me with enough of an insight into this aspect of the process.*

*When I introduced the Lesson Study research, the thing that caused teachers to feel most uncomfortable was recording their conversations. As such I think it was sensible to have reduced this component down. While it may have given me more information about the thinking behind lessons if I had recorded the planning sessions as Fujii (2016) and Takahashi (2014) suggest, as these components are important to the overall Lesson Study, I felt that if I could record the planning meeting in the planning format. I could then capture the lesson and its review in my recording so I was getting a large proportion of the conversations.*



1.6.1 Layer 3

As detailed in my research design there were three main components to the data I gathered in Layer 3. Figure 1.7 describes these three components as a Lesson Plan; an annotated version of the Lesson Plan and the audio recording of the final review lesson. I would then transcribe the audio recordings after listening to them to enable me to reread them in conjunction with the data I collected in the other layers.

<b>Lesson Study Teams Planning, Teaching Reviewing Cycle</b>	<b>Stage 1: Plan and prepare Lesson Study Lesson</b>	<b>Stage 2: Teach Lesson Study Lesson</b>	<b>Stage 3: Review Lesson Study Lesson</b>
	<ul style="list-style-type: none"> <li>• Talk through ideas</li> <li>• Outline Lesson Plan</li> <li>• Decide who will teach lesson</li> <li>• Plan Lesson into Lesson Plan (Appendix A)</li> <li>• Teacher of lesson finalises the lesson plan and send to all group members day before observation</li> <li>• All group members read lesson plan before observed lesson</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher teaches session and all group observe</li> <li>• Observers make notes on the Lesson plans to share after lessons</li> <li>• Teachers may observe individual children or groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Review session is recorded using sound recorder</li> <li>• Someone chairs the review session</li> <li>• Each observer feeds back to the team on their observation</li> <li>• The chair summaries the information</li> <li>• The group consider the next steps and book in their planning meeting for the next lesson.</li> </ul>

*Figure 1.7: Stages within a Lesson Study Lesson: Planning, Teaching and Reviewing (Stages developed from Stepanek et al, 2007; Dudley, 2014; Fernandez & Yoshida, 2004)*

1.6.2 Layers 1 and 2

As Layer 1 is my direct involvement and reflection on my research, the data I gathered was largely from a personal perspective.

I wanted to be able to keep a track of my thoughts, feelings and considerations as they happened throughout the research and after reading Muncey (2000) where she described remembering events. I felt that I would be inclined to revisit information throughout my

work, and I suspected that I would develop and change my thinking throughout my research. As a result, I decided that it would be important for me to record my thoughts as they happened and I would keep a research journal, throughout the duration of my doctorate. I always had my journal in my bag, but completed it on an ad-hoc basis, recording things as and when I felt I needed.



*As I set out in my research approach, I wanted to conduct an exploration of Lesson Study. I assumed from the literature that it would develop teacher learning and I did not want to replicate a study that proved it enabled teacher learning, instead I wanted to explore how it might develop teacher learning. To do this I needed to record my thoughts and feelings throughout the work.*

*This method is not without its pitfalls as while I was recording information throughout my exploration and this informed my ongoing work, there were moments that I would revisit and then think differently about, and moments that a further conversation clarified. This meant that throughout the research the evidence meant I needed to revise my thinking, which means that it is harder to ascertain the chronology of the piece and in doing so it makes it more difficult to follow, and confirm that it provides justification for the research findings I say I have identified.*

*Some of these concerns, I have addressed by dating aspects of my journals and creative writing to help the reader follow the chronology. I also have drawn on writers in auto/ethnography (Muncey, 2010; Moriarty, 2013 and Adams, 2014) who suggests that each time you revisit your research you rewrite it. Just like I am with these sections, which step*



*outside of the main text. In embracing this I hope to be reflexive of my work, my methodology and my research findings throughout my text.*



Emerson, Fretz & Shaw (2011) discuss the idea of ethnographic ‘jottings’ like the ones I made in my research journal, and identify that when a researcher is immersed in their research in the way I am it is sometimes difficult to jot down the thoughts at the time. In order to effectively note thoughts and events that I felt needed to be recorded I made a headnote (Emerson, Fretz & Shaw, 2011: 24), as many of the things I wished to record were parts of conversations that seemed linked to Lesson Study and teacher learning. To note these moments down during the conversation may have taken away from the interaction.

When I wrote my notes in my research journal, they were often my first impressions and contained a recount of the interaction - what was said and the initial impressions I had about the encounter. I tried to keep my notes clear and simple and tried to avoid giving reasons for why these encounters or conversation happened, as to avoid leading my later interpretation.

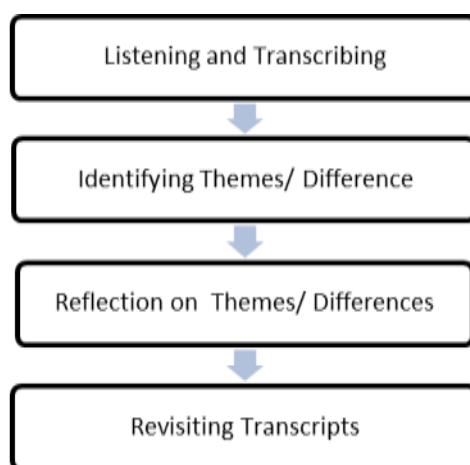
Some jottings were very brief and recorded direct speech, while others were longer thoughts that I wanted to record as part of my own reflections on Lesson Study and teacher learning within the Lesson Study work happening in my school. I have revisited and continue to re-read the journal entries, and will include them directly in my writing to inform my auto/ethnographical account.

In the same way, I revisited the journal entries, I revisited the recordings made by the teachers in Layer 3. Transcribing them and writing about my impressions of them

I would do much the same with the recordings made – as part of Layer 3 - throughout the research. I would listen to these and transcribe them to be able to read them back and reflect on what I could see and hear in them that related to the lived experience I had had introducing Lesson Study in my school and working with my teachers.

### **1.7 Analysis**

My analysis and interpretation of my research data is framed by my interpretative and personal paradigm. As such I draw on elements of a mixture of methods to conduct my analysis. I drew from life scripts and rackets in transactional analysis (Lapworth & Sills, 2011), interpretative phenomenological analysis (Smith, Flowers, Larkin, 2009), naturalistic inquiry (Lincoln & Guba, 1985; Erlandson et al, 1993) and reflective auto/ethnography (Aull Davies, 2008; Muncey, 2010; Moriarty, 2013) to support my analysis while also exploring all my data from my own personal point of view, noting what I noticed.



**Figure 1.12:** *Process of analysis in research*

I have broken this section into further subsections which describe the analysis I conducted at each level in my research.

*1.7.1 Listening and Transcribing*

Initially, I listened to all the recordings and transcribed them. At this initial stage I wrote down themes that I noticed. My noticing was influenced by my reading on naturalistic inquiry (Lincoln & Guba, 1985; Erlandson et al, 1993) and auto/ethnographers who drew out themes from their work (Moriarty, 2013; Carless, 2013) to scaffold the things they noticed to their readers.

At this point, I was noting down any thoughts, feeling or ideas that I had about the recordings I was listening to and thinking about any general themes. I tried to transcribe the recordings with the pattern of speech being used by the participants although this meant that not many of the sentences used are grammatically correct, and verb tenses and word use appeared strange in my transcripts. My concern at this point was not the grammatical structure but the conversation the teachers were having.

In this initial listening and transcribing stage, I was struck as to the prevalence of conflict in some teams and the complete absence of it in one team. I decided that I would need to include conflict as one of my themes that I would use to mark up my transcripts to help clarify the information contained.

*1.7.2 Identifying Themes/ Difference*

Some themes were determined before I started to identify them. I knew from reading Dudley (2013) and Pella (2011) I wanted to see if I could identify any similar themes, so I initially identified those in my transcripts, building on Dudley (2013) and Pella's (2011) work and taking into account Mercer's (1995) categories of collaborative talk – Figure 1.13 below:

## A Primary Head Teacher's Exploration of Lesson Study

Types of Talk for identifying themes in transcripts (based on Dudley, 2013; Pella, 2011; Mercer, 1995)				
Cumulative Talk	Disputational/ Qualificatory Talk	Exploratory Talk	Structuring Conversations	Managing Understanding
<ul style="list-style-type: none"> <li>• Agreeing or accepting (Agree)</li> <li>• Rephrasing/ Echoing (Echo)</li> <li>• Adding (Add)</li> <li>• Supporting/ Valuing another (Supp)</li> <li>• <b>Affirmation</b> (Affirm)</li> <li>• Recounting (Reco)</li> <li>• Comparing (Comp)</li> <li>• Expressing surprise/ excitement/ amazement (Expr)</li> <li>• <b>Descriptive</b> (Desc)</li> <li>• <i>Theoretical equilibrium (T-equal)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Qualifying (Qual)</li> <li>• Correcting (Corr)</li> <li>• Blocking (Bloc)</li> <li>• Joking (Joke)</li> <li>• <b>Conflicting/ Providing Dissonance</b> (Conflict)</li> <li>• <i>Transformation (Trans)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Rehearsing (Rehe)</li> <li>• Reasoning (Reas)</li> <li>• Developing a point (Deve)</li> <li>• Making an evidenced observation (Obs)</li> <li>• Challenging an idea (Chal)</li> <li>• Justifying (Just)</li> <li>• Suggesting (Suggest)</li> <li>• Reflecting (Reflect)</li> <li>• Hypothesising (Hypoth)</li> <li>• Summarising (Summ)</li> <li>• Making a reasoned proposal (Prop)</li> </ul>	<ul style="list-style-type: none"> <li>• Introducing a new idea (Intro)</li> <li>• Moving conversation on (Mov)</li> <li>• Punctuating conversation (Punct)</li> <li>• Changing subject (Change)</li> <li>• Returning to earlier subject (Return)</li> </ul>	<ul style="list-style-type: none"> <li>• Asking (Ask)</li> <li>• Requesting clarity (Clarity)</li> <li>• Explaining (Explaining)</li> <li>• <b>Sharing Expertise</b> (Expert)</li> </ul>

*Figure 1.13: Categories of themes explored in transcripts based on Dudley's (2013: 111) interpretation of Mercer (1995) and Pella's (2011) themes [in italics]. My additional themes added in bold*

I adapted the coding from Dudley's work for my convenience adding letters to some codes and taking letters off others to make the coding easier to recognise without the need to return to the matrix of codes. In identifying and marking up the transcripts I found that there were codes missing that I needed: Affirmation (Affirm); Descriptive (Desc); Conflicting (Conflict) and Sharing Expertise (Expert). As I felt that these codes were needed to more accurately describe the events – in my opinion – that I was reading and listening to in forming my transcript. I added the codes, to Figure 1.13, in bold. I also bore in mind Pella's (2011) codes when coding the transcripts so as to incorporate the previous work on teacher learning in Lesson Study into my research to see if it had any similar resonances.

## A Primary Head Teacher's Exploration of Lesson Study

JASMINE: When they apply in the shop  
LIBBY: Yes  
JASMINE: after you left, in the independent work. Kornelia was then getting objects, Kornelia wasn't talking  
LIBBY: She wasn't talking  
JASMINE: I don't think she was even talking to the other children who were doing the same thing  
HANNA: When they were collecting there wasn't any conversation then  
LIBBY: No  
JASMINE: There is a whole lot around, I wondered, the supportive structures of talk, but it is what you are providing (LIBBY) when you are there 'Are you going to buy this?' questions/ your talk is going/ you are the structure/ if you doing the talk when you are there/ not just handing out the coins  
LIBBY: Yeah  
JASMINE: If all of that is structured then maybe that will keep them on task a little more  
HANNA / LIBBY: Yeah  
HANNA: When you were there it was so good, They were you know all that language, it did go on for a little bit, but then it dropped.  
LIBBY: But Maria and Rachel were the drivers to be fair  
HANNA: and they were doing what they were supposed to action wise but there was no talking/ they didn't go off task in that sense  
LIBBY: I feel Marli could have taken more of the role of the cashier and asking the questions. Maybe I could have modelled it first like I'm the shop keeper.

Commented [JM1]: Desc  
Commented [JM2]: Echo  
Commented [JM3]: Add  
Commented [JM4]: Add  
Commented [JM5]: Agree  
Commented [JM6]: Affirm to Libby/ Supp  
Commented [JM7]: Obs/ Just  
Commented [JM8]: Agreement  
Commented [JM9]: Add  
Commented [JM10]: Deve  
Commented [JM11]: Agree  
Commented [JM12]: Affirm  
Commented [JM13]: Affirm  
Commented [JM14]: Just/ Summ  
Commented [JM15]: Obs/ Agree  
Commented [JM16]: Reflect

*Figure 1.14* Extract from Transcript from Team 1's Lesson 1 (Names of teachers and pupils have been anonymised through pseudonyms in this extract)

I initially coded my transcripts using the comment structure on the computer and then printed them with the themes shown as in Figure 1.14 This allowed me to re-read and further annotate my transcripts, looking at the recurrence of themes.

My own reading of Mercer (1995) suggested that I should not overcomplicate the use of coding the types of talk I saw and heard in the transcripts, because it should make sense to me, and allow me to simplify the reality into a theory (Mercer, 1995: 64) of what I thought I was observing. My initial coding was done through marking up the transcripts with the code I felt was most appropriate from Figure 1.13

### *1.7.3 Reflection on Themes/ Differences*

It was clear through revisiting my transcripts that I had differences appearing between the different teams then. I had one group, Team 1, which were very descriptive of their work, with lots of affirmation and other groups which were creating high levels of conflict.

## A Primary Head Teacher's Exploration of Lesson Study

I revisited my transcripts and highlighted in the transcripts – Figure 1.15 - points of affirmation (pink) and conflict (green) to see if these changed over time in the Lesson Study groups. After completing the highlighting, I was able to see where moments of conflict were present and where affirmation was present and these started to show very different Lesson Study experiences.

JASMINE: When they apply in the shop  
LIBBY: Yes  
JASMINE: after you left, in the independent work, Kornelia was then getting objects, Kornelia wasn't talking  
LIBBY: She wasn't talking  
JASMINE: I don't think she was even talking to the other children who were doing the same thing  
HANNA: When they were collecting there wasn't any conversation then  
LIBBY: No  
JASMINE: There is a whole lot around, I wondered, the supportive structures of talk, but it is what you are providing (LIBBY) when you are there 'Are you going to buy this?' questions/ your talk is going/ you are the structure/ if you doing the talk when you are there/ not just handing out the coins  
LIBBY: Yeah  
JASMINE: If all of that is structured then maybe that will keep them on task a little more  
HANNA/ LIBBY: Yeah  
HANNA: When you were there there is so good, they were you know all that language, it did go on for a little bit, but then it dropped.  
LIBBY: But Maria and Rachel were the drivers to be fair  
HANNA: and they were doing what they were supposed to action wise but there was no talking/ they didn't go off task in that sense  
LIBBY: I feel Marli could have taken more of the role of the cashier and asking the questions. Maybe I could have modelled it first like I'm the shop keeper

Commented [JM1]: Desc  
Commented [JM2]: Echo  
Commented [JM3]: Add  
Commented [JM4]: Add  
Commented [JM5]: Agree  
Commented [JM6]: Affirm to Libby/ Supp  
Commented [JM7]: Obs/ Just  
Commented [JM8]: Agreement  
Commented [JM9]: Add  
Commented [JM10]: Deve  
Commented [JM11]: Agree  
Commented [JM12]: Affirm  
Commented [JM13]: Affirm  
Commented [JM14]: Just/ Summ  
Commented [JM15]: Obs/ Agree  
Commented [JM16]: Reflect

Figure 1.15: Extract from Transcript from Team 1's Lesson 1 with affirmation/ conflict highlights (Names of teachers and pupils have been anonymised through pseudonyms in this extract)

### 1.7.4 Revisiting Transcripts

My initial analysis was based on listening to the Lesson Study review meeting recordings, reading the planning documents and growing familiar with my research data. After I had transcribed all of my Lesson Study reviews for the Lesson Study cycle 2013-2014 I was then able to review the transcripts altogether which would allow me to see the four different groups and themes I had.

I also revisited the themes looking again for the themes I had identified in my research questions of collaboration, expertise and professional conflict. This helped to identify in the

research data different trends within the Lesson Study groups, which allowed me to explore these themes further in my research analysis.

#### *1.7.5 Selecting Data*

After the 2013 – 2014 Lesson Study cycle I had four Lesson Study teams' data. I transcribed and reviewed all this data to give myself the full impression of the data I had collected. I then decided that I would look closely at only two teams in my interpretation of the data and within my research write up.

Firstly, I had three teams who had broadly similar profiles, Teams, 2, 3 and 4 but teams 3 and 4 had both experienced turbulence in their team members – due to maternity leave and staff promotion to other schools. As such, I decided that Team 2, which had not experienced this turbulence, would make a better case study as I would be able to follow the teachers through the entire cycle of their Lesson Study work.

On the other hand, I had Team 1, which was a very different example to Teams 2, 3 and 4, and their experience of Lesson Study needed to be included in my research as it questioned significant parts of the established literature and gave a complete contrast to the work of Team 2.

I felt, and continue to feel, that Team 1 and 2 represented the overview of my research data and by selecting them, I was choosing not to focus on Teams 3 and 4 in order to exemplify the learning about Lesson Study I had made in this first year of the Lesson Study cycle.



*Reflecting back on my Lesson Study work now, I think I would continue to complete my analysis in this way, the layers I used to look at the data gave me – I think – a deeper*

*understanding of my data. A change I would make is that I would have a separate research journal in which I would write my responses to the data I gathered separately from the observations and thoughts I had about Lesson Study. The reason for this is I think it would be interesting to see how, through my analysis, my initial perceptions are either sustained or changed and why. I think this would help practitioners in Lesson Study in the future as it is unlikely everyone undertaking Lesson Study will analyse their work in the way I have done.*



#### *1.7.6 Presenting Data*

My data presentation throughout my research is influenced by auto/ethnography and the desire to preserve, as Leavy (2015) suggests, the complexity of the human experience. Dudley (2013) and Pella (2011) had created analysis of their research where they drew conclusions from their themes. Dudley included examples of his transcripts in his writing (Dudley, 2013: 114) whereas Pella (2011) did not include her transcripts. Both methods need to allow me to see how the teachers were working. In Pella's (2011) I did not have any sense of the relationship between the teachers: was it positive? Professional? And in Dudley's (2013) I sensed that Wanda might have held a more senior post than Rose, but again, I did not have anything beyond Dudley's analysis and the words in the transcript extract to go by. This did not feel like writers describing teachers working in Lesson Study and I think it makes it more difficult to understand how Lesson Study develops teacher learning for the practitioner looking at Lesson Study for perhaps the first time. As a result, I wanted to use the scaffolding of evidence and the creative techniques I had encountered in auto/ethnography to give the presentation of my research data a sense of the humanity of my work (Leavy, 2015).



To do this I edited my transcripts and turned them into scripts, with fictional elements (in italics) to give a wider context to the feeling and sense of each encounter I was discussing. I then used my own personal observations, reflections and thoughts, which I had recorded in my research journal, to broaden out this sense of people working in Lesson Study, rather than it feeling like observation of people doing Lesson Study.

To confirm that my observations and fictional sections felt right I checked them with my participants to confirm that they agreed. If they did not, I tweaked it. The addition of a diet coke to a transcript was considered important to a member of a team who did not drink tea. A minor amendment, but one that makes the whole transcript with its fiction feel more valid to the participant and to me, the researcher.

### **1.8 Interpretation**

The analysis of the research data informed my interpretation of the research data as the moments, the themes and the differences could be revisited against my previous conception of my positioning within dominant culture as describe in this methodology and Lesson Study (set out in Chapter 2) so that my reflections of my experience of my research were compared to my initial thinking about my research.

In Chapter 3, I talk about how the themes I identify within two of the Lesson Study teams indicate that there is a need to consider dissonance theory (Festinger, 1957; Brehm, 1956; Aronson, 1999; Cooper, 1999 & 2007; Harmon-Jones & Mills, 1999) and conflict theory (Achinstein, 2002) to build on the *learning points* (Dudley, 2013; Pella, 2011) discuss in their Lesson Study articles. This theme is pertinent to understanding Lesson Study and my reflections look back at the relationships established within teams and link in the coding and transactional analysis I did in my analysis stage.

In Chapter 4, I broaden my research data out to consider the interactions I have had with the data against the perceived promises I have embodied in the reading and set up of my research design. This is a reflective account which intersperses my perceptions of Lesson Study and the reality I faced when I used Lesson Study in my school. I draw on auto/ethnography to add in creative dialogue (Ellis & Adams, 2014; Cann & Demeulenaere, 2010) to show my thinking about the processes happening between teachers in Lesson Study, within themselves and their cultural context of my school. This allows me to draw out some larger themes to consider against my research question.

The dialogue with my research data and my own perceptions continues in Chapters 5 and 6 where I consider reflectively my learning in Lesson Study the themes that the introduction of Lesson Study has brought to me. This account interprets the data in my personal voice (Wall, 2008) and creates an auto/ethnographically influenced discussion which allows me to reflect on my own thinking, preconceptions and learning about Lesson Study through my exploratory research.

### **1.9 Ethics**

This study set out to be an exploration of the introduction of Lesson Study into my school. As such the ethics of the study needed to be considered carefully. There is clearly a challenge within the ethics of my research and my duality which is my position in school and within the research context. Zeni (2009) describes this as the 'insider' stance, which she suggests has two ethical aspects that must be untangled. In this section I will start the process of untangling the ethical issues surrounding both my role as the researcher in my school and my role as the leader of my school.

## A Primary Head Teacher's Exploration of Lesson Study

To start this process, I used a framework that Zeni (2009) herself devised to support the development of ethical understandings research projects making use of action research methodology. Although I am not using an action research approach, it is a useful framework to use in considering an exploration or an auto/ethnographic account. Zeni's (2009) framework is available in her paper for review, and the key components of it centre on the benefits of the research versus the risk to the participants.

In this benefit versus risk equation, the perceived benefits of my research centre on understanding Lesson Study, professional development for teachers and enhanced leadership of professional development in my school. Whereas the risks, or vulnerabilities, are that I will identify participants in some way that would be detrimental to them now, or in the future. This detrimental impact might be identifying a characteristic within them that a potential employer might not look favourably on, or depicting them in a way that might show failures or inadequacies. To ensure that the benefits outweigh the vulnerabilities I have sought informed consent from all participants, and have shared the writing in this text with them before submission. I will maintain the option for the participants to relinquish consent at any point in the research process. In addition to this informed consent, the participants' pseudonyms will add to the 'feel' of the study but it will be harder to attribute anything I say about an individual to the real person. I will also vary details such as year group which the individual teacher taught, so that even a person who knows my school well will be unclear as to the specific individual to whom I am referring. While these safeguards do reduce the vulnerabilities for the individual, it is their reading and review of the sections that relate to them that provide them the opportunity to reassert their consent that they are happy with my depiction of them in anonymised form.



*A challenge for me was to try to interpret what I was hearing and seeing in the Lesson Study research without over assuming and making assumptions for my participants. Theming my transcripts helps make my observations feel a little more clinical and reasoned but I felt it was still important to check that my writing matched the feelings and thoughts of the participants involved and my own reflections.*

*This has involved the participant reading and commenting back on my work throughout its creation. They have given comments which I have also included in later sections because they clarify uncertainty in my analysis or provide further depth to the understanding. I hope that this has increased the validity of assumptions I may have made, as well as reducing any of my text presenting as judgemental on any decisions that were made, as I know from my own reflection I would do Lesson Study differently, learning from this exploration if I were to do it again.*



People are crucial to my research and the Lesson Study approach is about developing people so that they are developing themselves. The two key groups of participants involved in my research are the teachers and myself. For the teachers, I am their Head Teacher and hold them to account for their work and behaviour and encourage or reward them as appropriate. For myself, I am responsible for my professional conduct and answerable to the stakeholders, governors and independent inspectorates of my school, meaning that I must consider my professional role alongside my research role.



*Power, is a difficult thing to overcome when, as a researcher, you have perceived power. As the school's head teacher, I have power over the participants, but I also wanted to empower them as teachers. Which is why I had to continually revisit aspects of my research with my staff to make sure I was not abusing my power.*

*In the less successful Lesson Study team I do not force them to continue, when they choose not to, and I let my teachers explore Lesson Study, and wrote about the experience.*

*Of course, whether any exploration is kind is another question. While I thought, I had an idea of what we would experience as a school, I did not really know and I may well have been responsible for putting teachers in situations over which they felt less in control, through doing an exploration.*



For my teachers, my two-fold position as the researcher asking to include them into my research, as well as being their head teacher needs to be considered. Both pupils and teachers are likely to want to please me but I will want to make clear that they have a choice to be involved and that there would be no change in my Head Teacher role if they did not want to work with my researcher role.

Another aspect I needed to consider was my own and my perceived vulnerability of being so evident and often personal within my writing.

September 2013

*Dear Head Teacher,*

*Today I introduced Lesson Study to my teachers and asked them if they would be willing to take part in Lesson Study groups for the next two academic years. I was so nervous before I spoke to them; we have not really looked at anything like Lesson Study before.*

*Jasmine, Miqdad and I did a small project with Year 4 in the summer term, in between Ofsted and Artsmark assessments. We were looking at teaching fractions specifically the teaching of wholes and the mixed number and improper fractions.*

*I told them about our experience of how Jasmine had seen a misconception I had had no idea about; I was teaching the lesson that day. A pupil, Ama, had completely misunderstood that a whole could be made up by different parts. Ama had been showing me all the routines I would expect, hand up, white-board ready but she was just using her classroom behaviours to disguise her misunderstanding.*

*I told them how we had found it both exciting and interesting but it had also taken some getting used to. I spent some further time explaining about the processes that were likely to be involved.*

*They all said they would love to be involved!*

*It is so exciting!*

*Warm regards,*

*JP Mynott*

I considered signing my letters with A. Head Teacher, but in many senses, I cannot be anonymous, for this is my doctorate, and these are my thoughts. I have instead decided to be true to the auto/ethnographic presentation and put myself in the position where I may well be emotionally vulnerable (Pelias, 2014) but I will also be able to show very clearly my thinking throughout my exploration of introducing Lesson Study into my school.

I felt that really informing the participants of the details of my research would be the best way to undertake this and would provide some useful insights for them into what they would be getting involved in. For teachers, this involved a session training them on the basic principles of Lesson Study, and talking about the pilot study I had undertaken with Jasmine

and Miqdad in the summer of 2013. By sharing this information, I felt that they would be able to see what the process was like, and hear from Miqdad and Jasmine about what it was like to be involved, and how this information would be presented. I then let them talk about the option of consenting or not without the additional pressure of being in the room. This meant that the participants could make an informed decision about their consent.

### *1.10 Overview of the story to come*

This final section of the introduction is designed to show you how the rest of this story will unfold.

Chapter 2: This chapter is a literature review. It builds on the body of literature of Lesson Study and explores the gaps within this literature. In doing so I am able to reflect on the importance and value of this research in creating new knowledge about Lesson Study.

Chapter 3: This chapter starts the process of analysing the data from my study at Layer 3. The research data from the teams who were involved in Lesson Study cycles in 2013 – 2014. It focuses on two teams, one which is successful in their development of teacher learning and one that is not. The comparison and analysis of each team draws out themes and differences I have found through doing my research and asks questions on the findings of my literature review and anticipated results. Within this chapter I start to look at conflict and dissonance as essential themes in the Lesson Study process.

Chapter 4: This chapter continues the analysis of the remainder of the Lesson Study cycles for Team 1 and Team 2 and reflects on the main themes of the thesis. This chapter builds on the analysis in Chapter 3 and starts to further explore collaboration, professional conflict and expertise.

## A Primary Head Teacher's Exploration of Lesson Study

Chapter 5: This chapter explores the theme of collaboration and looks in detail at the learning I made from my research analysis in how I think Lesson Study needs structured collaboration to support the successful development of teacher learning.

Chapter 6: This chapter explores the theme of expertise and looks in detail at the learning I made from my research analysis to consider the role that expertise could play in future Lesson Study work to support the successful development of teacher learning.

Chapter 7: My conclusion where I describe the steps I would take if I were to introduce Lesson Study again into my school to support the successful development of teacher learning. This chapter also summarises the contribution to knowledge my thesis makes.



*Chapter 2: Lesson Study Literature*

---

*Chapter 2: Contents*

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
2.0	<i>Introduction</i>	89
2.1	<i>Lesson Study: An Overview</i>	92
2.2	<i>Defining Lesson Study</i>	95
2.3	<i>How does Lesson Study work? Do its origins affect its implementation?</i>	103
2.4	<i>Why consider Lesson Study as a tool for professional development for teachers?</i>	108
2.5	<i>Which gaps currently exist in the literature and how does my research fit within them?</i>	118
2.6	<i>Why is there a lack of literature on teacher learning through Lesson Study?</i>	122
2.7	<i>Is there a lack of awareness of how Lesson Study works to develop teacher learning?</i>	123
2.8	<i>Linking auto/ethnography and Lesson Study</i>	124
2.9	<i>Teacher written research on Lesson Study</i>	126
2.10	<i>Framing Professional Teacher Learning</i>	132
2.11	<i>Conclusion</i>	134

---

**2.0 Introduction**

This chapter is a literature review of Lesson Study. Its aims are to position this research within the current body of knowledge on Lesson Study: What do we know about Lesson Study? And what do we not know about Lesson Study?

Lesson Study research – available in English language texts – is still generally sparse. Xu & Pedder (2015) offer the best overview of the published articles on Lesson Study to date, but there are notable exceptions like Hart, Alston & Murata's (2011) edited edition of articles about Lesson Study in American Maths lessons, which were not considered in Xu & Pedder's

(2015) review. The scarcity of the literature on Lesson Study is being addressed and recent articles – which add to the Lesson Study literature - such as Archer (2016), Simmons (2016), Fujii (2016), Takahashi & McDougal (2015), Takahashi (2014) and Fujii (2014), are not considered in Xu & Pedder's review because they were not available when the authors conducted their literature review. Nor were they available to me in 2012-2013 when I commenced my research on Lesson Study and so my initial research and literature review also did not include their contents. I am reflective on how much further Lesson Study literature – available in English language texts – has come during the duration of my study, and this literature review will show how my understanding of Lesson Study was in 2013 and how the newer articles have moved this learning on in the later stages.



*When I started to look at Lesson Study there were few studies from the United Kingdom. The ones that existed were mainly by Dudley (2011, 2012, 2013). This has changed slightly over the period of my research with Dudley's promotion of other writers (Xu & Pedder, 2015; O'Shea et al, 2015; Cajkler & Wood, 2015; Pedder, 2015 – all published in Dudley's edited book on Lesson Study) and through a growth of interest in Lesson Study both at an initial teacher training level (Cajkler & Wood, 2015; Rivett, 2015) and as a method to support instructional improvement (O'Shea et al, 2015; Dudley, 2015; Archer, 2016; Simmons, 2016).*

*However, this growth still includes very few examples of studies which focus on the anglicised version of Lesson Study, and explore this in an English school context (notably Dudley, 2013 and O'Shea et al, 2015 do base their work on English schools). Archer (2016) and Simmons (2016) reflect on trips to Japan, which while useful to compare Lesson Study*

*positions, are not useful to understanding more about how the processes of Lesson Study work to develop teacher learning in an English primary school. As a result, the field of literature, while expanded since 2013, remains limited on the information presented on Lesson Study work conducted in English schools.*

*In 2013 there were only five studies based on Lesson Study in the United Kingdom, which were included by Xu & Pedder (2015) in their survey, meaning that schools who are currently operating Lesson Study are informed by a very narrow amount of literature based in the United Kingdom. Like me when I started out on this research, they probably have to draw on literature from abroad to help facilitate their understanding. While this is not necessarily negative, it does mean that alongside the growth in literature since 2013, we still have yet to contextualise Lesson Study in England, as we still draw mainly from international sources. This would be less of a concern if Lesson Study did not place itself deeply in the educational culture of a state (Fujii, 2016 describes Lesson Study as like air to Japanese teachers), meaning that the differences and learning made in another country may not be applicable to a school in England. Consequently, while I have drawn on literature for my research from international settings, I need to make sure that my research explores Lesson Study in my school, in England as this is a substantial gap in the current literature.*



Within this chapter, I review some key literature from the field of Lesson Study in the United Kingdom and from the wider world. By 2013, there were only five articles on Lesson Study from the United Kingdom (Xu & Pedder, 2015) so therefore I needed to broaden out my literature review to enable my research to look into the development of teacher learning in Lesson Study from a slightly wider perspective.

What I hope to achieve in this literature review of Lesson Study is an overview of the current knowledge in Lesson Study, as it was in 2013, and how it has become richer since. This overview will then be contextualised within the current positioning of the teacher within the dominant culture that may prevail around them – as described in Chapter 1. To do this effectively I must consider how the literature answers my research question and sub-questions during this chapter.

### ***2.1 Lesson Study: An Overview***

Lesson Study is growing in popularity in schools in the English-speaking world (Xu & Pedder, 2015), more schools in my locality are starting to use it and it forms part of the recommendations from the Local Authority in terms of the professional development of teachers in school. This is, in part, due to the perceived ease of using Lesson Study in schools with Dudley (2013) talking about it being a *breath-takingly simple* teacher development tool.

Xu and Pedder's (2015) articles illustrate the growth of articles published, internationally, in English from seventeen articles between the publication of Fernandez's (2002) paper and 2007 to approximately 50 by the end of 2013 when they concluded their review study.

---

*Lesson Study seems to be everywhere. Everyone seems to be talking about it. I heard it at the university, then my improvement partner mentioned it and I was having a discussion with the maths leader about it too. It seems everyone has a slightly different idea of what it is though...*

---

Yet, I worry that the popularity of Lesson Study as a professional development tool is not sufficiently grounded in research to justify the perceived benefits for teachers in the long term. By this I mean that the current research into Lesson Study in England is insufficient in

articulating how Lesson Study works to develop teacher learning. I would say that only having five United Kingdom based articles by 2013 on Lesson Study in general (Xu & Pedder, 2015), suggests that it is Lesson Study research in general that is insufficient to give an overview of Lesson Study in England. This is made all the more significant as the publications prior to 2013 seem to come from a singular author in England (Dudley, 2011, 2012, 2013). While this does not comment on the quality of Dudley's research, it does mean that his observations and conclusions are yet to be tested by a broader field of research and things that he sees might still be transparent to others introducing Lesson Study into their schools. Indeed, I can see that, while the published studies indicate wonderful outcomes, there are almost no examples of deviant studies where Lesson Study has not worked as expected, which is surprising considering the broad and varied natures of teachers and schools and the broad nature of the international examples given in the wider literature.

In addition to the lack of clarity on how teachers learn in Lesson Study (notably Dudley, 2013; 2015 and Pella, 2011 have worked on identifying elements of teacher learning), there is also little exemplification of how to access this potential teacher learning from Lesson Study bar a few *How to do Lesson Study* professional guides (Dudley, 2014; Stepanek et al, 2007; Lewis, 2002). For me as a head teacher this is an unacceptable position as it suggests that Lesson Study is a model of professional development with real and significant promise – albeit very early promise – which is already being suggested to schools as a means of improving teaching and learning. This promotion is happening without the research behind it to suggest how Lesson Study can be done effectively in schools. For myself, I am curious as to how Lesson Study works to develop teacher learning as I believe understanding this will help make it more effective in my school. While I am interested in positive outcome reports, I also want to know the pitfalls, the problems Lesson Study groups may have so I can pre-empt

them or at least train my teachers to navigate them in their Lesson Study work. Being more informed will also help to make sure that my actions are not naïve.

I think my curiosity to understand how Lesson Study develops teacher learning is one of the key aspects of my research, as I have already shown that this is something which is insufficiently covered in the current literature on Lesson Study. As a head teacher, I am able to talk in my research about how I saw Lesson Study work or not. By describing this, even on a pilot study level as set out in my research design, I hope to be able to start the work that is needed on developing training and teachers to pre-empt challenges that Lesson Study may present to them. It is this work that I hope will resonate with my readers to give a fuller impression of the workings of Lesson Study.

Xu and Pedder (2015) do not dwell on the lack of deviant studies in their work, but they do articulate salient shortcomings in the published literature around the ways in which Lesson Study changes teachers' talk, and how it works to develop teachers. This is a similar concern to the one I have raised about the lack of clarity as to how Lesson Study works to develop teachers. Xu and Pedder assert that the vast majority of research into Lesson Study published (49 articles) in English focus on the outcome benefits (and constraints: usually time) of using Lesson Study as a professional development tool (Xu and Pedder, 2015: 39). This is compelling, as Xu and Pedder's (2015) review of the literature around Lesson Study is the most comprehensive currently available, albeit with the notable omission of salient texts such as those of Hart, Alston and Murata (2011) whose book provides a further twenty-one articles that are worthy of consideration when looking at the general trends in Lesson Study review. As such I will include some of them in my research and considerations I made throughout this thesis.

My intent in this literature review is not to rework the work of Xu and Pedder (2015), instead I want to explore Lesson Study through a practical lens, re-examining the literature as a professional as well as a researcher who is curious about how Lesson Study works to develop teacher learning. By the end of my research I will be a head teacher who has used Lesson Study for three academic years and as such I feel that I will be able to offer a school-based perspective on the literature and how it might be interpreted in schools. I strongly feel that it is not sufficient for school leaders to have an over-simplistic view that Lesson Study promises to give teacher learning outcomes, they need to know more about Lesson Study's workings.

## ***2.2 Defining Lesson Study***

Lesson Study is an anglicised version of *Jugyō kenkyū*, the professional development that Stigler and Hiebert (1999) and Fernandez (2002) attribute, in part, to Japanese success in teaching Mathematics - comparative to Germany and the United States -.

‘The term ‘lesson study’ is a translation of the Japanese words *jugyō* (instruction, lessons, or lesson) and *kenkyū* (research of study). Although the English word ‘lesson’ typically focuses on a single, discrete block of teaching that can be captured on paper (as when a teacher points to a document and says ‘here’s the lesson’), the Japanese word *jugyō* refers to live interaction between students and teachers that may occur over an extended time period (lessons or instruction).’

(Lewis et al, 2009: 143)

---

*Jugyō kenkyū* in Japanese is the study of instruction. Lewis et al's (2009) quote gives a fairly good overview of the Japanese concept of the Lesson Study method and how she defines it in relation to Japanese experiences. While, Fernandez and Yoshida (2004) give a comprehensive Japanese Lesson Study review which furthers this definition. Both of which

suggest that our coining of Lesson Study fails to fully encompass the time and duration of the work for the teacher and the Lesson Study team.

This could mean that the teacher implementing Lesson Study in England may not understand Lesson Study in the same ontological way as a Japanese speaker conceives *Jugyō kenkyū*. As it appears that through translation, a phylogenetic mutation has occurred where the Japanese teacher might see Lesson Study as a longer-term interaction, and ongoing *kenkyū*, we - in the English-speaking World - have understood it to be the study of those finite periods of instruction we have in England; lessons. I believe that a phylogenetic difference through the translation of languages has led to a larger ontological difference between someone in England applying Lesson Study and someone in Japan undertaking *Jugyō kenkyū*. This nuance is something I will return to in my analysis of my research data as I believe the ontological difference has a bearing on the longer-term success of Lesson Study as a professional development tool in England. It might be a contributing factor as to why it appears that Lesson Study in articles published in English mainly focus on the outcomes of the Lesson Study process. I also think this underlines a cultural difference in the ways teacher learning might be perceived in England and Japan, which I will discuss further in the next subsection. This links to the cultural context in which Lesson Study operates within and emphasises why it would be useful to have explorations like mine that take a broader look at teacher learning within schools.

This ontological nuance means that Lesson Study may have moved away from its Japanese roots, and often researchers use English language articles such as Lewis (2002), Stepanek et al (2007) or Dudley (2012) to frame Lesson Study. Whose work I do feel give less attention to the duration and context of Lesson Study, than the Japanese studies of Fernandez (2002) and Fernandez & Yoshida (2004) which, in my opinion, give a deeper understanding of how Lesson Study is conducted in Japan. I suggest that without intention, this process started with



Stigler and Hiebert (1999) when they outlined Lesson Study as embodying '*a set of concrete steps that teachers can take, over time, to improve teaching*' (Stigler & Hiebert, 1999: 150).

A statement which has, in turn, led to phrases like *a breath-takingly simple* means of professional development (Dudley, 2013), which again suggests to the teacher practitioner that Lesson Study is not complicated and will deliver results, which will drive up standards in schools.

There has been a revisiting of Lesson Study in Japan in more recently published articles. Archer (2016) and Simmons (2016) visit Japan to explore Japanese Lesson Study and writers like Takahashi (2014), Takahashi & McDougal (2015) and Fujii (2014; 2016) have become prominent Japanese writers on Japanese Lesson Study identifying where they feel countries have strayed from *Jugyō kenkyū* and lose some of the nuance of Lesson Study through a phylogenetic mutation. This revisiting has not addressed the question about the number of lessons in a Lesson Study cycle, or how variations in these might affect outcomes if these aspects are varied. The revisiting of Lesson Study has also neglected to explore how adaptations of Lesson Study like those presented by Dudley (2014) and Stepanek et al (2007) are culturally different from *Jugyō kenkyū*.

Certainly, even for me, I was drawn to the simplistic explorative model of Lesson Study, where one would look at a few lessons, find interesting tacit knowledge, and then revolutionise one's teaching practice (Dudley, 2013). I appreciate that often these statements can be taken out of context, and professional literature has a bias toward the promotional to which academic literature may not have to conform. This again reiterates the need to explore case studies fully where deviant or unsuccessful groups occur in order to allow a deeper comprehension of Lesson Study and how it works or perhaps why it does not always work.

## A Primary Head Teacher's Exploration of Lesson Study

### 2.2.1 What is Lesson Study?

Lesson Study, as the anglicised version of *Jugyō kenkyū*, is when a group of professional (usually teachers, and/or university lecturers) engage in a planning, teaching and reviewing cycle.

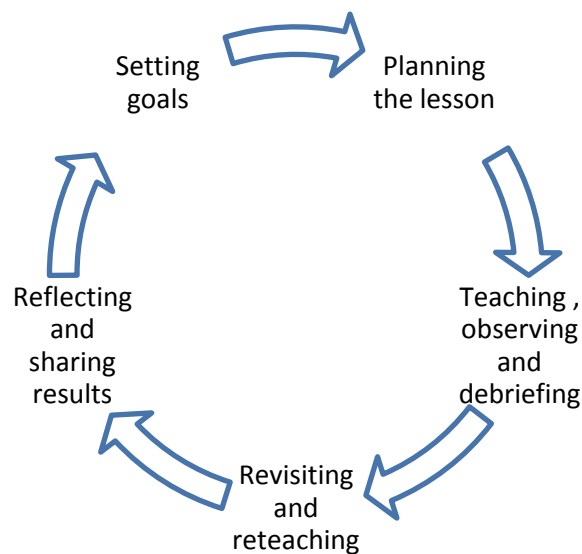
<b>Lesson Study Teams Planning, Teaching Reviewing Cycle</b>	<b>Stage 1: Plan and prepare Lesson Study Lesson</b>	<b>Stage 2: Teach Lesson Study Lesson</b>	<b>Stage 3: Review Lesson Study Lesson</b>
	<ul style="list-style-type: none"> <li>• Talk through ideas</li> <li>• Outline Lesson Plan</li> <li>• Decide who will teach lesson</li> <li>• Plan Lesson into Lesson Plan (Appendix A)</li> <li>• Teacher of lesson finalises the lesson plan and send to all group members day before observation</li> <li>• All group members read lesson plan before observed lesson</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher teaches session and all group observe</li> <li>• Observers make notes on the Lesson plans to share after lessons</li> <li>• Teachers may observe individual children or groups.</li> </ul>	<ul style="list-style-type: none"> <li>• Review session is recorded using sound recorder</li> <li>• Someone chairs the review session</li> <li>• Each observer feeds back to the team on their observation</li> <li>• The chair summaries the information</li> <li>• The group consider the next steps and book in their planning meeting for the next lesson.</li> </ul>

**Figure 1.7:** Stages within a Lesson Study Lesson: Planning, Teaching and Reviewing (Stages developed from Stepanek et al, 2007; Dudley, 2014; Fernandez & Yoshida, 2004)

Figure 1.7 shows a component part of the cycle, which is the activities which occur around one lesson. This cycle is then repeated between 3 – 5 times over the course of an academic year. Variations in the amount of lessons within a cycle do vary with Dudley (2012; 2014) suggesting a three-lesson system whereas writers who are writing about Japanese Lesson Study (Fernandez & Yoshida, 2004) suggest that they may be four or five lessons planned within each Lesson Study cycle. I have not found any comparison data in the research currently available on Lesson Study that suggest whether Dudley's three-lesson model (Dudley, 2012; 2014) would be better than or worse than a longer cycle. Lewis (2002) also recommends a three-lesson structure but whether this is for convenience or because three lessons are sufficient to develop teacher learning is unclear.

## A Primary Head Teacher's Exploration of Lesson Study

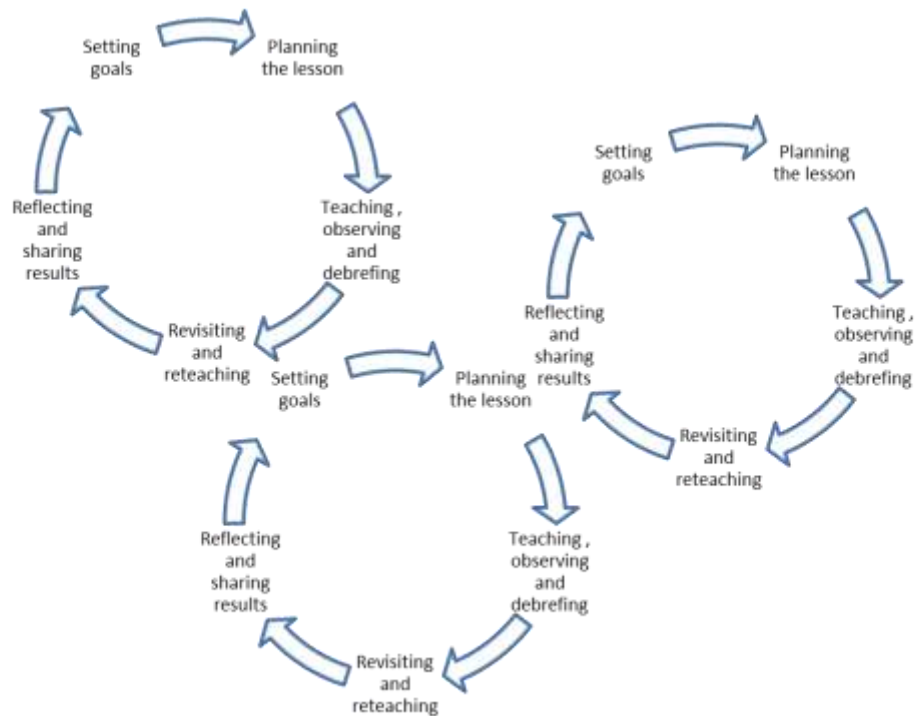
As I set out in my research design I used a five-lesson cycle for my research as I wanted to borrow more from the Japanese structures – and I wanted my exploration to be based on an anglicised version of Lesson Study, not merely a revisiting of Dudley's work. I thought that borrowing more from the Japanese model would help me understand why Lesson Study works to develop teacher learning, as Stigler & Hiebert (1999) and Fernandez (2002) have indicated Lesson Study does develop teaching learning in Japan.



**Figure 2.1:** Model of the Lesson Study process based on a model in Stepanek et al, (2007)

Stepanek et al (2007) present the diagram – Figure 2.1 – in their how to guide of Lesson Study. I think it evokes the processes that Lesson Study captures and builds on the three-part model of the practical elements of Lesson Study I have shown in Figure 1.7 by showing how Lesson Study cycles work in a simplistic linear way. I would suggest that from my reading and my pilot study, Lesson Study work looks a little more like the diagram – Figure 2.2 – below, which represents the complexities and multiple directions of learning a Lesson Study cycle might take. I think that embracing this untidiness is an important part of the Lesson Study process as the idea is that teachers will collaborate to develop.

## A Primary Head Teacher's Exploration of Lesson Study



**Figure 2.2:** *Divergences of Lesson Study Cycles based on an original cycle by Stepanek et al (2007)*

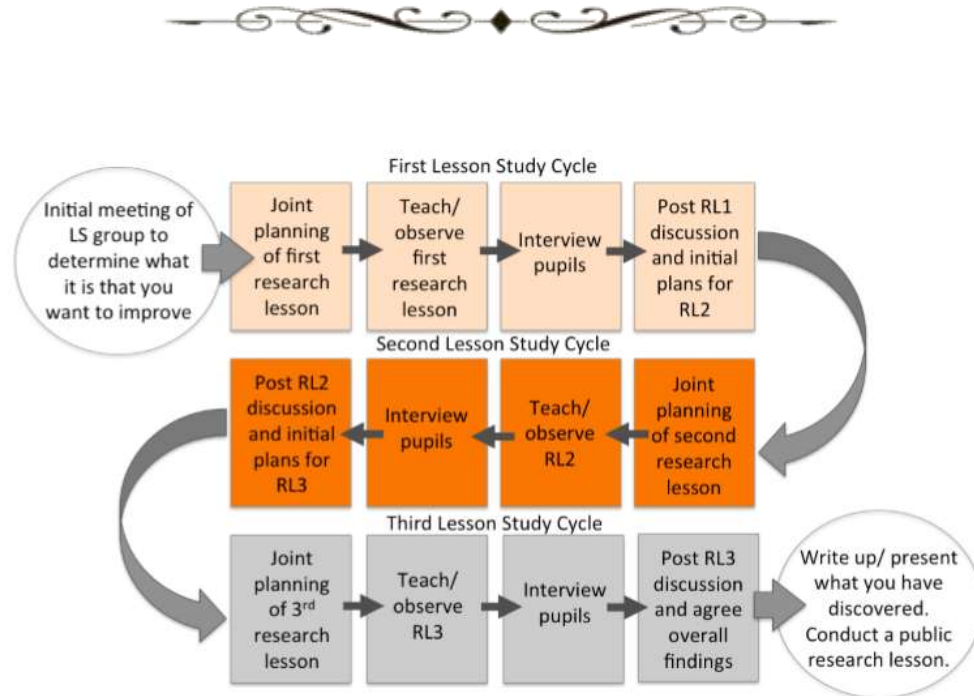


*The diagram still makes Lesson Study look very tidy. I think it is harder to capture in a diagram the variations and directions a Lesson Study group may go in. Essentially, like my work in this thesis, each Lesson Study group is exploring their practice. They will choose a focus, but their end destination and the journey they will take to get there is not a set of steps – despite what Stigler & Hiebert (1999) suggested it might be - nor will it follow through neat stages like Dudley's 2011 diagram – Figure 2.3.*

*Again, this is a flaw in the literature, for the sake of trying to be clear and show someone else how to do Lesson Study, the elements which are largely unseen – but described in detail by Fernandez and Yoshida (2004) – remain un-highlighted such as where a colleague might interject and the conversation moves to a new, richer discussion. These are not truly captured*

## A Primary Head Teacher's Exploration of Lesson Study

*in the diagrams available for Lesson Study – and probably cannot be due to the messiness, or unpredictable nature of Lesson Study work.*



**Figure 2.3:** A typical Lesson Study with three research lesson (RL) cycles (Dudley, 2011, reprinted in Dudley, 2014)

My models – Figure 1.7 and Figure 2.2 - like that of Stepanek et al (2007) – Figure 2.1 - and Dudley (2011) -Figure 2.3 - are simplistic in their design and are envisaged to show stages of progression for teachers in a continuous cycle of enquiry where teachers plan, observe, teach, reflect, revisit, plan and continue this cycle through a series of lessons. In essence, this is what Lesson Study is, a simple process of three stages like the one shown in Figure 1.7.

The physical model of the Lesson Study process seems quite simple. This perceived simplicity is a strong attraction to people trying to develop teachers. However, as I have suggested, the simplicity of a diagram does not mean that the undertaking of Lesson Study should be considered so simple.

## A Primary Head Teacher's Exploration of Lesson Study

The perceived simplicity of Lesson Study has seen it move into the mainstream of educational vernacular. Blogs and postings like Rivett (2015) suggest that Lesson Study is growing in its usage as a teacher learning tool. Rivett (2015) is overwhelmingly positive about the Lesson Study process, and suggests that he is pleased that he was engaged in this work. This in turn suggests that his engagement – as a student teacher - in the process is likely to be just as important as the steps set out in the models above. Although from Rivett's writing it is hard to see how what he engaged in is more than a peer observation as his writing does not suggest collaboration in planning, delivery or review. I do not think I would call the work he was undertaking Lesson Study as he was observing a teacher in a differing discipline to him, who was also a student teacher, and there did not seem to be any prior discussion or review. Of course, this may have all happened, but it is not mentioned and as such the writing does not describe Lesson Study as I would define it. Therefore, there is a need to be careful when presenting Lesson Study to teachers that it is not just displayed as the simplistic diagrams, which Stepanek et al (2007) and Dudley (2011) have created to explain the processes, but rather it must also be contextualised. As after all, Fernandez and Yoshida (2004) conclude that Lesson Study is an active component of a rich professional life in Japan, and is as much about the engagement of teachers with Lesson Study as the act of Lesson Study itself.

### *2.2.2 Promise of Lesson Study*

Crucially, I think that Lesson Study has a great deal of potential as a method, but I think it is still underexplored and clarity on how it works will support its implementation, into schools as a teacher learning tool.

---

*I see so many promises to Lesson Study... I want to know how it works.*

---

To help analyse the Lesson Study literature, through both my academic and professional lens, I will divide the remainder of this section into three parts:

- 1) How does Lesson Study work? Do its origins affect its implementation?
- 2) Why consider Lesson Study as a tool for professional development for teachers?
- 3) Which gaps currently exist in the literature and how does my research fit within them?

I think it is important to not just review the academic literature as Xu & Pedder (2015) have done, but I also need to consider the wider context of Lesson Study, starting with its origins.

### ***2.3 How does Lesson Study work? Do its origins affect its implementation?***

With the exception of works such as Shimahara's exploration of *Teacher Education in Japan* (1991), which noted that in the 1980's the Japanese government, moved strongly towards improving the cultural expectation of in-service education for teachers (Shimahara, 1991: 277). The first English language writing on Lesson Study appears to have come from the published conclusions of the *Third International Mathematics and Science Study* (TIMSS) which largely researched the educational workings of Germany, Japan and the United States (Stigler & Hiebert, 1999). This work was based on research projects from 1994 which involved Stigler, Hiebert and notably Fernandez – who went on to publish the first real – English language article on Lesson Study in 2002. Stigler and Hiebert's *The Teaching Gap* (1999) suggested that the United States was underperforming in comparison to other leading nations and further suggested that a way forward might be through using Japanese Lesson Study.

Stigler and Hiebert were clear about Lesson Study being a possible way forward for the United States, but also underlined that this would require '*a system of gradual improvements*

*like that found in Japan*' (Stigler & Hiebert, 1999: 130). I am not sure Stigler and Hiebert fully describe the tacit nature of Lesson Study culture in Japan (as described further, but not completely, by Fujii, 2014; Takahashi, 2014; Simmons, 2016). However, they were able to articulate the need for six principles of reform:

- 1) Expect improvement to be continual, gradual, and incremental;
  - 2) Maintain a constant focus on student learning goals;
  - 3) Focus on teaching, not teachers;
  - 4) Make improvements in context;
  - 5) Make an improvement in the work of teachers;
  - 6) Build a system that can learn from its own experience (Stigler & Hiebert, 1999: 132-137).
- 

Stigler & Hiebert's (1999) lack of descriptive detail, presumably due to space restrictions in their book, meant that the nuances of how Lesson Study interacted with cultural norms in Japan were not fully articulated as a starting point for the understanding and practice of Lesson Study in English-speaking education systems. As Stigler & Hiebert's (1999) book was not solely focused on Lesson Study, it is understandable as to why they were unable to capture Lesson Study in its entirety. Indeed, Takahashi (2014) rightly points out it is even hard for Japanese teachers and researchers to articulate Lesson Study as a whole, due to its long term and deep embedding in the everyday teacher development work in Japan. If the origins of Lesson Study – in the English-speaking world – are based on this small, partial summary of Lesson Study, and did not heed Stigler & Hiebert's (1999) warnings about the need for a systematic change or cultural shift before introducing Lesson Study, then this might partially explain why there is so little written about how Lesson Study develops teacher learning. It is difficult for researchers and writers, as Takahashi (2014) suggests to understand the relationship between Lesson Study and the dominant culture of education in Japan. Yet it is something that is important if misconceptions around Lesson Study in other countries are to be avoided and this reinforces the need for research like mine that considers how Lesson Study develops teacher learning taking into account the surroundings within a school and the



broader educational context of the country it is located within. I can do this because I am based within my research and am able to see some of the interactions between Lesson Study and the dominant culture of my school and the education system.

*The Teaching Gap* (Stigler & Hiebert, 1999) did allow researchers (Fernandez, 2002; Fernandez & Yoshida, 2004; Lewis, 2002) to look closely at Lesson Study and start to write about it in English. This in turn opened it up to more research and eventually helped it cross the Atlantic where academics like Dudley have been instrumental in further researching and implementing it in the context of England's schools (Dudley, 2011; 2012; 2013; 2015). However, in this momentum to implement Lesson Study, there is the sense that Lesson Study is viewed as a way of improving outcomes, pupil progress – via standardised testing – or teacher evaluations, as evidenced by the 49 articles reviewed by Xu and Pedder (2015) attest. Subsequently, a worry I have is that Lesson Study may be becoming something different – in the English-speaking world – from that of the teacher learning tool that interacts with Japanese educational culture to improve outcomes through the improvement of teacher learning. I do not believe that Stigler and Hiebert (1999) were suggesting that Lesson Study should be incorporated into the systems used in the United States, more that they were suggesting that system-wide cultural change to enable methods like Lesson Study would be the most powerful way forward to improve teacher-learning and subsequently outcomes in education.

I wonder in our current educational climate – one where education is politicised and rife with standardised testing (Ball, 2013; DfE, 2013; DfE, 2015) – whether it is possible to return to the Japan of the 1980s and the changes that were made in the interests of the moral imperative to improve the teaching within Japanese schools (Shimahara, 1991). Although, for Lesson Study, it is probably less important that we consider returning to educational decisions of the 1980s and instead consider how Lesson Study might be developed within our

educational system and how it might help change that system. Of course, this is only possible if there is an understanding of how Lesson Study works.



*Our current educational climate is something that is a challenge to concisely describe. Ball (2013) does well to describe the changes over time, but I feel that currently we are not in a place where we can make the decisions that were made in the 1980s in Japan. The pressure – perceived or real – from the dominant culture in English education, I do not refer to teachers, but everyone else who has a voice on what education should be – has meant that there have been curricular changes (DfE, 2013) assessment changes (DfE, 2015) and this has meant that development from teachers has become more challenging.*

*As I write this teacher-recruitment numbers are down on previous years and I have struggled to recruit teachers for jobs in my school. Five years ago, I would have over thirty applications for a teaching job, but now I am lucky if I get two. From talking to head teacher colleagues, I know that this is not isolated to my school and some colleagues have advertised the same job nationally three times to still have no applicants.*

*The reduction in applicants is synonymous with the feeling the profession has currently. I feel like we are being eroded gradually and that education is becoming focused on testing outcomes which are narrowing and reducing the curriculum, learning and enjoyment of school. Alongside this, the sheer workload for teachers has increased because the changes made to curricular and assessments mean that everything needs to be renewed; assessment systems need creating and curriculums planned. This all takes time, and this time comes away from the teachers engaging in development work for themselves.*

## A Primary Head Teacher's Exploration of Lesson Study

*Of course, as a head teacher I will try to stem some of this, but the extent on the changes recently means that much of it is work that needs to be done. I have had to be resolute in continuing my teacher development work in school, including Lesson Study because while time is short, I need to remember that I think teacher learning is important, and while I cannot change some things being imposed on schools, I can make the best of what we have in my school.*



I continue to be concerned about the mutation of Lesson Study within England's schools, although I would say that this concern is more to do with the rhetoric of it being tied to school improvement agendas, rather than being teacher learning led. Nick (2015) spoke about how he has linked his Lesson Study work to teachers' performance management. This is not something that I had encountered in my reading of the Lesson Study literature and I worry that this links Lesson Study to performance and standardisation when I believe it to be about collaborative learning.

However, as mentioned above, I came late to my realisation of the differing ontological nuances of Lesson Study and *Jugyō kenkyū* and as such my research derives itself more from the mutated Lesson Study aspect of teacher development than the Japanese understanding of *Jugyō kenkyū*. Although, as I work within the English education system, it is probably more beneficial for me to have explored Lesson Study as interpreted in English academia as this means any finding I make from my exploration may be more useful to other practitioners in English schools. I hope that I capture my realisation about the ontological differences in the final chapter – Chapters 5, 6 and 7 – when I discuss my next steps with Lesson Study and how I think it will continue to be shaped and formed within my school.

#### ***2.4 Why consider Lesson Study as a tool for teacher learning for teachers?***

The models – Figures 1.7, 2.1, 2.2, 2.3 - in the preceding sections articulate the perceived simplicity of the Lesson Study method, although as mentioned previously something that appears simple might not be so in practice. This perceived simplicity is one of the attractions of Lesson Study as a tool for teacher learning; the other is situated in those 49 articles identified by Xu and Pedder (2015) that articulate the outcomes of Lesson Study. The absence of deviant studies which suggest that Lesson Study might not work also supports the growing popularity of Lesson Study as a teacher learning method for teachers. This subsection will explore the perceived benefits as articulated by the current research.

From the literature available when embarking on my research in 2013, I would suggest that the reasons I felt Lesson Study should be considered as a teacher learning tool are:

- It is a simple and low cost process that can be established easily
- It provides a way for teachers to learn more about their craft i.e. improve their subject or pedagogical skills
- It provides opportunities for teachers to share knowledge and learning with others
- It increases collaboration between teachers

##### *2.4.1 It is a simple and low cost process that can be established easily*

When defining Lesson Study, I suggested that the models used to explain how Lesson Study works (Stepanek et al, 2007; Dudley, 2011 and my own Figure 1.7) can simplify the process, and this simple-looking teacher development tool is appealing to schools and trainers. The appeal of Lesson Study is centred in the sense that it can be replicated in different schools – in theory by anyone. This means the cost of Lesson Study is very low and can be organised within school so it does not involve expensive training courses. Accessing a how to guide (Lewis 2002; Dudley, 2012; Stepanek et al, 2007) is very low cost and Dudley's (2014) is published online for no cost. I know that when I am considering development opportunities,

## A Primary Head Teacher's Exploration of Lesson Study

as a head teacher, I would consider a low-cost process that was accessible to all staff – like Lesson Study is – very attractive.



*The initial costs might appear low – yes there is no need to undertake an expensive training course – but really what do you know about Lesson Study from reading a book or two, especially if those books are not based on schools remotely similar to your own. Does an international example give you the information you need to introduce Lesson Study? Probably not.*

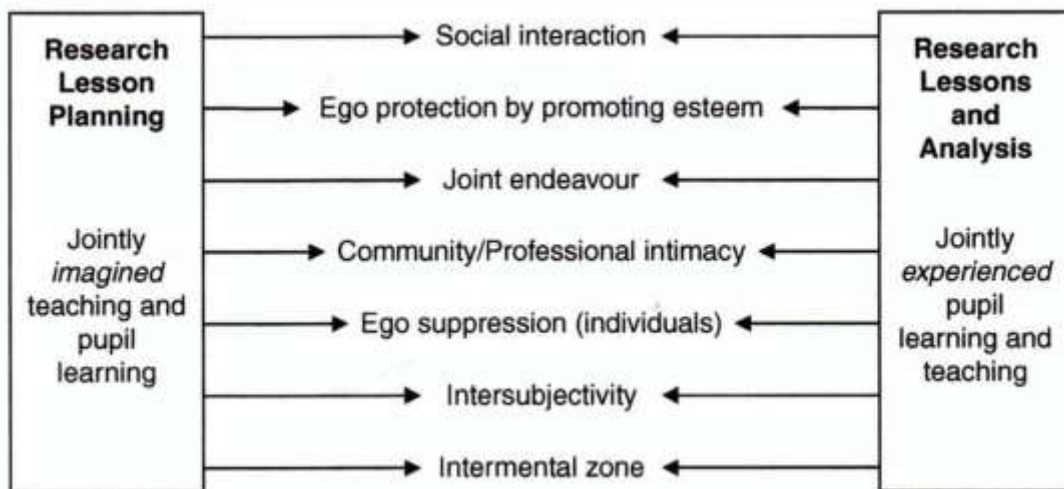
*Also, once you start looking at costs, you need cover for at least three half days around each of the lessons, and those three half days would need to be covered in at least three classes, so a conservative estimate would mean that a three-lesson cycle would cost about a £1000 in cover costs, that is providing there is time created after school for teachers to plan and meet. If not the costs might be more than this. Factor in doing this with the entire staff and you are starting to look at something quite expensive and so the low-cost is less of an incentive.*

*Moreover, you will need to have practised Lesson Study to be able to talk about it, with other people – or at least start with one group. Would everyone need to read the guide on how to do Lesson Study – does this then also need time? Are the staff ready for all of this?*

*These questions have emerged from reflecting on my experience. It is possible to see low-cost as an advantage to Lesson Study. It is possible to see ease of implementation of Lesson Study as a draw. However, none of the research I have read looks into this in any detail and the How to do Lesson Study guides (Stepanek et al, 2007; Dudley, 2014; Lewis, 2002) explain how they might do Lesson Study, not how it might be done in your school.*



The attraction of this low cost, and easy to implement process is then increased by the positive outcomes of the literature. Dudley (2011) captures these benefits in his teacher learning diagram – Figure 1.2 – below:



*Figure 1.2: How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 – reprinted in Dudley, 2015: 17)*

Dudley's (2011) model of teacher learning in Lesson Study suggests that this low cost, easy to implement method will also produce favourable outcomes from teachers.

This notion of favourable outcomes is supported through the array of articles that suggest that there were improvements in instruction and learning as a result of Lesson Study work (Fernandez, 2005; Lewis et al, 2009; Lewis, Perry & Friedkin, 2009, Hart, 2009; Hart & Carriere, 2011) with others focusing on pupil learning (Fernandez, 2005) or the shifting views of teachers towards a pupil-focused reflection on learning (Lewis, 2009). Xu & Pedder (2015) support this further with their study which finds that through the Lesson Study

literature teachers and researchers claim that Lesson Study improves instruction and deepens their understanding of how pupils learn.

Yet, in his latest writings (Dudley, 2013; 2015), Dudley does not talk about how Lesson Study achieves these aspects of teacher learning. So how are these aspects of teacher learning achieved through Lesson Study? How does Lesson Study develop teacher learning? Bearing in mind that only Dudley (2013: 2015) and Pella (2011) talk about developing teacher learning in Lesson Study, it is clear that the current information is insufficient for anyone picking up Lesson Study in schools to be able to just generate these teacher aspects as listed in Figure 1.2.

For me this combination of positive outcomes for teachers, the low cost and the ease of implementation are key to explaining why Lesson Study would be considered as a teacher learning tool. As a head teacher, I would find this appealing especially as there seems to be no literature which suggests Lesson Study does not succeed. The absence of literature telling me it would be problematic to achieve the outcomes illustrated in Dudley's diagram – Figure 1.2 would also be appealing as it would suggest that success was almost guaranteed.

I would suggest that the notable absence of literature about failed Lesson Study groups or ones that have deviant findings is concerning – as I will explore in sections 2.7 and 2.8 - and as such there appears to be no counter argument to using Lesson Study based on the literature available in 2013 or currently, because studies have focused on telling the outcomes, without always suggesting how these outcomes were achieved.

---

*I see so many promises to Lesson Study...*

---

## A Primary Head Teacher's Exploration of Lesson Study

In many ways, the question is not why should you use Lesson Study as a development tool, but is, why have you not already started using Lesson Study as a development tool? Although, as I have I would like it noted, while I think there are many perceived promises to Lesson Study there is also still only a small amount of literature that would help an individual understand how it works to develop teachers.

### *2.4.2 It provides a way for teachers to learn more about their craft i.e. improve their subject or pedagogical skills*

Some of the literature around Lesson Study, talks about how using Lesson Study does not just bring about improved instruction, it deepens teacher subject knowledge and pedagogical skills (Cerbin & Kopp, 2006; Doig, Groves & Fujii, 2011, Dudley, 2013).

The improvement in teachers' subject and pedagogical skills stems from two elements of Lesson Study:

- The refining of techniques or resources
- The observation of others

The refining of techniques or resources is linked to the establishment of the inquiry stance (Lewis, 2011; Hart, Alston & Murata, 2011) in a Lesson Study group, where teachers are able to spend time considering a part of their teaching. The Lesson Study structures provide for this time in the planning, the observing and the review – Figure 1.7 – and the rate at which this develops is dependent on the Lesson Study group.

Doig, Groves & Fujii (2011) suggest that this development of subject and pedagogic skill is taken further still in Japanese Lesson Study where the focus on the practice of *kyozaiikenkyu* [the study of instructional aids]. *Kyozaiikenkyu* enables Japanese teachers to consider how their resources and techniques can challenge, enhance or simplify learning and there is a great



emphasis placed on this study as a means to improving subject and pedagogical skills (Doig, Groves & Fujii, 2011: 182). Fernandez & Yoshida (2004) also capture this developmental work in their case study of Lesson Study in a Japanese school, which shows how this knowledge builds up over time, and through Lesson Study cycles, increasing and developing knowledge and expertise in the Japanese teachers' over time.

In Japan, the practice of *kyozaikenkyu* is added to through the observation of others and Fernandez and Yoshida (2004) give an example of a second-year teacher who is upset that her teaching is not as proficient as that of her more experienced colleague. Other authors of Lesson Study articles have also noted how the observation of others enables teachers to reflect on their own practice as they learn from that experience (Pella, 2011).

Pella's (2011) article describes Rachel's self-reflection following her observation of Laura in their four-lesson study. Rachel describes how she felt guilty that she was not pushing her students to the same level of Laura's class (Pella, 2011; 117). This observation experience, for Rachel, enables her to reconsider her instructional aids, so that she is able to promote writing to a higher standard – like the writing she observed in Laura's classroom. I think one of the key things Rachel saw was higher expectations in Laura's classroom. Laura's students are described by Pella (2011) as being affluent, monolingual English speakers while Rachel has a high number of English as an Additional Language pupils in her English class, alongside higher deprivation. Yet, Rachel realises that just because her students have a different starting point, it does not mean she should expect less from them – hence her guilt (Pella, 2011:117).

For me the development of techniques and resources and learning through the observation of others is a really promising aspect of Lesson Study and a reason why it should be chosen as a teacher development tool.

*2.4.3 It provides opportunities for teachers to share knowledge and learning with others*

The example of Laura and Rachel (Pella, 2011) given above, is an example of the sharing that Lesson Study can provide teachers. This sharing may be indirect, like Rachel's observation of Laura (Pella, 2011) or the second-year Japanese teacher seeing her more experienced colleague (Fernandez & Yoshida, 2004). This sharing may also be more direct with the sharing of ideas, resources and techniques (Pella, 2011; Doig, Groves & Fujii, 2011; Fernandez, 2009; Lewis, 2009; Dudley, 2013).

The Pella (2011) example of Rachel and Laura shows how Lesson Study can ego suppress and ego protect (Dudley, 2011; 2013). Rachel is considered the resident expert in literacy and is a consultant teacher and leader, a description that is similar to Laura's (Pella, 2011: 112). As experts in their own schools Laura and Rachel were likely to be called on to support and develop others and this can inflate egos, what the Lesson Study did was provide a non-threatening environment where Rachel could see that there were things Laura was doing in her teaching that Rachel could use to improve her own teaching. Rachel's ego was suppressed because she was able to see other expertise beyond her own – which as her school's resident expert was probably not as likely within her school – to reflect on and improve her own practice. Rachel shared her reflection with Pella, the author/researcher, as part of the research but if she had not done so it is possible Laura and the rest of Rachel's group may not have known that Rachel had felt that revelation in her own practice from seeing Laura, and as such Lesson Study also ego protected Rachel from feeling that she was not as proficient – publicly at least.

Ego suppression for individuals and ego protection by promoting esteem are interesting considerations as benefits of using Lesson Study. Fernandez and Yoshida (2004) talk about the Japanese teachers valuing the continual need to improve, with the particularly vivid

description of the novice teacher questioning her own ability having seen a more experienced colleague teach, not being criticised but critiqued to develop both themselves but also each other.



*Again, the only example I can find in the United Kingdom based literature for anything similar to the example of the novice teacher in Fernandez & Yoshida's (2004) text is when Dudley (2013) describes the teachers getting in-step with each other. I suspect that much of the Lesson Study work that has happened in England has benefited from teachers seeing each other teach, but this has not been captured in evidence in articles on Lesson Study. As such it is very difficult to tell how important this feeling of ego suppression is to a teacher because we just do not know how it works in an English example.*



The qualities described above can happen due to the time given in Lesson Study structures to enable reflection and sharing. Cerbin & Kopp (2006) see the structure of Lesson Study as being a way to make public the knowledge that teachers have so that others can share it. I feel this is a value that is also embodied in more recent articles like O'Shea, Teague, Jordan, Lang & Dudley (2015) where the sharing of knowledge is an important outcome of Lesson Study.

Again, the limited literature that exists encourages the notion that Lesson Study is a beneficial development tool because it creates a non-threatening learning environment within which individual teachers can share their knowledge. It promises the potential of enabling teachers – even the most proficient (Rachel) – the opportunity to reflect and develop their practice.

*2.4.4 It increases collaboration between teachers*

As already suggested in the previous sub-sections, the theme of working with others and collaborating is a key element of the Lesson Study literature. The literature suggests that this collaborative component is a key benefit of this as a teacher learning tool.

Cerbin & Kopp (2006) suggest that Lesson Study work can break the isolation of teachers in our schools; they suggest teachers typically work alone and that collaboration allows sharing of ideas and knowledge as we have seen in the previous section. This builds on Hiebert et al (2002) who suggests that teachers rarely draw from a shared knowledge. As such a collaborative process like Lesson Study would be beneficial to teacher learning.

Social interaction and joint endeavour might also be expressed as collaboration, or indeed interplay between professionals. For Dudley, it seems that this is about the talk that happens between teachers engaged in Lesson Study (Dudley, 2015). Indeed, one of the key aspects of Lesson Study is the collaborative nature of the work, and bearing in mind that teaching continues to feel very individualistic in England, the nature of getting teachers to think beyond their own teaching is an obvious benefit of this type of work. Dudley (2013; 2015) suggests that this social interaction and collaboration pivots around 'learning points' where an individual teacher decides to change a belief or practice through the collaborative learning within a group. These changes are noted by other researchers too. Lewis (2009) notes the example of Highlands Elementary School in the United States and her perception of the strengthening Lesson Study gave to the collegial network between colleagues. In 2011 Lewis takes this further by suggesting that this teacher community develops further over time, through Lesson Study work. This gives the suggestion that this collaboration can be developed further, which in turn benefits teacher learning further.

## A Primary Head Teacher's Exploration of Lesson Study

Lewis's (2011) suggestion would indicate that Lesson Study's community and professional intimacy (Dudley, 2011) is linked to the development of learning communities within schools. Saito & Atencio (2013) have spent time looking at the way Lesson Study develops a learning community which builds over time through systems of collaboration.

Here, it seems that Lesson Study will reduce isolation for my teachers and will enable them to work in increasingly collaborative ways as Lesson Study develops in my school. This collaboration would then enable them to share ideas and learning and continue their development over time. I think this would be a very compelling reason to employ Lesson Study in my school.



*The promise of increased collaboration between teachers is again largely untested in an English context. Dudley's (2013: 2015) work does not revisit a school after a period of time and even if it did, how would he measure collaboration? Fernandez & Yoshida describe a collaborative staff room meeting after a Lesson Study where all teachers can have a voice in talking about the Lesson Study they observed.*

*There seems to be an assumption that after a Lesson Study is completed there will be more exchanging of ideas and teaching practice between staff. Although I have yet to find any literature in Lesson Study that supports this change. Authors like Pella (2011) indicate that collaboration of ideas indicates to individuals that they might need to reflect on their own practice, but is this sustained after the Lesson Study? There is just not the evidence to say either way currently.*



***2.5 Which gaps currently exist in the literature and how does my research fit within them?***

Xu & Pedder's (2015) Lesson Study review identified five articles (Dudley, 2013; Pella, 2011; Ricks, 2011; Robinson & Leikin, 2012; Tsui & Law, 2007) which investigated how teachers learn through Lesson Study contexts. The authors express their disappointment with this low number of citations (Xu & Pedder, 2015:45). With Xu & Pedder (2015) suggesting that only Dudley (2013) is able to identify, using social-cultural theory, that exploratory talk through the Lesson Study processes facilitates teacher learning, while the four others present learning through structural differences e.g. different schools with different systems and populations.

Dudley's (2013) article is certainly intriguing in its elucidation of how talk occurs within Lesson Study, as it articulates the notion of *learning points* (Dudley, 2013: 112). These learning points are when a teacher in the Lesson Study expresses a change in attitude, belief or knowledge (Dudley, 2013). One of the key aspects of Dudley's (2013) work is that it describes very closely the conversation of the teachers, and notices the moments of *learning points*, and then starts to assign reasons as to why those learning points occurred. Dudley (2013) is able to show that rehearsal in conversations and coaching might play a part in teacher learning, although he suggests that further research is needed. Dudley's (2013) article ultimately ends up with more questions than he started with from his article with his identification of seven further aspects that need to be explored:

**Table 5**

Teacher learning in LS: claims to be tested by further research.

1. Collaborative, dialogic teacher learning in classroom contexts in which effects on pupil learning of changes in teaching are collectively imagined, trialled and analysed, seems to enable teachers to observe, assess and facilitate improvements in pupil learning at levels of detail not achieved through traditional means.
2. A focus primarily on *learning* in LS rather than primarily on *teaching* helps to create affective and cognitive conditions in which teachers feel safe to risk disclosing vulnerabilities, to work with colleagues on improvements, and also motivates teachers by creating joint endeavour to improve pupil learning.
3. Opportunities provided through discussion and *rehearsal*, for teachers to hypothesise why learning is (or is not) happening seem to gain them collective access to rich stores of pedagogical content knowledge and pupil knowledge, much of which exists in *tacit* form that at all other times seem invisible.
4. Multiple perspectives of teachers *slow down* swiftly flowing, complex classroom activity in RIs, allowing teachers to see *more* of what happens in greater detail than they can alone, and from several viewpoints.
5. Attention to evidence of behaviours of case pupils seems to *sharpen the focus* of teachers on specifics of individuals' learning, helping them, to rely *less* on assumptions about what and how pupils learn and more on listening and observation.
6. Explicating, explaining, hypothesising and generalising with other LS group members about both *imagined* and *observed* pupil learning seems to help teachers to *internalise* new practice knowledge in forms capable of replication in their later teaching.
7. Formally *articulating* and presenting LS findings to others not involved in the LS group can help more permanently to 'fix' newly developed practice knowledge – in terms both of *metacognition* and of belief in its efficacy.

**Figure 2.4:** Teacher learning in Lesson Study: Claims to be tested by further research (From Dudley, 2013: 118)

I would add as well as analysis at this technical word level, that an examination around the individuals and their context would also be helpful to understand the different workings for different people within Lesson Study. This contextual analysis is something I will add to my research data analysis.

I think Pella's (2011) article also provides some insight into teacher learning. Although the teachers in Pella's study are all experts in literacy and have previously engaged in projects around their own development and as such do not represent all teachers. The key aspects of Lessons Study developing teacher learning in Pella's article are her themes of *transformation*

and *theoretical equilibrium* (Pella, 2011:113). I find the terms themselves to be grandiose, yet what they represent is quite intriguing. Theoretical equilibrium is when the teachers agree on a point, Dudley (2013) describes this as a teacher getting 'in step' with each other's thinking. Transformation is a moment of learning, when a teacher realises something and considers changing their practice. This transformation is similar to what Festinger (1957) describes as a moment of dissonance where the individual is faced with a decision to maintain or change their thinking following information which has disrupted their internal consonance. Pella's (2011) ideas are interesting as they suggest that Lesson Study provides opportunities for teachers to discuss and learn together but also face moments of shift where they need to make a decision about whether to change their practice or not – like Rachel in the example from Pella above.

Pella (2011) does not suggest how Lesson Study does this and this means that while Pella presents an interesting idea which has some synergy with Dudley (2013), the only other writer within this part of the Lesson Study field, it is insufficient in clarifying how Lesson Study works. I also think that Pella's study is distant from the reality of a school-based Lesson Study, as she has chosen four expert teachers, in four very different contexts, with four very different classes to look at literacy (Pella, 2011: 111-112). For me this creates an artificial set of differences and means that it will be easier to say that participants held different or similar views, as it stands outside of the dominant culture of any of their individual schools. What I mean by this is that each school will have its own version of a dominant culture and within that culture things will be done in certain ways. Pella (2011) deliberately chose teachers who were of high standing in their schools and thus possibly their school's dominant culture, this meant that they were already used to having their voices heard and so were not inhibited from speaking about their thoughts. The reality of schools in England is that there are more complicated systems of social and political natures that



## A Primary Head Teacher's Exploration of Lesson Study

teachers navigate (Blase, 1991). I think it would be easier to present myself and the different viewpoint I have to someone I am going to see a few times in a Lesson Study than I would to someone I have to sustain that difference with them each day. This is yet another reason why Lesson Study needs to be explored, within a school, so that these ideas of learning points and transformation that Dudley (2013) and Pella (2011) discuss can be explored further to see if they appear again and if they do, how they are created.

My research will build on that of Pella (2011) and Dudley (2013) to look into how Lesson Study provides those moments of learning that they both see in their research. My research design provides me with an insight into the reviews and my interpretative analysis will let me suggest reasons from the interactions observed.

Dudley (2013) and Pella (2011), while making contributions to the field of how Lesson Study develops teacher learning, do not create a saturated field of knowledge and I think they provide more questions than answers with their research, as I have stated previously with discussion of Dudley's teacher learning model – Figure 1.2.

Some of the questions I have about Lesson Study developing teacher learning are:

- 1) Why is there a lack of literature on teacher learning through Lesson Study?
- 2) Is there a lack of awareness of how Lesson Study works to develop teacher learning?
- 3) Is the collaborative nature of Lesson Study key to its promotion of learning?
- 4) What expertise is needed to facilitate teacher learning through Lesson Study?

Questions 3 and 4 link back to my smaller questions under my larger research question: How does Lesson Study develop teacher learning? I think it is important to consider them both here within the gaps of the current research on how Lesson Study develops teacher learning.

***2.6 Why is there a lack of literature on teacher learning through Lesson Study?***

Xu & Pedder (2015) found the literature on how Lesson Study develops teacher learning to be remarkably scant. They expressed their disappointment in their article (Xu & Pedder, 2015: 46) summarising the selection by saying that while there are only a few examples they have made an interesting start and there remains a great deal of further research to be done before we reach a *well-developed explanatory theory of teachers' learning in Lesson Study* (Xu & Pedder, 2015: 46). My research aims to provide some of that further research they hinted at, and I hope to add to the body of research and conceptual understanding of Lesson Study through my work.

Indeed, Dudley (2013) and Pella (2011) show that it is possible to do this kind of research. However, it is more difficult to record and capture this research and to interpret, analyse and discuss the detail of this research than it is to narrate how Lesson Study processes have been undertaken or to look at barriers to Lesson Study processes (Fujii, 2014; Takahashi & McDougal, 2015). There is a sense of closeness to the research data in this kind of work, and subjectivity is harder to maintain as the work is about people, and the interpretation of what they are thinking.

I also think that this particular area of Lesson Study is side stepped because it would mean really looking at what is happening in Lesson Study and understanding if it is as great as the outcome-focused literature presents. Close inspection of Dudley's (2013) work shows that the group were exchanging knowledge, and teacher learning was happening, but of what quality was this exchange in the contexts of these teachers? Was this conversation usual or unusual for them? I think this is the crucial element that has prevented this work as it requires more detail and context than can be provided by the researcher who visits for Lesson Study and then analyses reviews, it requires insider knowledge, either from the teachers themselves or from people that work closely with them over time.

It is why I am well placed to conduct this kind of research. I am in the research setting – my school – and I interact with the participants daily. Yes, this means my narrative is closer to my participants, but in terms of seeing how Lesson Study develops teacher learning, it feels like this is where I need to be located to really see what is happening.

***2.7 Is there a lack of awareness of how Lesson Study works to develop teacher learning?***

I have already noted that there is a conspicuous absence of deviant Lesson Study cycles. I cannot believe that all Lesson Study work that has happened has been universally successful, and as such I have to assume that failed groups have just not been written about. Hart, Alston & Murata (2011) indicate in passing that there was a less successful group in their article but focuses on the outcomes of the remaining groups. The absence of deviant groups is significant because while they might not give the researcher a neat piece of research, their failures, or challenges provide an insight into processes and how they work within Lesson Study. In understanding failures and mistakes, we refine and improve the process itself.

Deviant studies aside, we have very little awareness of how Lesson Study develops teacher learning as the last section detailed, there are five articles (Dudley, 2013; Pella, 2011; Ricks, 2011; Robinson & Leikin, 2012; Tsui & Law, 2007) of which two (Dudley, 2013; Pella, 2011) really dig into teacher learning, beyond learning between settings (Xu & Pedder, 2015: 46 define this as cross- boundary learning when professionals interact from different sections to share knowledge e.g. teacher and professor).

Both Pella (2011) and Dudley (2013) indicate that there are learning moments which occur in Lesson Study groups, but neither is able to explain why these moments occur. Both authors suggest that further research is needed. Dudley has begun this work, his postulation of *learning points* (Dudley, 2013; 2015) is the beginning of a notion that needs expansion and placing into context both epistemologically and developmentally. Likewise, his named

teacher changes – Figure 1.2 - (Dudley, 2011) illustrates potential avenues to consider further.

My research aims to advance this knowledge building on Pella (2011) and Dudley (2013) to explore the change moments in Lesson Study further to try to establish reasons why they occur.

### ***2.8 Linking Auto/ethnography and Lesson Study***

It would be an inadequate position to be in if Lesson Study research did not hear and see the teachers and school leaders. This is because while it is fine to hear about the academics' views it is not the same as 'living' the research. I must be clear in my argument here; I am not proposing that all educational research is invalid because it does not take into account the views or experiences of the primary teaching profession. I am proposing that some research can feel like it is not seeing a broad impression of education (i.e. focusing on a particular aspect of the complex world of teaching and learning such as a reading intervention programme) and as such research should be wary of drawing large scale conclusions across teaching. Similarly, I know that my research is contextual, and my story is only directly applicable to my school and my context. It may have wider resonance, and it may be useful to researchers looking at Lesson Study in a broader sense, but it would be unwise for me to draw conclusions from my work across Lesson Study in all schools.

My research into Lesson Study benefits from the multiplicity of my role. I have identified in Chapter 1 how it is important to hear different voices and by inhabiting different roles I hope I am able to take something from each perspective: my teacher identity, my leader identity and my researcher identity, to systematically research the impact Lesson Study has as a teacher learning tool. I want to open up the gaps in the research, currently summarised in

## A Primary Head Teacher's Exploration of Lesson Study

Dudley's (2015) diagram Figure 1.2 and actually look into the 'how' of Lesson Study, so that I understand it better, but also so it is clearer as a teacher learning tool.

My concern with Lesson Study and the need to hear from teachers is two-fold. Firstly, deviant or failed Lesson Studies are not published and do not receive the consideration necessary to improve the method in the English school context, which means we do not know why Lesson Study groups do not succeed, meaning we cannot avoid the same potential pitfalls. Secondly, as mentioned above, the Lesson Study writing tends to be on how to conduct Lesson Study or on outcomes. Denzin (2011) talks about how this focus on the countable and the measurable is a challenge to the educational researcher as they protect the researcher from having to consider their own validity as their evidential approach linked to these measurable and countable outcomes allows them to believe that their work has had this impact and can be replicated elsewhere, when in reality the reader has no insight into the variables that occurred in the published study and as such the potential difficulties they might have, or the things they need to consider before embarking on Lesson Study research.

---

*Lesson Study definitely works – that's what I feel I am being told. It might be all we need to do is get our teachers doing Lesson Study and then exam results will improve.*

*I have worries about this – it cannot be so simple – can it?*

---

This analysis based on evidential measures misses out the failures, the frustrations and the real learning that happens in a process. In many senses this means that Lesson Study literature is a victor's history of research and to me that is unsettling. Yes, no one wants to suggest that their work is a failure, but something that is needed to be drawn from science is that researchers try to prove themselves wrong as part of their validation process (Clandinin

& Rosiek, 2007). As a school leader, I want to know how to best equip my teachers for their development, and while there seems to be a great deal of promise in Lesson Study, there is not enough information published on how it is successful or how to make it successful. I believe this is because there has been little consideration of the research into the undertaking of teacher-led development through Lesson Study, and even less focus on teacher voices in Lesson Study work.

I have established the need to consider more than the accounts looked at in the Lesson Study review above. My research requirements are thus two-fold: teachers' voices and experience are taken into account and there is an appreciation of the broader sense of teaching and learning, thus going beyond Denzin's (2011) warning of research's focus on the measurable and countable. I will endeavour to provide a teacher's, a head teacher's and a researcher's voice throughout my story so that I can understand how Lesson Study works as a teacher learning tool.

To do that I will use this section of the literature review to explore two aspects of the literature, both revisions of previous sections; firstly, I will look at teacher auto/ethnography, namely articles that involve at least one writer who is a current teacher, or recent teacher. Secondly, I will look at teacher writing on Lesson Study, the majority of which will be online writing and may not conform to academic standards, in terms of referencing or structure.

### ***2.9 Teacher written research on Lesson Study***

Above I have discussed the literature on Lesson Study and its current limitations. When I refined this lens further and looked at examples of teacher written reviews of Lesson Study, literature that is mostly published on websites and included in blogs, I noticed two trends. Firstly, despite the intentions of Lesson Study to enable practice to be more evidence informed, writings by teachers seemed to be largely devoid of citations or indication that they

## A Primary Head Teacher's Exploration of Lesson Study

have engaged in any reading around their work. Secondly, while the teachers have indicated summaries of their learning these are not framed in research or how they inform research further, either in support or opposition.

Before I discuss this research, I should note that a lot of work in Lesson Study is not recorded and, as such, it is difficult to say that trends are prevalent throughout teachers' writing on Lesson Study and blogs do not tend to use citations opting for a more diarised sentiment.

I think this is an area neglected in the writing about education. Teachers do not regularly, in my experience, reach beyond the teacher, the colleague, the trainer to seek out or understand contexts more widely, and as such do not always engage in educational research. The reasons for this could be that educational research is not their dominant culture, as I have suggested in the introduction, or because culturally in teaching it is rather unusual to read about your pedagogy beyond initial teacher training.

If we consider some of these teacher-authored writings, we can see some trends. Simpson, Rafut & Budd (2015) in their case study of the *Camden Lesson Study Project* talk about the learning these teachers have made in understanding reasoning in Year 5. They are undoubtedly positive about their experience, it has improved their understanding of differentiation and they now plan to think about using 'less pace, more space' in future to allow pupils the opportunity to develop their reasoning. Simpson, Rafut & Budd (2015) do not mention anything beyond themselves that framed their thinking – besides the new National Curriculum (DfE, 2013). There is no reading about differentiation or application of a model they were testing out. Simply this was a group of teachers planning, teaching and reflecting together; a powerful thing, but not necessarily developmental in the long term as eventually the group will no longer have any imbalance of experience or training and as such they will seek answers to questions to which they already have the answers. I actually think

answering the question to which you already know the answer is what Simpson, Rafut & Budd (2015) have done here. They felt they had not done enough reasoning with their pupils before, it is now a more obvious part of the Maths curriculum (DfE, 2013) and as such they concluded it would be sensible to apply what they knew about reasoning to a Lesson Study context. What I want to know is where they would go now with this project, if they could continue to explore reasoning in Year 5. This would depend on their research remit, but would they look at examples of misconceptions in reasoning or perhaps they might look at examples of writing where differentiation is considered in new ways (Swan et al, 2012; Hart et al, 2004; Sahlberg, 2010). Simpson, Rafut & Budd (2015) say they are enthused by Lesson Study but they are not as informed as they could be. Watanabe (2011), Alston et al (2011) and Knapp et al (2011) identify that to enable teachers to gain this educational research insight they need support, as successive changes to the teaching profession have meant that it is harder for teachers to keep up with changes and new research. Simmons (2016) shows how in Japan a Koshi – expert – might help make academic writing more accessible to teachers through a Lesson Study process.

As I mentioned previously, the second trend I have noticed in teachers' writing on Lesson Study is that their conclusions do not frame themselves in the wider context of pedagogy or seek to challenge or affirm held beliefs. Bennett (2013) talks about the general assumptions of research in schools and how things teachers believe may be grounded in research might, in fact not be as secure as they think or are led to believe. I find the title of the book *Teacher-Proof* (Bennett, 2013) difficult as I feel it is too close to that concept Alcott (2009) presents where researchers are trying to make sure teachers do not undermine interventions and programmes. Bennett (2013), I feel, is trying to show readers that not all they believe from trainers or policy makers is based on secure research and thus is more a case of proving to teachers that they need to research myths rather than making research teacher-proof. What it



## A Primary Head Teacher's Exploration of Lesson Study

does do as a book is provide stimuli for teachers to start to use their own research – Lesson Study – to not only inform their practice but to act as a means of mediation to research.

Nick (2015) writes that he is in no doubt that Lesson Study was a key component of the schools favourable 'Good' from Ofsted. Nick (2015) is similar in tone to Simpson, Rafut & Budd's (2015) in that it discusses the process of what was done but again does not go beyond the view of people who are involved in the processes – in this case the Ofsted inspection team are used in part to justify the outcomes of the study. It also does not confirm or counter any research, although it hints in its name *The Market Place* (Nick, 2015) that it has taken on board some of the key ideas presented in research on Japanese Lesson Study, namely the sharing of research. Although this is a feature of Dudley's (2014) *Lesson Study: A Handbook* and as such may have been shared at a training event or through initial reading about the integration of Lesson Study as an initial idea. Having met Nick at a recent conference I asked about this lack of reference to research. Nick was clear that this was a development area for the school, and his conference talk was focused on the procedural aspects of Lesson Study within a whole school context. Nick's school Samuel Whitbread Academy have published their work on Lesson Study in *Anthecology* (Samuel Whitbread Academy, 2015). This publication which, like Nick's (2015) article, is generally informed by practice and the school development plan rather than critically inquiring and engaging with educational research. There are elements of research that have filtered through into the work, Bloom's Taxonomy (Bloom, 1956) features in the report by the English department (Samuel Whitbread Academy, 2015:46) and again in the physical education report (Samuel Whitbread Academy, 2015:22).

Generally, the Lesson Study research by teachers, as explored above, encounters the same pitfalls as the published research, in that it focuses on the outcomes of the groups. Nick (2015) told me at the conference I attended that there had been unsuccessful or incomplete research groups in his school, but they were not represented in the book. I wonder what

caused them to be unsuccessful, especially when I know from Nick's (2015) talk that the performance management of his school was directly linked to the Lesson Study work his teachers undertook. While the potential pitfalls of such a system are a discussion for another time, it is clear that something must have happened to those unsuccessful groups to prevent their completion of the Lesson Study work and that would have been interesting to know more about in itself.



*Nick (Samuel Whitbread Academy, 2015) does not include the unsuccessful in his published account. What made these groups unsuccessful? How was success measured? Why did they not produce a final report? All of the answers to these questions might further my understanding of Lesson Study. If I can identify what did not work so well it makes it clearer how the processes are working as a whole.*

*I need to explore and understand what makes a group successful or unsuccessful.*



Sometimes it feels like only the positive Lesson Study experiences can be presented. Earlier I referenced Rivett (2015) and his trainee experience of Lesson Study, which to me did not feel like Lesson Study from his description but more a paired observation. However, Rivett (2015) is relevant here as his writing is overwhelmingly positive of the entire experience of Lesson Study, and talks about how he enjoyed seeing another subject practitioner teach and make links between subjects. I think it is great when individuals find Lesson Study rewarding, and I think that part of its accessibility is the ease in which people can engage with it. With Rivett, I also think it is worth considering his context a little in this blog – he

## A Primary Head Teacher's Exploration of Lesson Study

was undertaking his teacher training year – as this indicates to why this positive study might be something welcomed by the institution he was studying at as it would endorse their training practices of using Lesson Study, even if that were not the work that Rivett (2015) was describing.

There are links back to dominant culture in education that again exist in the absence of unsuccessful Lesson Study groups from the teacher written research. If a culture is dominated by groups which are constantly looking for successful outcomes, i.e. better performance from schools or outcomes which show something is successful, then it is hard to present something that is counter to this work.

---

*I feel like it is hard to say, I haven't succeeded at something. If the school results have not improved, we have failed, even though progress scores might be better. It would be hard to say that a teacher learning program was unsuccessful, because that would mean we did something negative.*

---

So why is this framing within the dominant culture of Lesson Study research an issue for Lesson Study as a teacher learning tool? It is an issue for Lesson Study in an English school context because if Lesson Study is not effectively used in schools it has the potential to be the next archived method that tried to develop teachers and Bennet (2013) might get to include it in his second book. Lesson Study that is also not explored in its entirety, including its failures, has the potential to become diluted and maybe lose its teacher learning nature, seen in the studies from the United States of America and Japan (Hart, Alston & Murata, 2011, Dudley 2013; Dudley 2015). William (2016) suggests with its current research base Lesson Study does not yet evidence its utility to schools. This dilution was something that Stigler & Hiebert (1999) suggested would be an issue for the successful implementation of Lesson

Study, as they quite rightly predicted that there are wider system issues in English and American education that mean it would be harder to introduce a development method like Lesson Study into schools. Some of these system issues will be addressed in the next section of this chapter and others will be returned to in Chapters 4, 5 and 6 as I evaluate Lesson Study as a teacher learning tool in my school.

### ***2.10 Framing Professional Teacher Learning***

The United Nations Educational, Scientific and Cultural Organization's – UNESCO - (1966) definition of teacher development stands as a suitable place to begin the discussion about professional development of teachers in England. The UNESCO document on the status of Teachers (UNESCO, 1966) states:

‘Teaching should be regarded as a profession: ... which requires of teachers’ expert knowledge and specialised skills, acquired and maintained through rigorous and continuing study’

(UNESCO, 1966)

---

I agree that teaching should be regarded as a profession and it requires the constant development of knowledge and skills. However, I do not believe that this UNESCO definition currently describes teacher learning in England as I have experienced it and I realise that the challenges to Lesson Study as a teacher learning tool may also come from the fact that I do not recognise my profession in the 1966 definition of what my profession should be.

While I do not wish to spend a lot of discussion on the political rhetoric that influences the education system in England, it is impossible to avoid it. In 1997 Tony Blair (Blair, 1997) gave his famous *Education, Education, Education* speech and what has followed has been persistent interference at a political level in schools. As a teacher, it is hard to distinguish

emotions from factual events in terms of how this has impacted teacher learning for teachers. However, with the Labour Party's National Frameworks for English and Maths (1998 & 2006) and the Conservative-Liberal Coalition's renewed National Curriculum (2013) alongside constantly changing outcome expectations, school inspection frameworks and the media-lisation of government announcements to schools – where school leaders often receive the information about new school initiatives from the media i.e. Universal Free School Meals for all Children in Years Reception, 1 and 2 (DfE, 2013) – from the press, there is little doubt in my mind that teacher learning has been focused on outcomes. With organizational training teachers on new systems and procedures prioritised rather than on occupational learning (Evetts, 2009).

I think it is useful to define differences between doing things in a school and doing things because it is beneficial to learning. Evetts (2009) draws a distinction about this procedural training and other teacher learning by setting out two conflicting concepts of professionalism playing against each other; one is the occupational professionalism and the other the organizational professionalism (Evetts, 2009:23).

Organizational professionalism is that which is linked to the training that is needed to undertake the responsibilities of a teacher's job. For instance, the national assessment system of levels was removed by the Conservative-Liberal Coalition from September 2014 (DfE, 2015) and schools were expected to develop and train staff on new assessment systems, alongside new curriculum requirements and expectations. This training was needed for teachers to conform their work to the organizational requirements of teaching in 2014-2015; it was not training that was developmental to their effectiveness as professionals.

Occupational professionalism is that linked to refining and improving the teacher's competency as a professional and as such may not be linked to initiative training but might

come from a period of extended reflection, personal reading or tailored mentoring. I think Nick's (2015) article and the publication by Samuel Whitbread Academy (2015) discussed above is a good example of organizational professionalism as it is clear that the school is engaged in developing teachers within their organization, but their work does not necessarily develop them into professionals who are able to reach beyond the work of teaching to think about the development of teaching.

For me, Evetts (2009) presents an interesting dichotomy and conflict for the English teacher. On the one hand, there are needs for both forms of teacher learning but in recent years, the focus on the organizational has done much to reduce the time and space for the teacher to consider anything occupational and in doing so it feels as if the profession has lost aspects of its professionalism. And this loss of professionalism is part of the difficulty of this review, as I can spend time talking about teacher learning ideals and the current state of teacher learning in England but I am not convinced that this would enable the reader to understand the writing in the rest of this doctorate with any more clarity. My research centres on teacher learning within Lesson Study and as such I will refer to other writers on teacher learning as I need to throughout my analysis and discussion.

### ***2.11 Conclusion: How does Lesson Study develop teacher learning?***

Throughout my literature review I have been struck by the positivity surrounding the outcomes of Lesson Study. Where there are constraints identified (Fernandez, 2002; Pucher & Taylor, 2006; Lewis, Perry & Hurd, 2009; Lewis 2011), these are often perceived culturally – barriers of time, organisation, and incentive – and as such are not linked to the Lesson Study process. In my mind this has allowed me to see substantial potential in Lesson Study, and has formulated thoughts which feel like promises.

## A Primary Head Teacher's Exploration of Lesson Study

Each promise is linked to teacher learning and as such is a valuable consideration within my research. I hope that in exploring my research data and in considering my preconceptions of Lesson Study, I will be able to frame my interpretation of how lesson study develops teacher learning. This will then help build on the current body of literature, on Lesson Study, which is insufficient to answer my research question: How does Lesson Study develop teacher learning? Only Pella (2011) and Dudley (2013) have ventured within the remits of this question prior to my research starting and there have been no further studies during my research.

This limited field suggests that my research is well positioned to add to the current body of knowledge on Lesson Study as it will focus on teacher learning within Lesson Study cycles to try to understand how the process of Lesson Study works.

My approach, as outlined in my research design, is going to consider the context around the teachers involved in Lesson Study and use my insider positioning within my research to add depth to my writing about Lesson Study. It is within this depth that I hope to see the workings of Lesson Study to understand how it is enabling teacher learning.

*Chapter 3: Does Lesson Study need Professional Conflict?*

---

*Chapter 3: Contents*

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
3.0	<i>Introduction</i>	136
3.1	<i>Team 1 First Lesson</i>	139
3.2	<i>Team 2 First Lesson</i>	151
3.3	<i>Team 1 &amp; 2 First Lesson Comparison</i>	157
3.4	<i>Theorising Professional Conflict</i>	165
3.5	<i>Dissonance</i>	168
3.6	<i>Dissonance in Lesson Study</i>	172
3.7	<i>Discontinuity in Lesson Study</i>	173
3.8	<i>Conclusion: How does Lesson Study develop teachers?</i>	174

---

**3.0 Introduction**

In this chapter, I will start my analysis of my research data by exploring Layer 3 of my research design – the teams of Lesson Study that were established in September 2013 and conducted their Lesson Study cycles in 2013 – 2014.

From the four teams that started the Lesson Study work in 2013, I have chosen two teams to focus on in this chapter:

**Team 1: Misha, Jasmine, Libby and Hanna**

This team is made up of four teachers from different experience levels. Hanna is a newly qualified teacher (NQT); Misha is in her fifth year of teaching; Jasmine is a school leader and a teacher and Libby is a teacher in her fourth year of teaching. The teaching experience of this team has mainly been in the lower years of the primary school between Nursery and Year 2 (Ages 3-7).



**Team 2: Alex, Camille and Teresa**

This team is made up of three teachers from different experience levels. Alex is a newly qualified teacher (NQT); Camille is in her second year of teaching; and Teresa is in her seventh year of teaching. Their teaching experience has mainly been between Nursery and Year 4 (Ages 3-9).

The reasons I have chosen to focus this analysis on these two teams is that I believe they give a good overview of my research data. As mentioned in my methodology, Teams 3 and 4 yielded similar outcomes to Team 2 but experienced membership changes throughout the course of the academic year, due to teachers departing the school on parental leave and returning from it. Turbulence in staffing in primary schools is common and it would be interesting, if there were further space, to consider the role turbulence may have in Lesson Study success. However, my thesis is focused on: *How does Lesson Study develop teacher learning?* and I feel that to facilitate that discussion it would be useful to focus on the two teams in this Lesson Study cycle that had a stable make-up of teachers to explore if Lesson Study did develop teacher learning.



*Revisiting the text, I continue to feel that the fictional elements (italics) I put in do describe the events as I saw them. In doing so I hope that they make the transcripts feel fuller to the reader. This is important because this chapter discusses the people in Lesson Study – it focuses on the interplay between the individuals. I positioned myself within my research so that I was able to capture a fuller impression of how Lesson Study developed teacher learning and so feel that general personal observations influenced by auto/ethnography are also important.*

## A Primary Head Teacher's Exploration of Lesson Study

*Sometimes I have made assumptions of sentiments, emotions and included these in my italicised comments – in the transcripts. These are designed to help contextualise the way the recording felt to me, and these elements are important to uncovering how Lesson Study teams interact and how an individual might have been feeling.*

*In order to confirm that I was not just projecting my assumptions on my teachers, I have asked them to read through the text, and say whether that is how it felt to them when they were there. This I hope provides a form of check on the creative elements of the work so that it is both fuller and more accurate.*

*I could have done this in a different way and built on the analysis of words Dudley (2013) used to identify teacher learning in Lesson Study and while I did theme my initial transcriptions using codes based on the work of Mercer (1995) Dudley (2013) and Pella (2011), and used this theming to underpin my thoughts on Lesson Study, I wanted to include a fuller narrative. A narrative influenced by auto/ethnography, as I felt this would provide me with a richer voice to describe how the people interacted in my research. Writing my evidence in this way allowed me to capture the wider knowledge and personal jottings I had and placed them in my research journal alongside the recordings.*



I will explore the research data of Team 1 and Team 2 individually and in comparison, through this chapter and the subsequent chapter, with a focus on identifying aspects of teacher learning. The research analysis at this layer and the comparisons of the two teams add to my understanding of how Lesson Study works and I believe it will offer resonances to others involved in research or embarking on Lesson Study in their schools.

## A Primary Head Teacher's Exploration of Lesson Study

Each team started their process in the same way. They used the time given to them to plan out their first lesson and decided when they would teach it. I arranged cover for them and then after the lesson, usually at the end of the school day the team reconvened and discussed the lesson that was the focus of their Lesson Study.

### *3.1 Team 1 First Lesson*

#### **Team 1: Lesson Study Review: Lesson 1 September 2013**

Scene opens: *The teachers are seated around a small table, in the business manager's office, two with mugs of tea, one with a can of diet coke and one with a pint glass of orange squash. They are laughing and sharing their days so far. The atmosphere is jovial.*

*Recording device is switched on... laughter ensues.*

*After the laughter dies down the teachers orientate their discussion to the lesson they taught and observed that morning. Jasmine initiates the discussion about the role-playing of the children in the shop. Libby the teacher of the observed lesson responds.*

Libby: Yes...

Jasmine: After you left them to their independent work, Kornelia was then getting objects but Kornelia wasn't talking

Libby: She wasn't talking?

Jasmine: I do not think she was even talking to the other children who were doing the same thing as her.

Hanna: When they were collecting the items there wasn't any conversation between them.

Libby: No?

*Libby looks sullen. This news of the lack of communication is a big disappointment to her. Jasmine offers her some thoughts...*

Jasmine: There is a whole lot around on structuring talk. I wondered whether you could use the supportive structures of talk. It is only what you are already providing when you are with them in the group. You are modelling 'Are you going to buy this? You asked questions, and you talk as you go through the structure. I wonder if you need to verbalise the process more saying what you are doing with the coins and not just handing them over.

Libby: Yeah

Jasmine: If all of that is structured then maybe that will keep them on task a little more and talking.

## A Primary Head Teacher's Exploration of Lesson Study

Hanna/ Libby: Yeah

*Hanna sees that Libby is upset by their observations so far and turns the conversation towards praise for Libby's teaching.*

Hanna: When you were there it was so good. They were using? you know all that language. It did go on for a little bit, but then it dropped.

Libby: But Maria and Rachel were the drivers to be fair

Hanna: and they were doing what they were supposed to, action wise, but there was no talking/ they didn't go off task in that sense

Libby: I feel she could have taken more of the role of the cashier and asking the questions. Maybe I could have modelled it first like I'm the shop keeper.

*To be continued...*

In the opening to Team 1's first lesson review. The group initially started off with a happy and easy-going attitude which punctuated the oddity of being asked to record this conversation – this was a common theme in the initial lessons reviews of all four groups, and might be related to teachers rarely using recording devices in our general everyday activities.

Types of Talk for identifying themes in transcripts (based on Dudley, 2013; Pella, 2011; Mercer, 1995)				
Cumulative Talk	Disputational/ Qualificatory Talk	Exploratory Talk	Structuring Conversations	Managing Understanding
<ul style="list-style-type: none"> <li>• Agreeing or accepting (Agree)</li> <li>• Rephrasing/ Echoing (Echo)</li> <li>• Adding (Add)</li> <li>• Supporting/ Valuing another (Supp)</li> <li>• <b>Affirmation</b> (Affirm)</li> <li>• Recounting (Reco)</li> <li>• Comparing (Comp)</li> <li>• Expressing surprise/ excitement/ amazement (Expr)</li> <li>• <b>Descriptive</b> (Desc)</li> <li>• <i>Theoretical equilibrium (T-equal)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Qualifying (Qual)</li> <li>• Correcting (Corr)</li> <li>• Blocking (Bloc)</li> <li>• Joking (Joke)</li> <li>• <b>Conflicting/ Providing Dissonance</b> (Conflict)</li> <li>• <i>Transformation (Trans)</i></li> </ul>	<ul style="list-style-type: none"> <li>• Rehearsing (Rehe)</li> <li>• Reasoning (Reas)</li> <li>• Developing a point (Deve)</li> <li>• Making an evidenced observation (Obs)</li> <li>• Challenging an idea (Chal)</li> <li>• Justifying (Just)</li> <li>• Suggesting (Suggest)</li> <li>• Reflecting (Reflect)</li> <li>• Hypothesising (Hypoth)</li> <li>• Summarising (Summ)</li> <li>• Making a reasoned proposal (Prop)</li> </ul>	<ul style="list-style-type: none"> <li>• Introducing a new idea (Intro)</li> <li>• Moving conversation on (Mov)</li> <li>• Punctuating conversation (Punct)</li> <li>• Changing subject (Change)</li> <li>• Returning to earlier subject (Return)</li> </ul>	<ul style="list-style-type: none"> <li>• Asking (Ask)</li> <li>• Requesting clarity (Clarity)</li> <li>• Explaining (Explaining)</li> <li>• <b>Sharing Expertise</b> (Expert)</li> </ul>

**Figure 1.13:** Categories of themes explored in transcripts based on Dudley's (2013: 111) interpretation of Mercer (1995) and Pella's (2011) themes [in italics]. My additional themes added in bold

## A Primary Head Teacher's Exploration of Lesson Study

The initial themes that dominate the beginning of this conversation are adding and agreeing (as detailed in Figure 1.13). Within the first few lines the group had made nine additions to another's comments and group consensus had been agreed three times – all within the first few minutes of the Lesson Study session. Listening, to the discussion it is striking how the group generated an environment of consensus: it appeared to be a team where affirmation was crucial to the group dynamic.

This is emphasised further when the group, particularly Jasmine and Hanna, noticed that Libby seemed to present more monosyllabically – possibly indicating that their critique might be upsetting her – and they then turn their attentions towards praising Libby for her teaching. This is something I have emphasised, via pink highlighting, in the extract below:

### **Team 1: Lesson Study Review: Lesson 1 September 2013**

*Hanna sees that Libby is upset by their observations so far and turns the conversation towards praise for Libby's teaching.*

Hanna: When you were there **it was so good**. They were you know all that language. It did go on for a little bit, but then it dropped.

When Libby appeared – to the group - to be upset by the initial discussions, the group moved away from just describing their findings, towards ensuring that their talk was sympathetic towards Libby's feelings by reinforcing that 'it was good' and it was not her fault that there was a drop in the language the pupils were using in this lesson. This pattern of affirmation occurs approximately every three lines throughout the transcript and usually just after a point of agreement within the group.

While these observations of the lesson and its teaching might have been a true description of their lesson, the group, particularly Jasmine and Hanna, felt a need to make sure that Libby's feelings were protected.



*I felt that the group were protecting Libby's feelings in this session, when I checked back with them they were clear that they did not want to cause upset, and that they felt positively towards Libby and her lesson. Jasmine suggested that the group came together at the start of the research, when they were given the choice, because they knew that they would be kind to each other in the Lesson Study work. As a result, it is not surprising that the group sought to protect Libby's feelings.*

*This identifies to me that I need to consider the grouping of my Lesson Study teams in greater depth than I did. I allowed them to choose their groups and in this instance, they choose to form a group which they felt would be pleasant to each other. Something Jasmine confirmed with me when reading through a draft of this section.*

*The group's decision to choose a kind group was an understandable choice, as why would someone pick a hostile group, but in choosing this group they then also felt they must protect the feelings of the group members, and this emotional protection was problematic.*

*While I had no reason to question the groupings at the beginning of the Lesson Study work in my school because there was no indication in the Lesson Study literature that any particular type of group dynamic would be needed. I could have possibly read between the lines in articles like Pella (2011) where the group members were selected experienced teachers – not only as teachers but also as teacher developers, as I have seen within writing like that of Pella (2011), group structures in Lesson Study teams are important to their perceived success.*

*This identification early on, in the exploration of Lesson Study, about the group dynamic playing a part in the opportunity for teacher learning is significant. So, for me, what I know*

*about the teachers, and their ability to create and manage professional conflict would be an important consideration in the grouping of Lesson Study teams as different teams might need different support to enable them to create and manage professional conflict. In Team 1, this might have meant having someone to help sustain the professional conflict from initial dissonance, to a more sustained discontinuity so teacher learning had the opportunity to better emerge.*



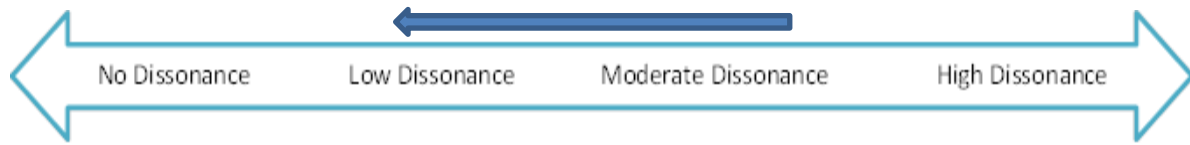
Team 1's emotional protection of Libby meant that moments of disagreement were reduced and were infrequent in Lesson 1's themes. The lack of moments of disagreement meant that there was no creation of dissonance or conflict within the interaction of this group – because they did not want or embrace this. Both Festinger (1957) and Achinstein (2002) suggest that conflict is key to a learning experience, as the creation of moments of professional conflict are key to challenging what a person thinks, and without them we continue in the consonance we have already established (Cooper, 2007).

However, this initial section of Team 1's Lesson Study review seems to focus on the team ensuring that their social relationships are not disrupted. Socialising as articulated by Piaget (1923) is the process through which individuals adjust and change their talk to ingratiate themselves into a group dynamic, in this case the group dynamic was to reduce any discomfort or dissonance Libby might be feeling about the lesson review by reducing occurrences of professional conflict and disagreement.

I will elaborate more on the theories of Festinger (1957) and Achinstein (2002) in a later section of this chapter, but for now it is useful to consider the interaction where dissonance was reduced. Below is a diagram I have based on Festinger's (1957) theory of cognitive

## A Primary Head Teacher's Exploration of Lesson Study

dissonance and this shows how Hanna's interjection to support Libby emotionally reduced the dissonance of the conversation.



**Figure 3.1:** *Dissonance within Team 1's Lesson 1*

As the diagram - Figure 3.1 - above indicates, the dissonance in this initial extract shows that at the point of Hanna starting to say that 'it was good' the group moves from providing some moderate dissonance about the teaching and learning in the lesson to a much lower level as there is a strong shift in the conversation towards protecting Libby's feelings. Moments of reducing dissonance are repeated frequently throughout the rest of their conversation as indicated in the highlighted extract below:

### **Team 1: Lesson Study Review: Lesson 1 September 2013**

*The group continues to talk about the lesson, focusing in their speech on supporting Libby through positive affirmation of her teaching. There are many smiles, and laughter punctuates the group.*

Jasmine: That is what was interesting as your focus was on maths and **your maths teaching was fabulous** and then you go/ went to the role-play area. When you went in the role-play area/ constantly doing maths, but without the talk about/ what you maybe do in literacy or in the role-play they were not able to continue.

Hanna: So what if Libby or Fizza couldn't be there all the time? What could you put within that area to encourage the talk/ visual prompts?

Team 1 did go through the lesson that Libby had taught and they spoke about the children's interactions and how Libby had worked with different children in the lesson, as the Lesson Study training I had done with them suggested. They continually did this by adding to each other's statements, before agreeing with each other and then affirming that they thought



## A Primary Head Teacher's Exploration of Lesson Study

Libby was a great teacher. The additions they made were usually just small statements, which did not challenge the group consensus, and often these additions were also clarifications, the section at the beginning of Lesson 1 where the teachers discuss Kornelia's lack of talking demonstrates this addition/ clarifying pattern that prevailed through the feedback of Lesson 1. Every few sentences, the group would then reach a point of agreement and then straight after this they would then say an affirmation to Libby, almost as if to double check that she was not being caused discomfort from their description. The result of this pattern of talk was that while they might have been a few opportunities for dissonance to create conflict in the group, which might have helped them develop their learning, these opportunities were reduced through the group's focus on consensus. As such, the feel of this feedback summary was that Libby was a great teacher in the eyes of her group and the group wanted to maintain their positive group consensus, but due to this the group did not really gain any further clarity on what they might choose to explore in their Lesson Study work in order to develop their learning.



*I feel that in this first lesson the group did not fully know and/ or understand what they were looking for, this may have been because Lesson Study was new. Within the group, Jasmine, Libby and Misha had been involved in observing lessons prior to Lesson Study and in some ways, their narration of the lesson and what Libby did well corresponded to them relaying a positive lesson observation, with someone who they had a friendship they also wanted to maintain. It is possible that I did not make the distinction between Lesson Study and lesson observations clear enough to Team 1 in the initial training I did for all teachers.*

## A Primary Head Teacher's Exploration of Lesson Study

*I feel that I had learnt this from my own personal experience – in the Pilot Study - and felt that I had covered the difference between Lesson Study and lesson observation in the initial training. However, this clarity is not shown in Team 1's first lesson and as such it had to be revisited with them to support them to move onto Lesson 2. It is certainly clear that I did not make it clear enough that observations needed to be justified and linked to the learning in the lesson with ideas of how the learning could be improved. I needed to further clarify this in a second training with the teams between Lessons 1 and 2.*



The second longer extract provides some further examples of this below:

### **Team 1: Lesson Study Review: Lesson 1 September 2013**

Continued...

*The group continues to talk about the lesson, focusing in their speech on supporting Libby through positive affirmation of her teaching. There are many smiles, and laughter punctuates the group's discussion.*

Jasmine: That is what was interesting as your focus was on maths and **your maths teaching was fabulous** and then you go/ went to the role play area. When you went in the role play area/ constantly doing maths, but without the talk about/ what you maybe do in literacy or in the role play they were not able to continue.

Hanna: So what if Libby or Fizza couldn't be there all the time? What could you put within that area to encourage the talk/ visual prompts?

Libby: or talking points/ question cards. How much can I buy? / I would like to buy this please

Hanna: **The maths was there,** a couple of times, they counted the pennies wrong/ but they were correcting themselves and each other so that was all there.

Libby: From it Kornelia, even though it was in the role play situation, she had the security of the knowledge of what she was doing, yet she didn't want to voice anything. That came out to me as my biggest area. What could I do for her when she obviously knew what happens in the shop and was role-playing fine but couldn't vocalise it at all.

Hanna: Is she like that normally?

Libby: She didn't used to be/ she used to be more confident in CIP [Child Initiated Play]. Since changing [into Y1] she has become like the beginning of the year again/ withdrawn/ She is there with you but unless you ask her she would never put her hand up/ but she can answer and she knows/ there is a lot/ but she will not put her hand up

Jasmine: But does that get in the way of her applying her skills in maths?

Libby: Or more for her applying in a way that she is able to

Jasmine: Does it stop her interacting with the others?

Libby: She is fine with Maria, but again Maria didn't talk for a year, but that is another issue anyway/ but both of these (Kornelia and Maria) could have liked this talking group/ to build their confidence that way because she can/ vocalise if you can ask her directly if it be the whole class or small group. She is not able to do it herself. I do not know if that fact that we are looking at EAL/ Doesn't necessarily have to be maths does it?

Hanna: I think it is?

Jasmine: I think it was

Hanna: Can you use that information anyway in your own lessons

Libby: Yep

Hanna: Like you could do role play in literacy/ speaking and listening talk with her/ Some of them were expressing themselves

Jasmine: That is what I think is so interesting so far/ what we are talking about is not about...

Libby: Maths

Jasmine: it is about the talk and the lack of talk especially the new EAL learners that is preventing them accessing the maths at the higher level we are expecting of them

Hanna: but it is more the talk not the maths

Libby: but where would like the next step be with this what could we provide to ensure that Kornelia could verbalise and access

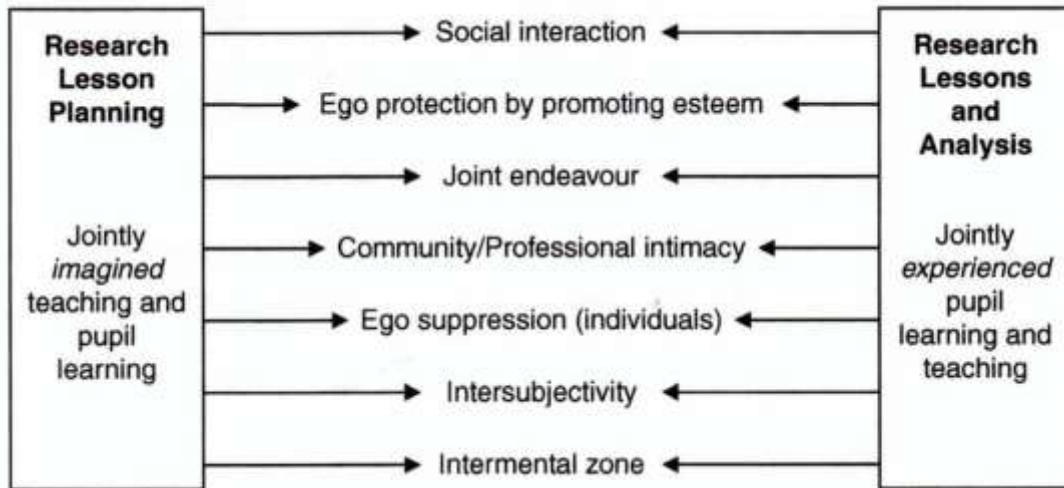
Hanna: I think the speaking cards would be good. Yeah

Jasmine: You very clearly modelled, in your main teaching, you modelled the mathematical stuff, the counting of the coins and the interactions, but not in role.

Libby: No

## A Primary Head Teacher's Exploration of Lesson Study

In saying the positive affirmations of Libby's teaching, the pink highlighted sections, the group insured that it protected Libby's ego, but I think this might have been at the expense of valuable discussion around the learning within this lesson.



*Figure 1.2: How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 reprinted in Dudley, 2015: 17)*

Dudley's (2011) diagram - Figure 1.2 - indicates that teacher learning in Lesson Study is facilitated by ego protection. I would suggest that in this initial lesson review for Team 1, the ego protection and the desire of the group to promote their socialised relationships meant that the opportunity to learn was reduced.



*From this first lesson of Team 1, it was clear to me that a challenge for staff was going to be how to overcome talking about the observed without worrying about the individual. This was an element in the reading that seemed simpler. Pella (2011) and Fernandez & Yoshida's example suggested that the teacher reported their reflection on their own teaching away from the group and that they had realised through the process that they could improve their own*

*teaching. These examples were from groups which either had a long history of Lesson Study (Fernandez & Yoshida, 2004) or were working with experienced teachers – both as leaders on teaching and as practitioners (Pella, 2011). What was different with Team 1 was that they were largely inexperienced with describing and talking about teaching and learning without taking into account the teacher. As such Team 1 might have been less well equipped to do Lesson Study work or build professional conflict structures into their discussion.*

*This meant that I needed to consider the dominant culture of my school again with Team 1 in mind. Here was a team of teachers reticent to cause any notion of discomfort within their social-professional relationship and yet in affirming each other's egos they were not providing teacher learning opportunities. I needed to overcome the teachers' reluctance to upset Libby, by focusing their energies onto the lesson they were exploring. Yet what I needed to fully consider was the culture of the school itself, the environment the teachers lived in allowing them to see that this behaviour – of providing professional conflict – was allowed, valued and beneficial. At the start of the research, I do not think this need was even apparent to me, and thus Team 1's discussion helped me to see an element of our school's culture that we needed to consider. Did we want to be embracing of professional conflict? Would that help our teacher learning and our Lesson Study work?*



Ego protection is only one element that Dudley's (2011) diagram suggests Lesson Study facilitates in promoting teacher learning. Yet, the ego protection, of Libby, in this initial lesson review was strong enough to play down any ideas that might have led the teachers to an opportunity to learn about their practice.

## A Primary Head Teacher's Exploration of Lesson Study

An example of this playing down is seen in the above extract where Hanna brings up the idea of speaking cards to help the English as an Additional Language (EAL) pupils with a model of talk, but Jasmine moves straight on to another feature of the feedback which is about the modelling Libby was doing in the lesson. I themed this as (Change) changing the subject, not because it stopped the discussion but it effectively ended Hanna's contribution about using speaking cards to support talk, something they never return to. In doing so it reduced the dissonance Hanna was providing in saying that she thought speaking cards would help. Thus, not only were this group protecting Libby's ego, they were all moving on from each other's points without fully considering them, reducing dissonance levels in the group further, so by the end of this first Lesson Study review the group had not really moved forward in their thinking and articulated that they were unsure of their focus with EAL pupils in mathematics for their second lesson.

Changing the subject and seeking affirmation of Libby to avoid points of disagreement shows that the group were not clear on the purpose of their feedback: to help them learn about their teaching. This was something I needed to reflect on moving forward with the Lesson Study work into Lesson 2, as if the teachers were not sure what they were trying to talk about – and found it difficult to settle on any part of the lesson to discuss in depth, I needed to support them further with how they might overcome this. Dudley (2014) suggests in his handbook that if teachers feel enabled to speak their own views, that might help with a group communicating their thoughts to each other. What I think Dudley (2014) means by this is that everyone is prepared to listen to each other and whatever is said is about the Lesson Study not the individuals. Dudley (2014) does not say how to overcome this but Stepanek et al (2007) suggests that taking turns and even choosing a chair person for the meeting may help facilitate this discussion. Although Team 1 all spoke throughout their feedback, so speaking

was not their issue, it was the content of what they were saying and what they might not have been saying – as not to offend – that was more problematic.



*I think expertise in observation, expertise in discussion and expertise in professional conflict were all emerging as ideas from this initial lesson review. Immediately I knew I needed to think about adding in some further training on how to give a point of view based on what you have observed and how this could be an opinion but not a judgement. O'Leary (2014) has written about how classroom observation could be more effective, but also notes that this can only work in an environment within judgement, which a Lesson Study scenario can offer. If my initial training on Lesson Study had included more observational skills, would it have helped Team 1 move beyond description, adding and affirmation in their first lesson review?*



I do not think in this lesson the teachers – in Team 1 - really benefitted professionally from doing Lesson Study, although they did reinforce their social-professional relationships and were socialised further (Piaget, 1923) but they did not allow themselves to get involved in any real sharing of professional opinions beside agreement and as such they need not generate any professional conflict (Achinstein, 2002) or challenge.

### **3.2 Team 2: First Lesson**

The significance of Team 1's ego protection and its reduction of dissonance can be clearly seen when Team 2's first lesson is considered. Team 2 did not have the same socialised

## A Primary Head Teacher's Exploration of Lesson Study

relationships as Team 1 and were more embracing of conflict (Achinstein, 2002). This can be seen when this lesson study group is compared with the second team's initial lesson review.

### Team 2: Lesson 1 Review: October 2013

*In the Rainbow Room three teachers gather; Camille, Alex and Teresa. It is their first lesson study feedback session. Between them on the table is an audio recorder.*

*Alex is nervous and touches her hands, wringing them as she awaits feedback on the lesson she has just taught to Year 3. She may be nervous because she is a newly qualified teacher, and she is meeting with two teachers more experienced than her, or it might be because she has never worked closely with these two teachers before.*

*Camille begins her feedback. She is stern. The feedback is critical, meticulous and fast. She does not offer advice, suggestions or sympathy during the first nine minutes of her feedback.*

...

Camille: I was watching Marli. **He didn't seem to be challenged by this work.**

Alex: Didn't he?

Camille: He did all his work on a mini-whiteboard and then rubbed it all out and starting again in his book. So it might look like he has only done one of two questions but he has completed them all. **I think he found them easy.**

Alex: So there is nothing in his book?

...

*Camille is focused on the performance of one child, Sayed.*

*Camille detailed, to Alex (less to Teresa) that the work was not sufficiently challenging for Sayed, and thus he did not do anything in his book.*

*Neither Teresa nor Alex can interrupt this feedback; Camille remains dominant and unyielding throughout the feedback session.*

*While Alex and Teresa do speak, this is Camille's review of the lesson and of Sayed's learning. Any interjection Teresa or Alex make is spoken over.*

Alex: Are we done?

*We close with a tense atmosphere between the three teachers and no sense of commitment to another lesson.*

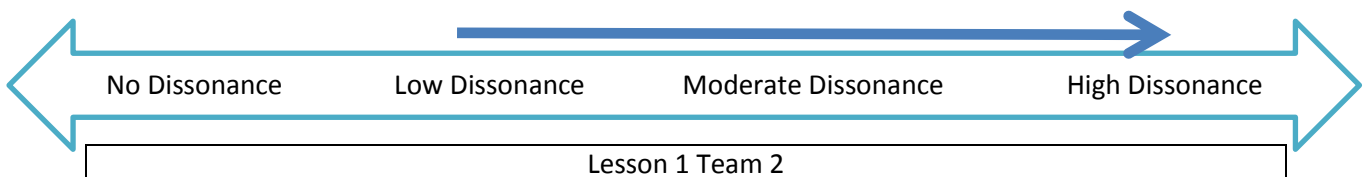


## A Primary Head Teacher's Exploration of Lesson Study

Team 2's initial review was very focused on the provision that Alex had provided in her classroom, it did not seem to have a sense of joint endeavour (Dudley, 2011) that would facilitate teacher learning. I would say that in some ways the review I have listened to and transcribed feels fairly hostile with Camille and Teresa, the observers, thinking that critical feedback might support Alex to learn and develop.

Within a few minutes of the lesson review starting there are numerous (Chal) and (Conflict) themes identified, highlighted in green. These are largely contributed by Camille with Alex responding with (Echo) echoed questions, to which Camille does not respond, but introduces another challenge or piece of conflict to Alex about the lesson they had conducted. Alex's echoed questions to Camille show that she was defensive of her teaching and she felt Teresa and particularly Camille were critical of it, but not constructively so. I would assume that Alex felt she had to defend her teaching, seen as though the focus of Camille's observations was about how it was insufficient to enable Sayed to progress.

There seemed to be little concern with protecting Alex's ego in this review session – unlike Team 1's protection of Libby - and while this promoted the intensity of the dissonance as seen in the diagram Figure 3.2 below, it means that each individual teacher was working on their own here and the professional conflict produced was likely to just cause ill-feeling between the team – which is emphasised by Alex's 'Are we done?' at the end of the lesson review.



**Figure 3.2:** *Scale of Dissonance within Team 2's Lesson 1*

## A Primary Head Teacher's Exploration of Lesson Study

Alex is likely to be the individual who felt this dissonance increase, as she was the focus of the feedback and she had taught the lesson. While Alex initially asked questions in response to Camille in the feedback, as seen the previous extract, this diminishes as the conversation continues, ending with Alex saying 'Are we done?' This question sums up her sentiments towards this first review, the dissonance has been increased for her, but while she has been a lot of faults were identified by Camille and Teresa, they have not shared responsibility or provided a way forward in their feedback. So, all that has happened is Alex has been faced with a great deal of dissonance and a question about whether she wants to continue this kind of work in the future. She could have justifiably said at the end of this session, that she did not want to continue with Lesson Study as it had yet to prove a positive experience for her.



*As Alex is subjected to some tough criticism in this first lesson of Team 2, it does lead me to question whether I sufficiently prepared the teachers for Lesson Study. My Pilot Study had not indicated that there would be challenges with generating professional conflict or with there being too much conflict. This again was not something I had encountered, as previously causing issues, in the Lesson Study literature, but it was clear that I needed to think about how teachers gave and received feedback in Lesson Study work.*



Camille takes the initial lead of the group. She has taken detailed notes of the observation of the child and wants Teresa and Alex to listen to what she has seen in Sayed during this lesson. As the writing above articulates, Alex is nervous, this is only her second observation at the school, and the first observation had been only with her newly qualified teacher

## A Primary Head Teacher's Exploration of Lesson Study

mentor. For at least nine minutes' no one but Camille speaks in this feedback session – Alex only responds with questions which gradually reduce as Camille talks. It is meticulous and evaluative of the lesson but also feels like it is about Alex's failure to notice that Sayed is under-challenged. This is in contrast to my failure to notice Ama, in the pilot study, which was presented differently by Jasmine and Miqdad.

There is no paralanguage to exemplify that there is consensus between the teachers in team two, and any interjections beyond the initial nine minutes are always talked over by Camille, which is presumably why Alex's interjections decrease throughout the conversation. Camille dominates the session. Camille's behaviour could have ended this Lesson Study relationship, Alex certainly had no reason to return to work with Camille again, after all why would you want to be dressed down a second time. Alex's resilience and desire to develop as a teacher acts in support of this lesson study group and they did indeed complete further lessons within their cycle.



*Stepanek et al (2007) do suggest that a moderator – who can be part of the Lesson Study team is used to make sure that feedback is balanced and to remind teachers of the collaborative nature of the lesson. Stepanek et al (2007) does not indicate that this is because people might generate too much dissonance or conflict in a team, but rather as a means to have everyone heard. In Team 2, this moderator might have helped them achieve more through open-ended statements such as “I wonder... (Stepanek et al, 2007).”*

*I felt after listening to Team 2's lesson feedback that I needed to revisit the training on the lesson reviews, as I could not let Alex face another feedback session like this, and I also wanted to help Camille see that Lesson Study is designed to be collaborative, and that they*

## A Primary Head Teacher's Exploration of Lesson Study

*(Alex, Teresa and Camille) were responsible for the lesson and thus they collectively were responsible for anything Sayed did or did not do.*

*What was interesting listening to Team 2's discussion was that the professional conflict was unmoderated by any social-professional boundaries, and as such feels harsh. However, I felt this raw dissonance generation gave me an intriguing insight into how professional conflict might play a role within Lesson Study and its generation of teacher conflict. I felt that Team 2 had differences as individuals and the capacity within themselves to say what they thought, and these differences conflicted within each other in their first discussion. It is similar to trying to describe something you do every day to someone else who does the same thing every day, but the thing you are talking about is something you do not usually talk about – for example how do you make a cup of tea. Each individual might have a slight variation on the technique, the sequence and the preferences around their tea preparation and in conversation this might create discord. If I then transplant that analogy onto Team 2, I can see that here were teachers talking about teaching, but without a shared consensus on their work, and as such they were able to generate discord. I think Pella's (2011) study may show a similar situation as Pella's selection of her four teachers meant that they had not professionally worked together previously and all came with high individual levels of expertise meaning they had no shared consensus but were confident in their own viewpoints. The difference I can identify with Pella (2011) and Team 2 is that Pella's teachers had also undergone previous training in group projects.*



**3.3: Team 1 and Team 2: Lesson 1 comparison**

Team 1 and Team 2's Lesson 1 review sessions were very different from each other, but they shared a similarity in that neither lesson review developed teacher learning. In Team 1 the opportunities for reflection through professional conflict were reduced by the group's ego protection behaviours and their need to sustain their professional social relationships. In Team 2 there was no sense of how Alex could have done better, just how her lesson had been insufficient and while this increased the dissonance for Alex, it also meant that throughout the review session she seemed to disengage from the process.

	<b>Team 1 Lesson 1</b>	<b>Team 2 Lesson 1</b>
<b>Points noticed</b>	<ul style="list-style-type: none"> <li>• Reduction in dissonance</li> <li>• Focused on teacher affirmation</li> <li>• Socialisation important</li> <li>• No real teacher learning</li> </ul>	<ul style="list-style-type: none"> <li>• Increase in dissonance</li> <li>• Focused on teacher inadequacies</li> <li>• No sense of joint endeavour</li> <li>• No real teacher learning</li> </ul>

*Figure 3.3: Table of main findings in Team 1 and 2's Lesson 1*

I have summarised the main observations of the first lesson reviews into the above table – Figure 3.3. – which gives a comparison between the two groups.

Neither of the two review sessions were as I had predicted from my reading on Lesson Study, or indeed from my pilot study. I had not expected the social dynamic between teachers to be something that might inhibit teacher learning nor had I anticipated that one individual might dominate a feedback session like Camille did, increasing dissonance, but not offering solutions. Some writers (Hart, Alston & Murata, 2011) suggested that not all teams succeeded in their aims – during Lesson Study cycles - but I had not anticipated the polarisation that these two teams experienced alongside the fact that neither lesson review seemed to promote the same learning that I had experienced doing my first lesson with Jasmine and Miqdad. Nor had I expected professional conflict to be such an important element in Lesson Study work.



*Were the teachers underprepared in undertaking Lesson Study? I think in hindsight they probably were, and certainly, if I were to introduce Lesson Study again to my school, I would prepare teachers for the challenges of giving feedback, providing challenge and identifying weaknesses in their planned Lesson Study work.*

*However, in 2013, when I started this work based on the existing literature at that time I did not know that this was likely to happen, which attests to the need to do an exploration like mine. There was only a small hint in Hart, Alston & Murata (2011) that not all members of groups got on well, and while Stepanek et al's (2007) advice is useful on discussions it seemed to be linked more to turn taking than dealing with professional conflict or lack of it as I found in the first lessons of Team 1 and 2. Neither writer indicated that teachers would either provide no challenge to each other (Team 1) or provide too much challenge (Team 2). Indeed, the literature suggested that it would be far more positive in terms of teacher learning than either of the first lessons for Team 1 and 2 turned out to be.*

*Already after Lesson 1 it is possible to see that there is a case for greater exploration of Lesson Study, because if I now revisit Lesson Study I can make sure that I provide support to my teachers on professional conflict and expertise in giving and receiving feedback.*

*A criticism I now have of the previous Lesson Study literature is that these parts of the process, which are messier, are not highlighted. Conflict in Lesson Study groups is not mentioned by Dudley (2014) in his 'how to guide' and the debriefing in Stepanek et al (2007) is less focused on the variables that might happen but more on how a meeting might be run. I went into this exploration to see how Lesson Study works to develop teacher learning and in doing so I have also identified there are limitations to the information currently guiding*

*Lesson Study in England. These complexities are so important that they may prevent the learning that is described by Pella (2011) and Dudley (2013).*



In my pilot study with Jasmine and Miqdad, a pupil Ama was identified to have been insufficiently challenged, in the same way Camille identified Sayed in Team 2's first lesson. I remember initially being very disheartened when Jasmine told me this fact, as I really wanted to ensure that the children were learning. As a consequence of being presented with the fact that Ama was not learning as well as she could, and then the evidence from Jasmine's observations I was faced with a moment of discontinuity between the reality of my practice and the desired effect of my teaching. For me, this became a learning opportunity as I was reluctant to continue teaching in a way that did not ensure that Ama was learning. As a Lesson Study team, we discussed how in the second lesson on fractions we were to teach, we could focus on Ama's misconception around understanding what a whole was. My experience with Miqdad and Jasmine was very different from that of Alex with Camille and Teresa. My experience corresponded to the literature I had read on Lesson Study (Dudley, 2013; Pella, 2011) which indicated that moments of teacher learning could be generated through discussion between teachers. The experience of Team 2 was different from this. I think this difference is significant as it shows that not all experiences of Lesson Study are like they are described in the published literature.

Equally when we - Jasmine, Miqdad and I - reviewed our first lesson I think we focused less on me and more on what we had found with the children's learning on fractions. I had taught the lesson in Miqdad's class and he was able to talk about the context of the learners clearly. So when, Jasmine spoke about Ama we were able to have a discussion focused on Ama's

## A Primary Head Teacher's Exploration of Lesson Study

needs, without much regard to my ego protection. Of course, Jasmine provided me with a moment of professional conflict, and I had to choose whether to vary my teaching for Ama on fractions in the future or not. However, Jasmine and Miqdad were able to talk to me about their thoughts and we were able to plan a second lesson involving Victoria sponge cakes that we felt would help Ama understand the relationship between a whole and its relationship to being divided into parts or fractions.

So why was my experience different in the pilot study? And why were the first lesson reviews nothing like the Lesson Study's I had read about as part of my literature review?

Achinstein (2002) talks about two types of conflict, with one being embracing of conflict and one being avoidant of conflict. Within her book on conflict Achinstein (2002) is able to describe embracing conflict as people or organisations which encourage difference and dissonance as they recognise that this supports learning through seeing different viewpoints. Achinstein (2002) then defines avoidant of conflict as people or organisations who seek internal harmony – through reduced dissonance – by externalising the conflict they experience. I think I embrace conflict in Achinstein's (2002) definitions as I value different perspectives on my work, whereas I think in Lesson 1's review, Team 1 were avoidant of conflict as part of their group need to reduce dissonance around Libby. For teacher learning this meant I was able to start to think through how I could have met Ama's needs in more detail whereas Libby was not given that moment of dissonance because her group reduced the conflict to preserve their internal harmony and social relations.

For Team 2, there was an embracing stance of conflict (Achinstein, 2002) with Alex having no choice but to listen to Camille. However, I think this group's work did not turn into teacher learning through collaboration like my work with Jasmine and Miqdad had, because of the team's make up. Alex, Teresa and Camille are individuals that did not already have a



## A Primary Head Teacher's Exploration of Lesson Study

strong relationship within the school. Alex was a new teacher, Camille was a teacher in her second year and Teresa was an experienced teacher but her role in Key Stage One meant that she did not work regularly with Camille and Alex who were in different Key Stages. Camille had never observed teaching before apart from as part of her training and her induction year and had not had any formal guidance on giving feedback.

---

*I saw a lesson this morning: A Maths lesson. I cannot say that everything was perfect, because it was not. Is there anything I can say about this lesson that is good? Yes. I think lots of things are good, and some are great.*

---

As a head teacher, I know that when teachers are initially invited to observe other teachers, they feel that this means they must tell the other teacher what is missing, incorrect or insufficient within the lesson they have watched. Certainly, in my initial years of observing lessons this is how I think I felt, although it probably would be a more vivid experience for some of the poor individuals I initially observed – as I suspect they were more like Alex's experience with Camille than I would care to remember. In some respect this criticality is about proving that I knew what I was talking about. I was and I continue to be a young school leader who was a product of the now defunct Fast Track scheme, and I know that often insecurities about your standing can manifest in an external persona that some might call overtly harsh. For me, this is how I feel Camille is behaving in this session. I hope that she is not seeking to attack Alex, but she is misrepresenting her own insecurities of observation via detailed and critical feedback, which lacks compassion or developmental guidance. It is this lack of developmental guidance or sharing of ideas that prevents collaboration in this review, and is what I think makes it different from my experience in the pilot study with Jasmine and Miqdad.



*I think from the initial lessons there needed to be a more focused initial training, perhaps on professional conflict, in Lesson Study before I used it in schools. I think that training should be undertaken over a longer period of time than I gave it. However, I say this having introduced it and explored Lesson Study, and through my reflection on said introduction. If I was basing this judgement on the literature, I do not feel that I would come to the same conclusion, as the literature does not suggest that there could be complexities to encounter within Lesson Study work, particularly around professional conflict. So, while in hindsight, I would make adjustments to my research design, I can only do so because I am now more informed from my research and the exploration that presents. This gives me the hindsight to know I would do things differently if I were to introduce Lesson Study again.*



My conversations with Camille are frequently about people, and it is clear that Camille had not picked up on Alex's nerves, or indeed her need to think constructively about the lesson, whereas Teresa takes a back seat, trying to interject more positively. By being critically evaluative Camille does not build a relationship, or joint endeavour, with Alex or really own any part of the lesson apart from the feedback.

*What if Lesson Study does not work? Am I really going to carry on with this if it is not working? The first lesson for me was interesting: Jasmine and I had a really good discussion about Ama and her learning. It does not seem to be the same for the Lesson Study teams. Maybe it will take a little longer to get into this.*

*Extract from Research Journal: November 2013*

## A Primary Head Teacher's Exploration of Lesson Study

By November 2013, I was concerned that in Team 1 and Team 2 they had not experienced the same interactions with Lesson Study that I had in the pilot study and both teams were also so different in their interactions and yet also so different from anything I had expected from the published literature on Lesson Study.

I think when I was reflecting in my journal at the beginning of the first year of the cycle in November 2013, it was already starting to become apparent that Lesson Study and its relative success would be dependent on variables that were not always considered by the literature I had read. My work would be providing detail on those variables particularly giving an insight into the workings of Lesson Study for teachers and new knowledge to the field.

At this point in the research I had identified variables as being: the ability to generate and receive dissonance and sustain it to reach a moment of professional conflict; the expertise within the group; how this expertise was shared and how the group was organised. Expertise and professional conflict were forming as themes in my thesis and I will return to them throughout this chapter and in the subsequent chapters.



*None of these themes seemed prominent in the literature I reviewed prior to starting this work. Although re-reading literature after the analysis and literature published after 2013, I can see elements of expertise being discussed (Hart, Alston & Murata, 2011; Pella, 2011). The examination of expertise has certainly been a growth area while I have been undertaking my research with Takahashi (2014), Fujii (2014), Takahashi & McDougal, (2015), Archer (2016), Simmons, (2016) and Fujii (2016) all contributing on the Japanese use of expertise in Lesson Study. However, the use of an expert is still limited within research on Lesson Study based in the United Kingdom.*

## A Primary Head Teacher's Exploration of Lesson Study

*The organisation of groups and the generating of conflict were new themes, and I do not see how I could have anticipated them being so prominent in my research when they were not mentioned in the literature I had reviewed. Nor would a school think to consider these based on what is detailed in the narrow range of guidance that is most readily available.*



It is clear in Xu & Pedder's (2015) article that the literature on Lesson Study is relatively scant and when considering Lesson Study's role in teacher learning there is even less information. Yet, my school's Lesson Study lessons were different even from this limited literature.

November 2013

*Dear Head Teacher,*

*We have conducted our first Lesson Study lessons; I am not sure that they have been as effective as I hoped. I know that when I wrote to you about the promise of Lesson Study I was really excited about the collaboration that would go on and how the teachers would learn from each other.*

*Well I have reviewed the lessons that have taken place. And they seemed to be very different from the promise I perceived in the literature on Lesson Study. I suppose that it might take a lesson or two to get into the practice of doing this work as it is unlike anything lots of the teachers have done before.*

*But I will confess I am a little worried about these first lessons, as they are very different from the small study I did with Jasmine and Miqdad last term. One team seemed to avoid causing any friction between one another and so did not really talk about anything specific. Another team seemed to be so critical of the lesson I am not sure that teacher will want to take part in lesson two. I think it will be interesting to see what happens in the next lesson. I hope that the teachers will start to see what they can get from the process.*

*Warm regards,*

*JP Mynott*



*My results were initially concerning to me as my Pilot Study had seemingly confirmed the literature I had read and I felt I would be able to explore how Lesson Study developed teacher learning. However, the unexpected results are quite interesting, as this was Lesson Study happening in my school and I was identifying that within this breath-takingly simple (Dudley, 2013) method there was a layer of complexity that could be linked to understanding how Lesson Study develops teacher learning. So, while initially concerning I feel that the initial lessons showed that there is a need to prepare teachers for professional conflict and to think about how expertise is used within the groups. One way to do this might be to consider the training teachers have prior to undertaking Lesson Study and the second might be to consider who goes into each group more carefully for future Lesson Study work.*



### **3.4 Theorising Professional Conflict**

In my discussions around Team 1 and 2's first lessons I have talked about theories of Cognitive Dissonance (Festinger 1957) and conflict (Achinsteins, 2002). I will spend a little time in this section discussing cognitive dissonance and conflict in schools before continuing with the analysis of the remaining lessons in Team 1 and Team 2's Lesson Study cycle.

Achinsteins (2002) presents a comparative account of two schools in the United States through which she demonstrates two kinds of conflict cultures – embracing and avoidant. While a two-school comparison is not intended to give causality to her findings she uses these two schools to exemplify differing ends of a spectrum of conflict in schools. Why her work is significant to mine is that Achinsteins proposes that the two types of community - embracing and avoidant – will have differing approaches to teacher learning and as such may go about

teacher learning activities in different ways. The two schools Achinstein (2002) studies are selected for both being considered strong on collaborative practice and teacher learning.



*I would have described my school in 2013 as being a setting that was strong on collaborative practice and teacher learning. Even now when I read Achinstein's (2002) work I can see my school's practice within both her avoidant and embracing case-study schools. I think I am now more aware of the limitations to describing my school as being strong on collaborative practice and teacher learning because I now think that these are larger and more challenging to define terms. Peacock (2016) writes fluidly about her enthusiasm for teacher learning and for collaboration between teachers to benefit children, and I find her writing encouraging, but I want to explore more in detail how my leadership and vision enable and impact on the school culture. Buck (2016) suggests that these elements might have a significant impact on the culture of my school. I think that through this process I have become more aware of this than I was when I would have described my school in 2013.*



Achinstein identifies that avoidant stances towards conflict seek consensus and harmony within the group and organisation. Dissenting thinkers are given the choice of conformity or exclusion from the group or community for the benefit of harmony and consensus. Achinstein finds it hard to conceal her horror when dissenting special needs staff are excluded and subsequently leave the school. She captures the experience of one staff member stating that there are people who 'didn't belong' (Achinstein, 2002: 117). Within Achinstein's theory she proposes that communities with an avoidant stance seek to externalise conflict so that it is

related to problematic people outside of their domain so that their internal consensus is maintained (Achinstein, 2002).

Embracing conflict is described as the messier of the two conflict stances with diversity in thinking and planning meaning that while differing viewpoints are embraced and accepted there is also greater friction and disagreement between members of the team and organisation (Achinstein, 2002). The benefits of an embracing style are that problems are solved, shared and viewpoints are developed for the benefit of everyone and people are not excluded for having a differing perspective. However, Achinstein (2002) does present the embracing school as having a higher turnover of staff than the school with an avoidant stance and that there are challenges to working in states of professional conflict which in turn links to the theories of Cognitive Dissonance (Festinger, 1957; Brehm 1956) which suggest it is human nature to generally seek consonance and consensus in their thinking.



*Where were we as a staff with dealing with professional conflict? Were we experienced? Were we avoidant/ embracing? What about me – was I different? Is that why the pilot study felt different?*

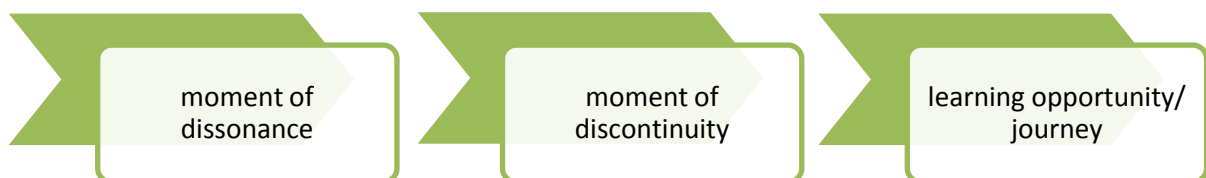
*Jasmine thinks it is because she trusted me and knew I could handle the challenge she would give without taking it personally – did this mean she felt differently with Libby? I do not think she trusts Libby any less professionally than she does me, but I think she is aware that I do not worry too much about being given professional conflict as I am able to discern that it is intended to be about my practice, not me as a person. This ability to discern the difference between the personal and the professional is vital to using professional conflict successfully.*



For me, I think that the nature of professional conflict in an organisation and within a Lesson Study group will have a bearing on the work that that organisation or group will achieve. My own pilot study showed that I needed to be embracing of the dissonance given to me by Miqdad and Jasmine in order for me to see that I was not giving Ama the teaching she needed in my lesson. Equally, I think that Team 1 in their initial lesson review, focused on avoiding conflict and, as I have suggested, I think this meant that they missed opportunities for teacher learning. On the other hand, Team 2 did not seem to lack conflict in their group, so it will be interesting to see if styles of conflict within Lesson Study groups has a bearing on teacher learning as I continue the analysis.

### ***3.5 Dissonance***

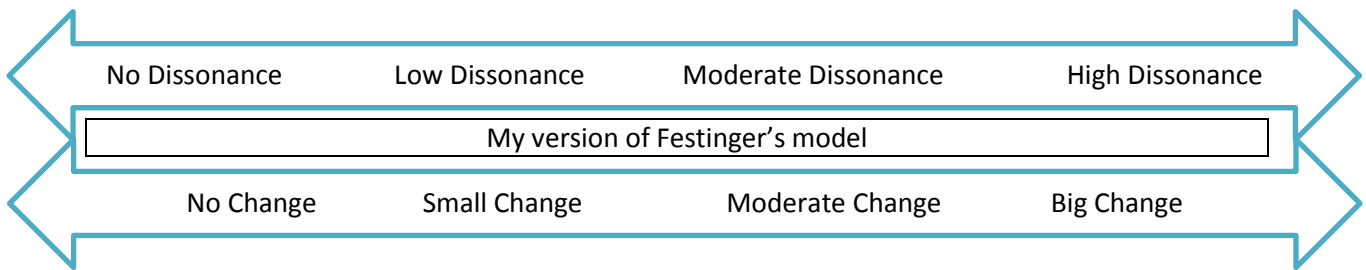
As mentioned in the section about conflict, there is a view that humans seek consonance (Festinger, 1957; Cooper, 2007). If this moment of dissonance persists or we take it on board it might mean we are then faced with a moment of dis-continuity (English, 2005) which is when we seek to reduce that moment through either justification of our original position or through changing our perspective to bring us back to consensus with the new information we have (Festinger, 1957).



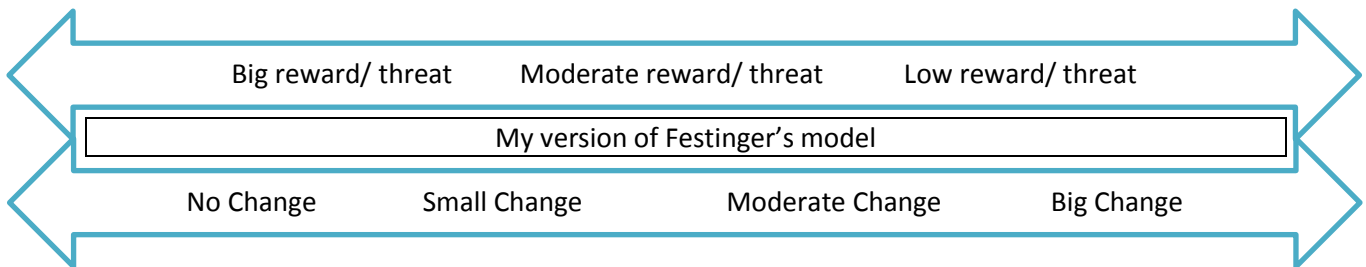
***Figure 1.3: A visualisation of the steps to teacher learning opportunities***



Dissonance is the first step of my teacher learning opportunity visualisation – figure 1.3. This step is important as without the initial moment of dissonance there is not the opportunity to adapt and vary what an individual already has as their consonance. Festinger (1957) and Brehm (1956) talk about using cognitive dissonance to change attitudes; this is based on the principle that by providing moments of dissonance you can create moments of change or the desire to change in individuals. The essential proponent of Festinger's (1957) theory is that there is a spectrum of dissonance that can be created and that individuals are most likely to benefit from dissonance that is low threat and low reward (Cooper, 2007) visualised below.



**Figure 3.4:** *Scale of Dissonance based on Festinger (1957) – Dissonance*



**Figure 3.5:** *Scale of Change when Reward and Threat are involved based on Festinger (1957)*

Cooper (2007) has identified that scale of change, which I have shown above, can be modelled statistically and uses his model to talk about beliefs and justification of choice and change in the experiments he is reviewing (Cooper, 2007:40). While I can see the value in Cooper's statistical model for his experiments he also seems to presume that an individual holds a belief or attitude before the experiment is undertaken. I suppose it is possible to infer that a general belief might be held in an individual but we need to be careful not to project the

## A Primary Head Teacher's Exploration of Lesson Study

views of dominant culture onto the individual who may not necessarily belong to it. There are numerous examples of this presumption of initial attitude in the work discussed by Festinger (1957), Brehm (1956) and in Cooper's review (2007). One that Cooper (2007) uses is Elliot and Devine's (1994) study on counter-attitudinal essays.

In Elliot and Devine's (1994) study they asked their participants to write about a tuition fee increase and assumed that the students would be opposed to this increase – Cooper (2007: 55) articulates this position well with: *'some were asked to write in favor of a tuition increase (high dissonance) while others were asked to write against it (no dissonance)'*. The mistake I perceive in this study is the assumption that students would be naturally against a tuition increase. Of course, you might presume, dominant student culture would predict that students would be against an increase in tuition, but it does not predetermine that all students would feel the same, or hold the same view. Indeed, a student might see an increase of tuition fees as a way to increase social mobility through the increase of scholarships to students in need of assistance to access higher education. Elliot and Devine's (1994) presumption of the position of the attitude of the individual student means their results are not as compelling or convincing as they would be if they could ascertain the initial attitude of the individual.

Furthermore, I think ascertaining the initial starting attitude of an individual is fairly difficult as every individual is socialised (Piaget, 1923) to a degree and is unaware of the dominant culture of held views. It would then be unlikely that an individual would raise their head above a parapet and declare an opposing view to a dominant culture unless they were confident that there would be consensus with them among their peers. After all, as a gay man, I still am painfully aware that while I should be allowed to live my life without prejudiced views against me and my sexual orientation, it is still widely permitted to allow people to say that my lifestyle is wrong because of their position on faith, family etc. This is because while dominant culture is changing, to reject the notion of homophobia, it still contains large

enough groups of consensus to allow individuals to feel confident in expressing their repulsion toward me and my life. Of course, if you were to isolate these individuals and ask them if they were homophobic they would possibly say they were not as they know that is the expected viewpoint to hold, even if they did not believe it – or show that they believed it. It is the individual's awareness of their audience – socialised talk (Piaget, 1923) – that means that no matter how we try to identify an individual's real attitude to a discussion we will also get a little of what they think they are supposed to say. As such I do not think you can ever really know an individual's beliefs or attitudes which then brings into question whether you can really change someone.

Yet, I think the notion of change is something Festinger (1957) did have right, that people change their attitudes due to their experience, but the duration of this change is also difficult to predict with some change being very short lived as if you are offered a moment of dissonance that provides you with a personal change, you may have to face counter-dissonance for that change to be sustained. In schools that could be that a Lesson Study group identifies a new way of doing something but that is different from the rest of the school and as such they may encounter pressure to ignore their learning for the sake of consensus.

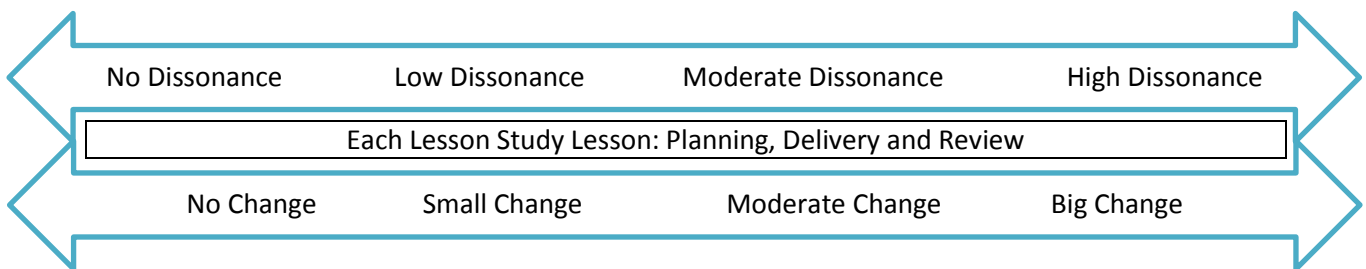
This ability to experience change and not act on it has been picked up on in recent writings about why people may hold a belief but not act upon it. A good example of this is about why people do not buy fair trade products even when they consider them more ethical (Chatzidakis, Hibbert & Smith, 2007). Aronson (1999) presents the concept of hypocrisy and self-concept as being reasons as to why people might hold a viewpoint but act in a different way, often this links back to whether they can get away with it, or whether they can justify their behaviour. For instance, if people had to ask at the coffee shop – in front of other people – to have the cheaper non-fair trade products, they probably would not do so as they would realise that this would be likely to bring them the contempt of others (Chatzidakis, Hibbert &

Smith, 2007). This amendment would change the way the dominant consensus worked meaning you would bring less attention to yourself by doing the ethical thing – buying the fair-trade coffee.

Essentially, it is possible to offer learning through dissonance if conflict is in place to provide moments of dissonance, although the sustainability of these factors will depend on a much wider set of dominant considerations which will operate within spheres of dominant culture.

### ***3.6 Dissonance in Lesson Study***

Dissonance in Lesson Study can be represented on an integrated scale, depicted below, as this allows the reader to visualise the extremes of dissonance and change within a Lesson Study cycle.

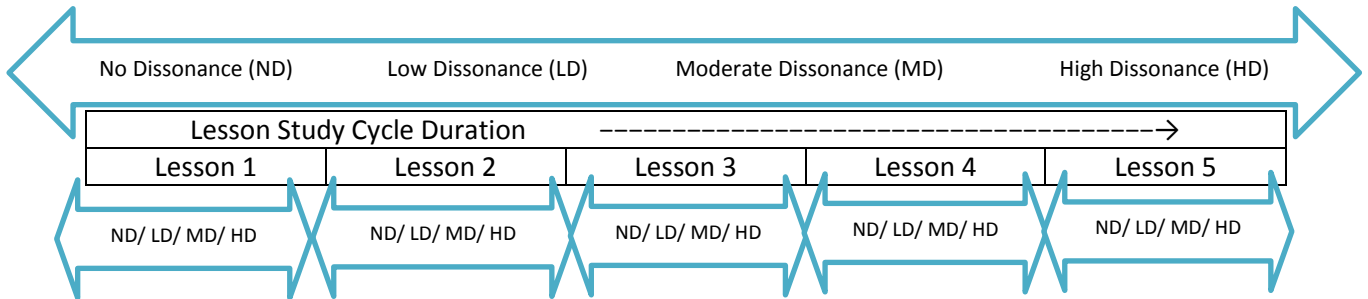


***Figure 3.6: Scale of Dissonance within a Lesson Study lesson***

Of course, this scale is an oversimplification of the dissonance as there will invariably be fluctuations within a conversation in terms of the level of dissonance between individuals. Yet the scale provides a useful visualisation of some of the possible dissonance varieties that will be discussed within this section. For instance, when dissonance is increased and sustained this can enable more discontinuity to be generated. Equally, as seen with Team 2 it can also cause an individual to shut down and the opportunity to learn diminishes. This means the balance between dissonance generation, duration and interpretation are all significant variables within a Lesson Study cycle. As I have defined my model of Lesson

## A Primary Head Teacher's Exploration of Lesson Study

Study as being a five-lesson cycle, it seems fitting that my duration model will conform to that same structure, depicted below.



*Figure 3.7: Dissonance and Duration within a 5-lesson cycle*

### **3.7 Discontinuity in Lesson Study**

Figure 3.7 represents the overall dissonance of a Lesson Study cycle and the dissonance associated with the individual lessons within that cycle depicted by Figure 3.6. However as seen in both Team 1 and Team 2, the presence of dissonance is not sufficient to move the progress of professional conflict to a learning opportunity. So how does dissonance change into discontinuity in Lesson Study cycles and then potentially into a learning opportunity.

In Team 1's Lesson 1 the dissonance moments were reduced through affirmation of Libby, and as such each moment of dissonance would have been reduced to no dissonance relatively quickly so on Figure 3.6 there would have been little opportunity for dissonance to change into discontinuity.

Team 2's Lesson 1 on the other hand displayed a higher frequency of dissonance and these moments were not reduced. Which would initially suggest that they should have developed further. However, discontinuity did not occur in Team 2's first lesson and the reason I think it did not occur is because the dissonance was too high and the occurrences were too frequent for Alex to have the space and time to consider them. As such Alex shuts down to the

dissonance as the lesson review continues and by the end is not really even responding to Camille's critique. Alex's statement at the end of the review: 'Are we done?' demonstrates that she just wants to leave the discussion and not think about the dissonance that has been generated.

Lesson 1 from both teams gives an indication of how discontinuity is not generated from dissonance in Lesson Study, but they also do not give any insight into how it might be generated and this is something I will explore as I look at the subsequent lesson reviews of Team 1 and Team 2 in Chapter 4.

### ***3.8 Conclusion: How does Lesson Study develop teacher learning?***

If I return to my research question following the initial exploration of Lesson 1 from Team 1 and Team 2, I think it is possible to say that Lesson Study does not automatically mean that teacher learning will occur and that the process of professional conflict and its relation to teacher learning may depend on a variety of ingredients within the Lesson Study process that have remained transparent in previous Lesson Study research. From my initial exploration, these variables seem to relate to the way the group collaborates, the expertise levels within the group and the ability of the individuals in the group to generate and sustain conflict.

The reasons as to why these variables have been transparent to previous research is likely to be to do with researchers using selected groups of perceived experts (Pella, 2011) or volunteers (Dudley, 2013; Hart, Alston & Murata, 2011) as these individuals potentially are already more confident with the sensation of feeling a little uncomfortable with a learning process. This is distinctly the impression I get from Pella's (2011) teachers who seem very reflective on the moments of dissonance Lesson Study work generates. As such it might be that Lesson Study literature is presenting a positive outcome based on a specific type of

## A Primary Head Teacher's Exploration of Lesson Study

teacher, one who might already embody the relevant expertise, collaborative skills and ability to generate and accept conflict.

The reason I am more inclined to believe that the literature presents an overview of teachers involved in Lesson Study that have specific qualities is from my discussions with Nick (2015) who had implemented Lesson Study with his whole school. My discussion with him focused on whether there were any groups in his school that were not represented in his publication (Samuel Whitbread Academy, 2015). Nick conceded that there were groups that were not represented as they had not completed Lesson Study and that he had toyed with the notion of including blank pages to represent this. However, the publication does not have blank pages – presumably due to printing costs – and as such is another example of the presentation of Lesson Study work in a positive light. The groups that were less successful are not present, their work is unseen and the reasons for their lack of success are unstudied, and as such likely to be replicated again in another group as head teachers, like me, introduce Lesson Study into our schools.

At this juncture, I think I need to continue to explore Team 1 and Team 2's Lesson Study cycles, and through that exploration maintain my focus on professional conflict, expertise and collaboration so that I can understand better how these ingredients might be involved in using Lesson Study to develop teacher learning opportunities.

***Chapter 4: Lesson Study and Professional Conflict: Research Analysis and Interpretation***

---

***Chapter 4: Contents***

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>4.0</b>	<i>Introduction</i>	176
<b>4.1</b>	<i>Team 1 Lesson 2</i>	177
<b>4.2</b>	<i>Team 2 Lesson 2</i>	183
<b>4.3</b>	<i>Team 1 &amp; 2 Lesson 2 Comparison</i>	188
<b>4.4</b>	<i>Further Lessons</i>	191
<b>4.5</b>	<i>Collaboration</i>	199
<b>4.6</b>	<i>Expertise</i>	205
<b>4.7</b>	<i>How does this fit in the wider context of Lesson Study?</i>	210
<b>4.8</b>	<i>Conclusion: How does Lesson Study develop teacher learning?</i>	211

---

***4.0 Introduction***

Following on from Chapter 3's initial analysis of Lesson 1 from Teams 1 and 2, this chapter will explore the rest of each of their Lesson Study cycles. I will continue to focus on the themes of professional conflict, expertise and collaboration that emerged in my initial exploration of Lesson 1.

Both teams did continue into a second lesson despite the hostile ending of Team 2's first lesson review.

*I provided some training to the teachers on Lesson Study feedback. We talked about how we should focus on the learning, the resources and the way the lesson worked, but remember always that this was a joint lesson whether you are actively teaching it or not.*

*Journal Extract: November 2013*



## A Primary Head Teacher's Exploration of Lesson Study

As my journal extract suggests I felt after the first lessons it would be useful to revisit some of the guidance relayed in Stepanek et al (2007) and Dudley (2012) about the importance of focusing on learning rather than the teacher within the lesson being reviewed as part of the Lesson Study work. I did this because I could not, in good conscience, let Alex undergo a second lesson review in the same style as the first one she had encountered, and as reviewing learning seemed to be unfruitful for Team 1 I felt this training would be beneficial to all the teams.

<b>Autumn Term 2013</b>	Initial Staff Training on Lesson Study	Plan 1 <sup>st</sup> Lesson Study Lesson	Teach 1 <sup>st</sup> Lesson	Review and Plan 2 <sup>nd</sup> Lesson Study Lesson	Teach 2 <sup>nd</sup> Lesson Study Lesson	Review 2 <sup>nd</sup> Lesson and start to plan 3 <sup>rd</sup> Lesson
				<b>Training on focusing on learning given</b>		
<b>Spring Term 2014</b>	Finalise 3 <sup>rd</sup> Lesson Study Lesson	Teach 3 <sup>rd</sup> Lesson Study Lesson	Review and start to Plan 4 <sup>th</sup> Lesson Study Lesson	Finalise 4 <sup>th</sup> Lesson Study Plan	Teach 4 <sup>th</sup> Lesson Study Lesson	Review and Plan 5 <sup>th</sup> Lesson Study Lesson
<b>Summer Term 2014</b>	Finalise 5 <sup>th</sup> Lesson Study Lesson	Teach 5 <sup>th</sup> Lesson Study Lesson	Review 5 <sup>th</sup> Lesson	Prepare presentation to staff about finding	Give presentation to staff on findings	

*Figure 4.1: Model of Lesson Study for academic years 2013-2014 with inserted training*

This training took place in November 2013 before the 2<sup>nd</sup> Lessons were conducted as indicated in bold on Figure 4.1 which is a variation on the model described in my methodology. At the end of the training I gave each of the teams some time to think about how this would factor into their planning for their second lessons and the lesson's subsequent review.

### **4.1 Team 1 Lesson 2**

Team 1 kept a similar model of lesson enquiry to the one they had had in the first lesson. Again, Libby taught the lesson and the lesson was observed by Misha, Jasmine and Hanna. The team had decided after the first lesson that they were unsure of their focus going into the

second lesson but they felt they were most interested in how the modelling of talk to pupils helped pupils use this talk in their mathematics lessons.

**Team 1, Lesson Study Lesson 2 Review: December 2013**

*Jasmine rushes into the room and takes her seat ready for the feedback. She looks a little flustered. She is grateful to Hanna who gives her a cup of tea and Libby has got the sound recorder ready.*

*Jasmine opens the discussion by saying 'alright' and then all of the teachers' chorus 'Hello John'. After a short period of laughter, the group are ready to begin their discussion.*

Jasmine: What were we looking for?

Libby: Well, we were looking for vocabulary and how they apply that mathematical vocabulary by themselves. So we continued from the first observation of a shop environment and what we can pick up from a shop environment in terms of vocabulary in role.

Hanna: And what we picked up last time was modelling the vocab for them to be able to do it independently

Jasmine: I thought they had the mathematical skills, but because they did not have the vocabulary that was not mathematical, they did not have the vocabulary to express it

Libby: So what – in the role of the shop keeper – what would you like to buy?

Hanna: Which this time I thought was better. You modelled it as the shop keeper and you asked them the words and gave them time to repeat.

Misha: I had written down that in the starter and the main you were totally using the vocabulary and getting them to repeat. It was total, and altogether and

Hanna: and I wrote encouraging full sentences

Libby: Yeah... I found though that the activity was, it was very certain children could do the activity where as others were sitting, and so it was that not everyone was able to access it at the same time.

Jasmine: You did what you could there though, you gave out number lines and problems alongside. It was also false, you planned a lesson where it was in the role play lesson. Where you could very easily send them off to have a go, but you couldn't do that because you had them altogether on the carpet.

Hanna: And also we spoke about yesterday with Kornelia ... She was the one child we were talking about who didn't really vocalise. He sat in front of her and she tapped him and said can you move out of our way.

## A Primary Head Teacher's Exploration of Lesson Study

Jasmine: And she was the one who was very active in watching what was going on, working everything out on her fingers.

All: Yeah.

Libby: And it was Marli who was the other one in the first observation that I felt that she took a step back, but didn't want to be the control shop keeper, but wanted to be involved and she very quickly realised that she was able to buy a 10p and a 2p item which made 12p and that is how much money she had. So she was able to demonstrate it without being dominant.

Misha: She was quite interesting to watch in the initial input as she initially looked like she wasn't participating but she was, so obviously she needs something in her hands to be able to be involved.

Libby: Yeah

Misha: I was impressed with her

Jasmine: That is a really interesting point isn't it and a massive issue about the way that we teach and the expectations we have. As adults the first thing you do if you listen is pick something up. **Look at us all we have something in our hands, fiddling with rings. If I didn't have a pen I wouldn't be able to concentrate**

All: Yeah (Laughter)

Jasmine: and that is how we concentrate

*To be continued...*

The same pleasant ambience was maintained in this discussion, yet it was also more focused. The team had responded to the feedback from the first lesson discussion we had had in our staff training and had tried to keep centred on the focus of their lesson observation – in this case modelled talk.

I have again highlighted in pink where the teachers have focused on protecting Libby's ego through affirming her teaching quality. All three teachers Misha, Hanna and Jasmine do this very early in this feedback session, which means that even though Libby is trying to dig a little more into the feedback, highlighted in green, the group are still focused on maintaining a social consensus, which is then underlined further by Jasmine's comment:

Jasmine: That is a really interesting point isn't it and a massive issue about the way that we teach and the expectations we have. As adults the first thing you do if you listen is pick something up. Look at us all we have something in our hands, fiddling with rings. If I didn't have a pen I wouldn't be able to concentrate

Which again highlights the synergy within this Lesson Study group and the importance of their shared consensus. The initial part of the review, above, shows a lot of consensus between the teachers. They seem to be in agreement that what they have seen in this lesson as an improvement in the talk of the pupils and have attributed this back to the modelling that Libby had done. There is little dissonance in this initial part of the discussion.

*Continued...*

**Team 1, Lesson Study Lesson 2 Review: December 2013**

Jasmine: You asked everyone to come back together at the end and to refocus and she didn't she went to the coins, completely appropriately.

Libby: I must say for the whole group as a whole, have moved on from the consolidation of the money concepts. Have they remembered the tapping the coins? Have they counted the money, the extension of having two items and obviously using the number lines? I was really proud as they had moved on and away from money, but it has stuck.

Hanna: It was really obvious that there was a range of strategies that they could use,

Libby: Borrow a friend

Jasmine: You really celebrated all the ways they could work.

Libby: But number line didn't come up when we talked about strategies

Misha: With Matilda it did...

Jasmine: She said it straight away but she was too far from you and you didn't hear it

Libby: Ok, I felt that was current learning, and last time they were grabbing the coins. They would give any coin.

Jasmine: It was only Marli doing the work last time. She was sorting the money.

Hanna: It was nice you know, now. They are using the number lines now, and they can apply the money to the number lines and they are using the number lines for any number sentence.

## A Primary Head Teacher's Exploration of Lesson Study

Jasmine: It helped them to separate them, adding the values of the two objects. They made 6p and 8p and introducing the number line meant they could do that separately (counting the coins) and then use the method to work it out (the number sentence)

Misha: I think it was Alicia, I know how to pay for that.

Libby: She said 25p

Misha: It was another little girl that said 25p

Libby: I remember her saying I know that. It is interesting what you still miss, when you are trying not to miss.

In this section, it is interesting to see that the moments of dissonance are coming from Libby's reflection on the lesson. She talks about her disappointment that number lines did not come up when the children did a strategy check and then again when she realises that she has missed an answer twice from some of her pupils.

Libby's moments of dissonance are reduced by the rest of the group – who tell her that the children were using the number lines and that the children had the answers correct. They tell her that the work was purposeful and that they had progressed from the last lesson they had observed. There is a lack of exploration of each of the moments of dissonance Libby tries to present for herself into the feedback with each moment being either reduced or passed over by another positive observation. The impact of this is that there are no real moments where the spectrum of dissonance to learning could occur, although it should be noted that the comparison from the first lesson to this one shows that the teachers have focused their thinking further as they are able to talk about modelled talk being their focus.



*In general, the changes for Team 1 between Lesson 1 and Lesson 2 are very small. The team received the same update training I gave to the other teams but this did not allow them to*

## A Primary Head Teacher's Exploration of Lesson Study

*create any moments of sustained dissonance without reducing them through affirmation and as such none of the group experienced any moments of discontinuity which may have provided an opportunity for teacher learning.*

*The exception to this is Libby who has taken on board the need to have dissonance and offers up moments of reflection on her own teaching for the others to develop dissonance but instead they continue to play down these moments as they had done in the first lesson. The problem seemed to be that even though the group was aware of the need to discuss the lesson and the learning, the need to sustain Libby's emotional well-being was higher and as such this reduced the dissonance whenever it arose. The social-professional dynamic of this group meant that consciously or subconsciously they were avoiding conflict between each other and this meant that even with Libby's attempts to consider embracing dissonance it was always reduced.*

*If I had chosen the groups for them in 2013, it is unlikely I would have been able to avoid a scenario like Team 1, because I did not know that it would be a possibility. With nothing written about less successful Lesson Study groups in the literature or the need to generate conflict, I could have chosen the Team members but it is likely that I would have been no better equipped to pick the team members than the teachers in the teams were. As it is only in hindsight that I can see the group dynamic of Team 1 lowered their opportunities to create conflict.*



It would be hard to ascertain how aware the team were about this reduction in conflict, and its impact on their work. The team certainly found Lesson Study challenging to engage with as they remained uncertain of their direction well into the second half of the lesson reviews. I

would suggest that they would have benefitted from some dissonance being provided to them, in the form of an expert to promote the discussion and potential learning they could have made in their Lesson Study. Archer (2016) and Simmons (2016) talk about the role of the Koshi in Japanese Lesson Study, a role I discuss in later chapters, and how this person – the Koshi – is able to further a discussion.



*Again hindsight is very useful to this situation – if I had had in 2013, the information about the Koshi and how they work in Japan (Fujii, 2014; Takahashi; 2014, Simmons, 2016) I may well have considered adding an outsider – an expert – into this Team for their second lesson to support the generation of conflict. This person would then have enabled the group to provide a response to the questions posed, without compromising their need to avoid conflict between the team members. Recognising this now is useful for future Lesson Study work where a group is not able to create dissonance as I would be able to provide my expertise into this group to help them generate their discussions.*



#### **4.2 Team 2 Lesson 2**

Lesson 2 for Team 2 was very different from their first lesson. They appeared to have listened carefully in the training I had given after the first Lesson Study sessions and their feedback session was focused on pupils and learning rather than the teacher. Their feedback session was more balanced with Teresa taking the lead in the review of the lesson which was taught in Alex's classroom. The team had decided from their first lesson to focus on the learning of two EAL pupils and their discussion centred on the needs of one pupil Nish. What

is interesting in their discussion is that there are frequent moments of dissonance created within the group which provided platforms for their thinking about the needs of Nish in his wider learning.

**Team 2, Lesson Study Lesson 2 Review: December 2013**

*The group have been discussing the lesson for about 10 minutes. Camille, Alex and Teresa have focused on two children in this Lesson Study lesson and are talking about the challenges they pose each day for Alex in her classroom.*

*The conversation is relaxed. Alex is open about things she has tried out with the children recently and Teresa and Camille are listening and reflecting back on what they have noticed today.*

*The lesson feedback is not about Alex's teaching; it is focused on the learning of the focused children.*

**Teresa:** With Nish it was about his understanding last time, wasn't it? What did we do about that today? And **what have you done in class with him so far**, since the last lesson we watched.

**Alex:** **I found it difficult to work with that table**, especially with resources to support all 6 children on that table. So I have split the table into two groups of 3 which makes it easier to work with those children, without so many distractions. I think someone is always in the purple chair to help learning in the task part of the lesson. It is either me or the classroom assistant... Nish has done a lot more, in lessons, since the tables have been split up. In the table of 6 he was getting distracted, he could get away with not doing the work.

**Teresa:** **I do not think he is trying to get away with not doing the work**, from what I saw last time, and this time, he is trying to work independently, but he **just doesn't understand** the work. Last time he was working; it was just all wrong. **It was the same this time.**

**Alex:** Oh! **He got it wrong?**

**Teresa:** There was a situation again today, that he didn't understand, and **again he got the work wrong**. I really do not think that he is trying to avoid the work; he just doesn't understand what is going on in parts of the lessons. He is quite happy to work independently.

*Alex talks about a suggestion she has to help by moving a more confident child next to Nish. She talks about how she has thought about this because it might help him with his learning.*

**Teresa:** I think **he will copy.**

**Alex:** So I was right to sit him next to the spare seat and adult?

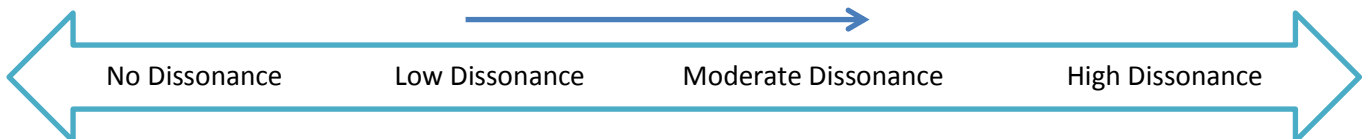


## A Primary Head Teacher's Exploration of Lesson Study

In their discussion around Nish, the teachers were able to depersonalise the teaching and learning from Alex, which had been part of the issue in the first feedback session they had had and were instead focused on talking about the changes that had been made since their last discussion.

In the section above I have shown an example of the dissonance that has been created, highlighted in green. Teresa has identified that in the previous lesson she was sure that Nish did not fully understand the work and had observed again in this lesson that Nish was still not understanding the work, so she puts the question to Alex about what she has done to support Nish between the two Lesson Study sessions. This is a moment of dissonance.

Alex is able to describe how she has reorganised the tables and how she thinks this is keeping Nish on task more.



**Figure 4.2:** Diagram showing how Teresa increases the dissonance through challenging Alex on her work with Nish.

Teresa challenges this response, by suggesting from her observations that he is not 'off task' he is doing work, but he is getting the work wrong, both in this lesson and the previous lesson the team have observed. In doing this, Teresa raises the dissonance level and gives Alex a moment of conflict, which means Alex will need to make a choice about the way she is helping Nish. While she thought the changes she had made were supporting him to learn, she has missed, in Teresa's eyes, the key point here that he needs to understand the learning to complete the work, not just be working to complete the work.

## A Primary Head Teacher's Exploration of Lesson Study

Alex's response to this is a suggestion to move another child. Teresa queries this continuing the dissonance for Alex. Teresa seems to be suggesting to Alex that this is not about Nish getting the right answer but is more a case of him not understanding how to do the work in general. Alex's suggestion of moving another child next to Nish is something Teresa does not think will work and she then goes on to elaborate in the discussion that Nish is already trying to copy children near him.

**Teresa:** In today's lesson he went to his table, he counted the smarties and then he looked around. He didn't know what to do next. He didn't use the criteria you had explained. He looked at what Bess was doing and copied her.

As Teresa was able to continually return to the observation to support her creation of dissonance to Alex in this discussion, it was possible to see Alex work through what she could do to support Nish in his learning, and Teresa and Camille were able to join in with these discussions. This appears to move the dissonance on to a moment of discontinuity for Alex, which opens up the opportunity for teacher learning.

This situation, while creating moderate to high levels of dissonance for Alex, was very low threat (Myatt, 2016), it was not about what Alex had done in the lesson. Teresa talks about this in her review of the Nish's experience, saying how settled and ready he was on the carpet and in the initial parts of the lesson – instead it was about showing Alex that there was still something she needed to notice about Nish's learning in Maths. As a result, the level of threat was low for Alex, as it was not about her teaching, it was about Nish's needs which meant that she was able to talk through her thinking and the strategies she has already tried out and ideas she had without the concern of it being a critique of her practice like it had seemed to be in the first Lesson Study feedback session.

## A Primary Head Teacher's Exploration of Lesson Study

The interaction between Teresa, Camille and Alex in this session was a dialogue, the teachers were talking and even though Alex was still being provided with dissonance it was not a personal dissonance as it was presented as a shared problem – how could they help Nish. This was an interesting transition from their first lesson and it felt like a sense of joint endeavour was possible for this team.



*Unlike Team 1, Team 2's second lesson was very different from their first. They had responded to the training and their feedback was more moderated which, while still providing dissonance within the group, now seemed to be about the group. Team 2 had recognised themselves in my second piece of training which had been on providing feedback to each other – although I was generic with my comments drawing on the feedback session from all four Lesson Study Teams.*

*This intervention suggests that training on giving effective feedback would have been useful to have undertaken at the start of the Lesson Study work. This goes beyond the advice given in the handbooks (Dudley, 2014, Stepanek et al, 2007) which suggests that it is sufficient to simply decide on how to manage feedback. I would suggest that training on the things undertaken in Lesson Study, and on the way feedback should be done to promote discussion would have been helpful at the start of introducing Lesson Study into my school. This again goes beyond the writing in the literature but is an extension of it rather than being completely unexpected. This in some ways suggests that I should have been more aware of this need than I was when I undertook Lesson Study with my teachers.*



**4.3 Team 1 and Team 2 Lesson 2 Comparisons**

I compared the main observations of team's second lesson reviews in the table below:

	<b>Team 1 Lesson 2</b>	<b>Team 2 Lesson 2</b>
<b>Points noticed</b>	<ul style="list-style-type: none"> <li>• Reduction in dissonance</li> <li>• Focused on teacher affirmation</li> <li>• Socialisation important</li> <li>• No real teacher learning</li> </ul>	<ul style="list-style-type: none"> <li>• Dissonance sustained to discontinuity</li> <li>• Focused on children's learning</li> <li>• Start of a sense of joint endeavour</li> <li>• Some teacher learning</li> </ul>

*Figure 4.3: Table of main findings in Team 1 and 2's Lesson 2*

What was most striking about this second comparison is that while the observations of Team 1 had not changed, there had been change in the observations of Team 2. Their second lesson was completely different from the first session in the reduction of threat towards Alex as the teacher – protecting her ego – by focusing on the learning of the children. Teresa held fast to her observations of Nish to consistently provide dissonance to the group to find a way to help Nish in his mathematical learning. Over the course of this feedback session we can start to see discontinuity and the group thinking together. It was not quite a joint endeavour, as it was still three individuals talking about a lesson, but there was a starting conversation that might build into joint endeavour and with that joint endeavour the opportunity for teacher learning.

This second lesson by Team 2 felt more like the reviews I had had with Miqdad and Jasmine in the Summer Term 2013, when we completed the pilot study. I felt that the conversation between Jasmine and I was similar in focus to the one Teresa and Alex have in this second review sessions.

What was also interesting is that dissonance and the sustaining of that dissonance to create discontinuity were a clear part of the discussion in Team 2's second feedback session, Alex was able to talk and then Teresa used her observations to challenge and respond to what Alex

## A Primary Head Teacher's Exploration of Lesson Study

thought. This allowed Alex to really consider her thinking about the support she was giving to Nish. Alex's views were listened to by Teresa and Camille but also challenged. The team took an embracing conflict stance (Achinstein, 2002) and this was allowing them to have a more purposeful discussion than they had had in Lesson 1.

Team 1 did not develop in the same way as Team 2– All participants had had the same training about focusing on the learning as a means to deflect attention away from the teacher and thus provide ego protection while still enabling the creation of dissonance. Despite this training, Team 1 continued to protect Libby's ego even though Libby, herself, was providing moments of dissonance for the team to consider. This affirmation of Libby as the teacher meant that moments of dissonance were reduced and there was a sense of moving through the lesson in the review rather than engaging in a discussion as can be seen in Team 2.

Why is there a difference?

\_\_\_\_\_

*It was clear that I needed to give more help and advice following listening to the feedback sessions.*

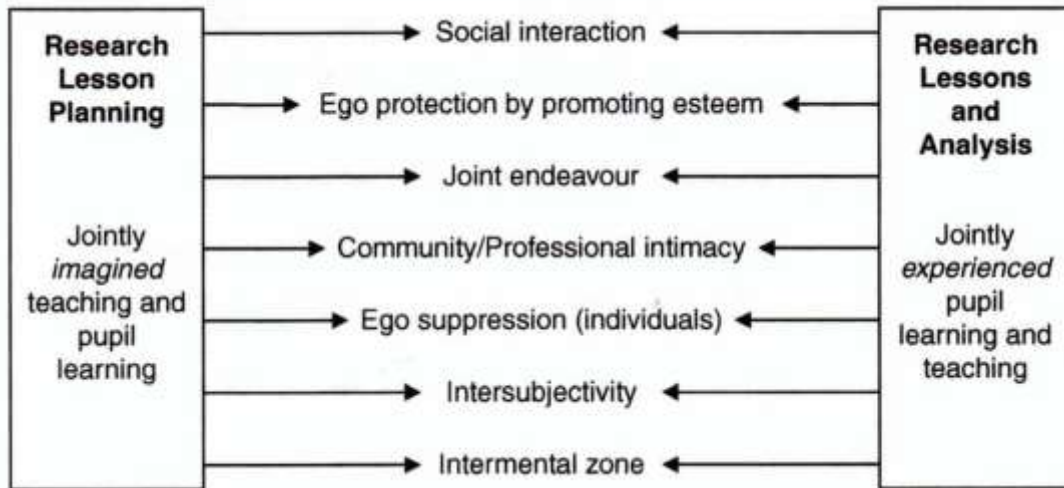
*I needed to help them talk.*

\_\_\_\_\_

I provided some training to all teams following the first lessons, and drew on some of the advice in Stepanek et al (2007) about focusing the attention of the review away from the person teaching the lesson, and onto the learning that was being undertaken within the lesson. I would suggest that Team 2 took this training on board more than Team 1 did, as Team 1 was still concerned with protecting the lesson's teacher. What is complicated about this difference is that it would be possible to suggest that Team 1 were 'ego protecting by promoting esteem' and Team 2 were 'ego suppressing' by focusing away from the teacher.

## A Primary Head Teacher's Exploration of Lesson Study

Both these characteristics are in Dudley's (2015) diagram Figure 1.2, as aspects of teacher learning suggesting that both could lead to teacher learning, and professional learning but why then did only ego suppression seem to lead to the beginnings of teacher learning?



*Figure 1.2: How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 reprinted in Dudley, 2015: 17)*



*If Lesson Study depends so much on the people involved why have there not been more cases of unsuccessful Lesson Study. I think this is to do with the individuals previously involved in Lesson Study studies. Pella (2011) chose her participants and this is a tendency echoed in the advice for setting up Lesson Study groups (Dudley, 2014) which suggest choosing keen volunteers to start the Lesson Study process off. This means that previous research is based on people who are looking to learn, and this may affect the results of those studies, whereas a whole school model will include all types of teacher and in doing so will show that the Lesson Study preparation needs to be different in order to support teachers with undertaking Lesson Study.*



I am not convinced that ego protection (Dudley, 2015) as seen in Team 1's first two lessons is integral to teacher learning in Lesson Study. In fact, ego protection seems to have a negative impact on learning as it prevents moments of dissonance in Team 1 which mean that they do not further their thinking. While I do not think that 'ego destruction' – like that seen in Team 2's initial lesson feedback – is better for teacher learning, I think that if the dissonance offered is about learning, as seen in Team 2's second feedback session, then teacher learning has the opportunity to happen, and thus ego protection for a teacher will happen naturally.,

I think the difference in Lesson 2 between the two teams is an interesting development and suggests that there are elements to consider around professional conflict in Lesson Study that have not featured widely in the Lesson Study literature to date.

#### ***4.4 Further Lessons***

I think an interesting outcome, for the two teams, is by Lesson 3, Team 1 had lost their impetus to continue with the Lesson Study work. They felt like they were not learning anymore and as a team found it impossible to find times they could all do a third Lesson Study lesson.

\_\_\_\_\_

*“Someone is always busy; it is too hard to fit one <lesson> in.”*

*{translation} I do not see the point in this work John, it is not helping anyone learn about their teaching.*

\_\_\_\_\_

## A Primary Head Teacher's Exploration of Lesson Study

Team 1 reported back at the end of the first cycle that they felt like their Lesson Study team had not really learnt anything about their teaching through Lesson Study and identified themselves as a failed group. Some of the team members were able to reflect on the experience as we had started to look at professional conflict and generating dissonance more explicitly in our staff training as being their unwillingness to create any tension, and to avoid conflict. Within Team 1 there were four teachers, who all self-identify as preferring to avoid conflict if they can. Each of them is able to deal effectively with dissonance when it arises but do not like creating it. This is similar to the conflict-avoiding structures seen in Achinstein's (2002) case study. This desire for social-professional consensus was very powerful in Team 1 and is something I had not considered as a factor when starting Lesson Study work. I wonder if the groupings had been different would that have facilitated the teachers more as they may have felt less of a need to ego protect which would have allowed them to create dissonance with their colleagues like Team 2.



*Should I have helped Team 1 increase the professional conflict they had as a group? In hindsight, I have noticed that they did not seem to be able to bring about professional conflict with each other themselves and I recognised that this social-professional consensus as a group was inhibiting their development of teacher learning. However, I had no literature to draw on that suggested that this would happen or how to combat this when it did happen. Pella (2011) and Dudley (2013) had not had to support the development of teacher learning in their examples.*





## A Primary Head Teacher's Exploration of Lesson Study

Team 2 did not have the same difficulty creating professional conflict and were able to continue their Lesson Study cycle. They completed three more lessons, finishing the whole cycle they had planned with each session focusing and honing in on how they were supporting pupils to learn through group work.

When looking at the final three lessons of Team 2 – during the first year of the Lesson Study process – it is possible to see their growth as a collaborative team. I think this is the joint endeavour aspect of teacher learning that Dudley (2015) refers to in his diagram – Figure 1.2.

At the start of their review of the third lesson there is a notable change in the way this group is talking about their work.

### **Team 2. Lesson 3 Review. February 2014**

*The group is sitting in Teresa's classroom at lunchtime, lunch in front of them discussing the lesson that Teresa has just taught to Alex's class.*

**All:** Lesson Study 3? Yes 3.

*Alex introduces the team to their feedback session.*

Alex: So what **we** planned to look at was how the children had self-involvement or self-interest in their work or if they could use story-mapping through a problem: a word problem.

Teresa: So **we** planned the starter so that it linked with what the children were then going to do. We looked at vocabulary. **Did that help?**

This change is identified in the way that the group is now using 'we' instead of I when talking about the lesson. While this is a small change in the pronoun usage for the group it represents a shift in thinking for me as the listener to their discussion. That change shows that it is no longer Teresa and Camille observing Alex, but this was three teachers who were working together. This change was hinted at in their second lesson review where it felt possible that the three teachers would be able to work together to help Nish's learning.

## A Primary Head Teacher's Exploration of Lesson Study

The third lesson was taught by Teresa, a change which allowed her and Alex to have lots of discussions about individual children and share the experience of teaching the same children maths. Even though Teresa had worked with the children in the previous year through her support of individual children and had thought about the way different pupils would see this lesson, it is clear that in their discussion the reality of teaching the class helped her understand the children's needs in more depth.

However, when I consider Lessons 4 and 5 undertaken by Team 2, I start to see a plateauing of teacher learning. Lesson 3 had been a breakthrough for them as a group, and this was articulated in the pronoun change I noted above. Lesson 4 and 5 indicate a plateau in two main areas.

Firstly, there is a plateau in dissonance, the group have a sense of joint-endeavour (Dudley, 2015) and this means they tend to agree, rather than have much discord. The theming for agreement which was not a feature of the transcripts for Team 2 until Lesson 3 becomes more regular and the group's consensus feels closer together.

Secondly, the learning of the group seems to revisit the same information in the planning and undertaking of the final two lessons. Although, I did not initially see a theme of repetition between lessons, when I looked at the discussions in Lessons 4 and 5 there were very similar ideas being raised by Team 2 and repetition of discussions appeared.

Lesson 4 saw Team 2 continue to focus on the creation of different steps to success for each group, and returned to the style of teaching – group focused - they had used in Lesson 3. The atmosphere had changed and they were interested in discussing the work they were doing as they felt they were improving the teaching for children like Nish.

**Team 2. Lesson 4 Review. March 2014**

*Alex, Teresa and Camille are sitting together round a small table in the office; they are at ease with each other and ready to discuss their lesson.*

*Alex begins the talk about the lesson:*

Alex: **We** divided the class into three groups in this lesson. One independent, one guided – with Camille, and one input and left alone with Teresa.

Teresa: I didn't leave them alone though. I kind of prompted them throughout the lesson. I didn't help them as such just talked out loud.

Camille: That's interesting, what do you mean?

Teresa: Well I knew they could do it from the carpet, so I was saying things like, can 44 be a multiple of 5 if we know multiples of 5 end in 0 and 5?

The group's improved relationship meant that the lesson review of Lesson 4 was a fluid discussion. They asked the question about whether they felt pupils needed guidance to reason when working in groups. The results they found from Lesson 4 were mixed.

Camille: I had the guided group. We did the harder question first and worked through it together. Although when we came to the second question, they didn't need me they underlined everything they needed to work out in the question and told me the answer. I suppose my only thought is that there was more than one answer and they seemed content to just find an answer and stop.

Teresa: I think my group responded well to the prompting. It was helpful for them for me to be there. I didn't give them any steps to success or criteria to use but I asked questions.

Alex: My group didn't really need me, but I think two of the children really took the lead and modelled to the rest of the group what to do. I am not sure some of the children would have succeeded independently if those two children had not been there. They kind of acted like the teacher in the way you were working Teresa.

What the three teachers were able to do in Lesson 4, for the first time, was return to their research question, which they concluded they had not really answered. It remained unclear to them from their lesson whether or not guided work helped pupils with their reasoning, as

## A Primary Head Teacher's Exploration of Lesson Study

while Camille's guided group had understood the learning from her guided work, they did not continue to need a guided session for the following question and completed it independently. Alex's independent group, were seemingly able to complete the work, but Alex observed that this was due to the guidance of two pupils within the group, who almost prompted the rest of the group to think about the work they were completing. Alex concluded that those two individuals did not need further guidance – to undertake the learning – but she remained unconvinced that if the two individuals had not been present for the activity then the rest of her –independent – group would have found the learning much more problematic.

It was the findings of Alex and Camille's groups that caused the dissonance in this feedback, not the relationship between the teachers, as I had observed in the previous work of Team 2. This professional conflict was coming from the teachers' reflections and they all offered the initiation on professional conflict to the discussion. This dissonance represented a real moment of discontinuity to the team. They had been presented with findings that seemed contrary to what they were expecting and thus they needed to consider if their belief had been correct or if they needed to change their view point. They had expected that Camille's group would succeed as the adult was there to help but what they found is that while Camille's group did benefit from her initial presence they did not need her beyond that point and chose to work independently from her, whereas Alex's group needed support, which they found in the form of their peers.

It was this peer relationship – within the independent group - that Team 2 sought to explore further in Lesson 5. They wanted to see if it was possible to use peer support alongside teacher inputs to help children to reason. This would build on their work throughout their Lesson Study cycle and continue to seek the answer to whether guidance supports reasoning.

---

*Are they experiencing professional learning? They are looking at group work, and reasoning but where are their ideas coming from?*

---

Within Lesson 5, Team 2 planned and taught a similar lesson to the one they had conducted in Lesson 4. They had discussed between the two lessons how to create Lesson 5 and wanted to investigate their findings a little more in Lesson 5 to see if guidance was having any impact on pupils' reasoning skills.

The teachers talked through the lesson and felt that pupils often felt they needed reassurance throughout the lesson – guidance. They were able to recognise that some pupils were able to move on independently from an initial input, some needed further reassurance and prompting and a couple needed additional support in the form of a guided group.

For me reviewing this lesson, the conclusions of Lesson 5 are frustrating as they do not really build on the discontinuity of Lesson 4 and the group seem to have replicated their findings from Lesson 4 in Lesson 5, which again leads me to consider their thinking in a moment of discontinuity. The teacher learning opportunity they identified in Lesson 4 about seeing if pupils could peer-support each other in their reasoning work was not delivered in their Lesson 5. Which meant that even though this team had been able to generate dissonance to create an opportunity for teacher learning it was not then capitalised on. I wonder if this is due the role of the expert that I discussed in Team 1's Lesson 2 analysis, which suggest that a Koshi (Archer, 2016; Simmons, 2016, Takahashi, 2014) might be able to have furthered their discussion and planning at this point in their Lesson Study cycle.



## A Primary Head Teacher's Exploration of Lesson Study

*Reflecting on the work of Team 2 and seeing Lesson 5 as a plateau of Lesson 4 rather than capitalising on the teacher learning opportunities and excitement of the work in Lesson 4, I wonder if this plateau could have been caused by a lack of expertise in where to go next. By this I mean, did the group know how to take peer relationships in learning further, had they explored Mercer's (1995) or Alexander's (2008) ideas on talk between learners and teachers? Does this lack of capitalising on the moment on discontinuity also link to confidence with identifying that a previously held belief about their pedagogy might be wrong and as such were they, as teachers, ready to question their own pedagogy in this way?*

*Equally, had I discussed with teachers the need to draw on wider reading or greater expertise? I do not think I had done this in enough detail in the training on Lesson Study I provided and as such this is then reflected in the fact that the teachers did not draw on it.*

*Expertise was a theme that has really developed over the time I have conducted my research and if I were starting Lesson Study introduction again I would draw on writers about using experts – Koshi – in Lesson Study work to help develop and draw out teacher learning – particularly in moments when it starts to plateau or when a moment of potential learning is identified so that it can be capitalised upon.*



Something the group did clarify, in Lesson 5, is that the pupils needed to have some reassurance in their work, or indeed access to a reassuring presence from the teacher. They proposed that they could have the facility to access the teacher as the pupils needed throughout their lesson.

#### ***4.5 Collaboration***

In my research questions, I asked if the collaborative nature of Lesson Study is key to its promotion of teacher learning or are other components of Lesson Study more useful in facilitating teacher learning.

I think, from my analysis at Layer 3 of Team 1 and Team 2 in their 2013 – 2014 Lesson Study Cycle, that collaboration is not as straightforward as it may be interpreted and working together in a Lesson Study Team does not mean that you are collaborative. From my analysis of Team 1 and 2 I would say that collaboration can:

- Diminish teacher learning
- Lead to joint endeavour
- Reduce dissonance

##### *4.5.1 Collaboration and diminishing teacher learning*

Teacher learning opportunities in Team 1 were diminished by their collaboration. This happened in both Lesson 1 and 2 as the team collaborated in reducing the dissonance towards Libby who taught both lessons, even though in Lesson 2 Libby was trying to get the team to discuss various points of dissonance.

If Libby had been able to increase the dissonance associated with her reflections of Lesson 2, the group may have been able to hold a discussion like the one seen in Team 2's Lesson 2 review where Teresa increases and sustains the dissonance in her discussion with Alex around Nish. Libby, however, was unable to create this dissonance due to the rest of her team seeking a sense of harmony. Points which might have been interesting to discuss were suppressed by the rest of the team. The group did display a collaborative process, but this was not about teaching and learning it was more about the socialised nature of their professional relationship.

## A Primary Head Teacher's Exploration of Lesson Study

For me, I was unaware that this scenario was even a possibility. Articles that have focused on teacher learning (Dudley, 2013; Fernandez & Yoshida, 2004) did not indicate that the collaboration might mean that the group dynamic reduces dissonance to maintain consensus. Dudley's (2013) article shows how a teacher is convinced by the rest of her group by their conversation, indicating that the group was able to produce dissonance. I feel that even my training on focusing on the children in their lesson reviews – given in November 2013 – was insufficient to address this sense of consensus with this Team, and it is only through further understanding the conflict avoidant stance (Achinstein, 2002) and the role this might play in Lesson Study, that I have understood that for this group to move out of their ego protective stance, they needed an outside generator of dissonance. This outsider would be sufficiently removed from their social relationship to enable them to both preserve their harmony, but also have the moments of dissonance increased to allow for learning.

### *4.5.2 Collaboration leading to joint endeavour*

Team 2 developed their collaboration from Lessons 1 – 5 in their cycle. Lesson 1 was not a collaborative session, with the review feeling more like a hostile lesson observation of Alex. By Lesson 2 the group had moved towards a system of focusing on the children's learning and deflecting attention away from the teacher of the lesson to the learning that occurred within the lesson. In Lesson 2 this hinted at the possibility that the group would be able to develop a sense of joint endeavour. This is something that occurs in the Lesson 3 review when the pronouns change from 'I' to 'We' as they discuss their lesson.

While Team 2 did benefit from some additional training – given in November 2013 - about focusing reviews on learning not teachers (Stepanek et al, 2007) the group were able to start to collaborate and I believe the Lesson Study process helped them do this. The joint planning and reviews meant that while the group had not already established a social-professional



relationship, they were able to form one through their joint interest in solving teaching and learning problems that they encountered from Lesson 2 onwards.



*Getting the training right is something I have learnt about introducing Lesson Study. This is not as simple as picking up the handbooks (Dudley, 2014; Stepanek et al, 2007; Lewis, 2002) and introducing it through training. My training had been based on my reading and my pilot study, but this was not enough and I needed to address aspects of the training in more detail – feedback and giving opinions – to support the teachers between Lesson 1 and 2. Even then it did not always work – such as in Team 1 – because the training had not prepared them to engage with differences or conflict and it did not prepare them on how to give or receive this. Conflict and its role in the collaborative processes of learning in Lesson Study is absent from the literature and this absence meant that it was hard to prepare for the way my teachers interacted. The research I have conducted means that future work on Lesson Study, I do, can involve training on conflict and its relationship to collaboration within it, before teachers are even grouped.*



#### *4.5.3 Collaboration reduces dissonance*

I have already talked about how the collaboration in Team 1 reduced dissonance but this also happened in the later lessons in Team 2 – Lessons 4 and 5. This means that there is something to be said about the socialising effect Piaget (1923) describes, acting within the Lesson Study dynamic and the longer the group work together the more powerful consensus seems to be. This group's socialising or consensus-seeking means that even through Team 2

## A Primary Head Teacher's Exploration of Lesson Study

identify, in their Lesson 4 review, that they wish to explore pupil support in Lesson 5, Lesson 5 is formed instead as a revisiting of Lesson 4 when they joint plan it. The reasons for this change are unclear, but it appears the group did not feel comfortable with creating the dissonance about pupil leadership with Camille following the Lesson 4 review, which is interesting as the group had exhibited high levels of dissonance in their previous sessions and this had moved the group forward.

There is limited information on this reduction in dissonance in Lesson Study work, and although Horn & Little (2010) did not focus on Lesson Study in their article they identified that without a teacher called Alice, the English Curriculum Group they were studying would not have been presented with any dissonance at all, and the group's consensus around homework would have remained unchallenged and unchanged. Alice was forthright in her views in Horn and Little's (2010) study, just as I observed in Team 2, but over time and as the group grew closer through their joint endeavour the dissonance of Team 2 was reduced.



*Again, the group dynamic seems to be so important. The notion of every group needing an Alice, as in Horn & Little's (2010) example seems important, and by letting teachers choose the groups they were in I allowed them to select groups without such a person. Jasmine told me that when they were setting their group up they deliberately wanted people who would not make it difficult to work together. So, for Team 1 they were seeking out social-professional cohesion even before starting Lesson Study work.*

*Looking back at it now, I should have been able to identify who might be Alice-like in Lesson Study work and this may have helped with the group dynamics. However, in my pilot study it*

## A Primary Head Teacher's Exploration of Lesson Study

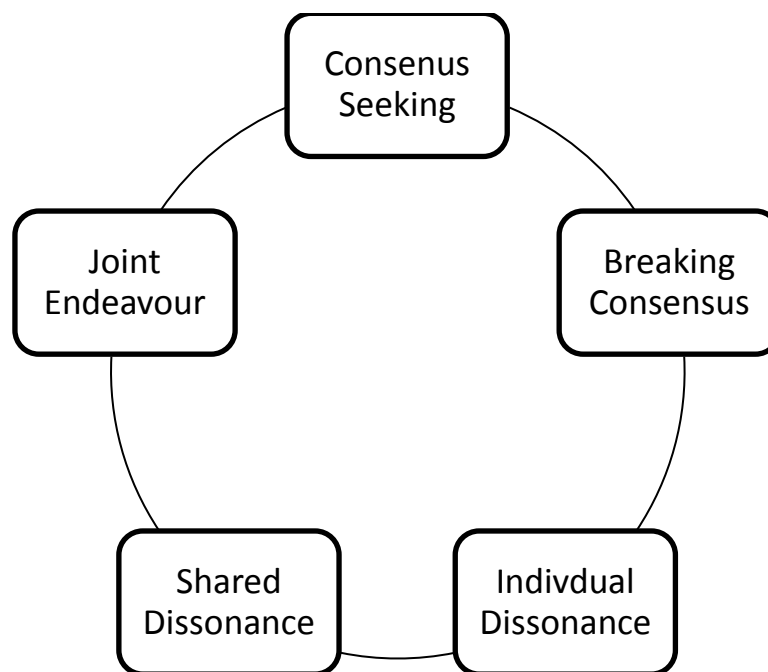
*was Jasmine who gave me the conflict over Ama, and as such I would have thought she might be able to have replicated this in another team, which was not the case from Team 1. Making it entirely possible that grouping is important but the training and understanding of professional conflict/ disagreement is even more important to Lesson Study developing teacher learning.*



This again raises the suggestion that the strands Dudley (2011) identified in the Figure 1.2 diagram might not be as helpful as suggested in understanding teacher learning in Lesson Study as Team 2 did develop a sense of joint endeavour, but towards their fifth lesson this collaboration also started to diminish their dissonance.

### *4.5.4 Conclusions on collaboration*

I think that at this point I have raised more questions about collaboration in Lesson Study than I have answered. I believe that collaboration is best viewed on a continuum circle to understand what I have identified so far.



**Figure 4.4:** A visualisation of a collaboration continuum circle

I have shown in my visualisation of collaboration – Figure 4.4 – that there appear to be multiple states of collaboration within the Lesson Study teams and each positioning had an impact on teacher learning. Team 1 largely occupied the position of consensus seeking and this position meant it was more important to preserve social professional relations than embrace conflict within the group. Whereas, Team 2 moved around the circle occupying each position on the continuum (Lesson 1, breaking consensus and individual dissonance; Lesson 2, individual dissonance and shared dissonance; Lesson 3 and 4, shared dissonance and joint endeavour; Lesson 5, consensus seeking).

For teacher learning the most significant positions, for me, seem to be within shared dissonance and joint endeavour, but Lesson Study groups should be mindful that if the dissonance cannot be sustained within the group then socialising behaviours might bring them to seek consensus and reduce the teacher learning a group might gain as seen in Team 2.

## A Primary Head Teacher's Exploration of Lesson Study

I have identified that for Lesson Study to have enhanced teacher learning in my school, I needed to provide additional support to the collaborative processes and that collaboration in itself was insufficient to provide teacher learning. Festinger (1957) suggests there is a need for humans to seek consonance and I think Team 2 exemplify how a team might move from a discorded relationship to one which seeks consensus. This also brings up the question of social interaction on Dudley's (2011) diagram – Figure 1.2 – as increased social interaction could also make it harder for the collaborative nature of Lesson Study to be effective in supporting teacher learning. Team 1 had a good level of social interaction prior to their work, but then were unable to overcome their social need for consensus to bring about dissonance in their team.

Within the additional support for collaboration I think there would be a need to provide some level of expertise from outside the Lesson Study group. I am not sure whether this might be a Koshi as described in Lesson Study literature (Archer, 2016; Simmons, 2016, Takahashi, 2014; Takahashi & McDougal 2015) or whether it might be sufficient for the group to be presented with a different view, or support from academic and professional literature. This expertise I think would have helped Team 1 as it would have provided outside conflict which Achinstein (2002) suggests is what groups who are avoidant of conflict seek.

This would also have helped Team 2 really push on their teacher learning into Lesson 5 as it may have given them another piece of shared dissonance or the support they needed to explore their interesting findings around pupil support in Lesson 4. The next section will look at expertise as I have seen it at Layer 3.

### ***4.6 Expertise***

Returning to my second smaller question: What expertise is needed to facilitate teacher learning through Lesson Study? I think that Layer 3 has provided a great deal of insight into

how there needs to be a wider range of expertise in order to facilitate teacher learning through Lesson Study.

*4.6.1 Expertise in conflict and dissonance*

I feel that when we started the Lesson Study work in 2013, both the pilot and the main data collection, I was largely unaware of the need to understand expertise and professional conflict in Lesson Study processes. I think this lack of awareness on my part had an impact on the teacher learning that I think is displayed in Team 1 and Team 2. As it was only when I started to review the Lesson Study team reviews that I noticed the level of dissonance in Team 2 and the absence of this in Team 1 and I was able to compare this to my own experience in the pilot study.



*I think my revelation in understanding the need for expertise in Lesson Study has been crucial in my understanding of how Lesson Study is working. I can see how having more expertise would have helped both Team 1 and 2 go further in their Lesson Study work as in Team 1 they would have had some external conflict which helped give them moments of conflict and in Team 2 the expertise may have helped provide further developments and learning in Lesson 5.*



Blase (1991) wrote about the social-political nature and dynamics of schools suggesting that they were complex and fragile social systems which were difficult to explain and that outsiders to those schools would have difficulty comprehending. I think Blase (1991) provides an accurate pen portrait of schools, even 25 years later. I also do not think that I

## A Primary Head Teacher's Exploration of Lesson Study

understood the complexity of the professional conflict relationships Lesson Study might have when we started it in my school.

I feel that having explored Lesson Study through Team 1 and 2 and reflected on it compared to my own experience within my pilot study I am more aware of the need to understand how dissonance and professional conflict work.

*John, you would be so proud of us. We have been having professional conflict with our Maths planning every week.*

*Extract from Research Journal: April 2016*

Having read Blase (1991), Achinstein (2002) and Festinger (1957) and increased my understanding and expertise in professional conflict and dissonance, I have provided training – October 2015 - to my staff on the idea that our social relationships and need for consensus with our colleagues can impede us from learning as teachers. I have suggested in follow-up training to the teachers that they consider moments of professional conflict to be different from personal conflict and this might help them provide each other with dissonance in their professional work. The research journal extract is a comment that Hanna related to me, that she and her year group partner were trying to provide each other with professional conflict to improve their Maths teaching.

If I could revisit the work I did in preparing for Lesson Study in my school again, I would start with explaining about the need to be comfortable with being uncomfortable. How if teachers were able to understand some conflict and dissonance theory the outcomes of Lesson Study might have encouraged more teacher learning than observed in Team 1 and Team 2.

*4.6.2 Expertise in pedagogy/ Lesson Study – Koshi*

The role of the expert is something I have discussed throughout my analysis of the two teams. I am undecided if in Team 1 and 2's lesson this person needed to be a Koshi, as described by Takahashi (2014), and more recently by Archer (2016) and Simmons (2016), who would be a Lesson Study expert or perhaps a subject expert providing the Lesson Study team with a pedagogy or subject knowledge lecture at the end of their review session (as described in Takahashi, 2014) or whether this person might simply be providing a different point of view (like Alice in Horn & Little, 2010).

I suspect the person would need to be sufficiently respected and forthright enough to provide dissonance to a Lesson Study group, even if that group was seeking consensus, like Team 1. Unlike Japan (Takahashi, 2014) where there is a developed culture of Lesson Study and Koshi use, I do not have that local expertise to draw on.



*Is there Lesson Study expertise nationally?*

*It is growing but there is not much expertise readily available and it is nowhere near the models of Koshi shown by Simmonds (2016) and Takahashi (2014).*



This means that expertise needs to be developed within my school and potentially within clusters of local schools to provide opportunities for Lesson Study groups to maintain or generate, in Team 1's case, dissonance that may help them learn as teachers.



*4.6.3 Expertise in reviewing and observing.*

I think linked in the previous two sections on expertise there was also a need to develop the way my teachers were able to observe and review lessons. I had not anticipated the observation Camille would do on Alex in Team 2's first lesson, but when I reflected on it with my own experience of my initial observations it was something about which I should have been more aware. While I had spoken about my experience of observing and being observed in the pilot study, I had not factored in that both Jasmine and Miqdad had experience observing teachers and giving feedback.

I think it would have been beneficial to Team 1 and 2 – especially Team 2 – to have developed their expertise in observing others. Although I had given the teams information about Lesson Study observations (based on Stepanek et al, 2007; Dudley, 2012) and from my own experience, I think it would have been useful to have looked into classroom observation in more detail and while not available before we started Lesson Study work O'Leary (2014) provides a good overview of the potential of observations and their pitfalls.

*4.6.4 Conclusions on expertise at Layer 3*

Hindsight suggests that I should have built the expertise of teachers up before embarking on Lesson Study. Although there is little in the literature on conducting Lesson Study that suggests that teachers would need any expertise at all to undertake Lesson Study work. In the work based in Japan, the reliance is on the tacit culture to build these skills over time (Takahashi & McDougal, 2015; Fernandez & Yoshida, 2004); however, my teachers did not have generations of tacit Lesson Study knowledge to rely upon, or a Koshi to guide them. As such I think it is important for me to consider how expertise may need to be built and delivered as suggested when developing further Lesson Study work.

***4.7 How does this fit in the wider context of Lesson Study?***

I have suggested that collaboration and expertise needed to be further built up within my teachers before embarking on Lesson Study work and that the limited understanding we held within school at the beginning of our Lesson Study work may have impacted on Team 1 and Team 2's teacher learning.

However, I would also suggest that we learnt a great deal about Lesson Study in our school from this first cycle of lessons. We learnt that we needed to develop our understanding of dissonance, conflict, observations, and pedagogy in order to learn from and challenge each other in ways that supported our learning. I also think that our Lesson Study work has suggested to me that I need to think about aspects of teacher learning – like collaboration – in continuums if I am to understand how Lesson Study develops teachers.

Throughout my analysis, I have referenced some of the newer writing on Lesson Study, which is adding to the body of research, and while these have highlighted details in the Japanese systems (Archer, 2016; Simmons, 2016; Takahashi, 2014; Takahashi & McDougal, 2015; Fujii, 2014) they have not really moved my understanding of teacher learning further forward. I would suggest that Lesson Study research is still overly focused on how to do Lesson Study rather than on how Lesson Study works and in doing so is missing the social relationships, the conflict and dissonance relationships and the potential pitfalls I have identified in my analysis.

Fujii (2014) has tried to identify some of the reasons why Lesson Study works in Japan but forms misconceptions in other countries, and this work has some synergy with my observations. Fujii (2014: 75) identifies that in lesson study reviews the focus tends to be on the teacher and this is what I saw in Lesson 1 from both Team 1 and 2. A difference for my study is while this was an issue in the first lessons; we were able to move past it as a school

in the second lessons whereas Fujii (2014) is suggesting it can prevail in other organisations. I think that this suggests that my reflections are pertinent to the further development of Lesson Study in my school, and that my learning and understanding of how Lesson Study develops teachers has improved through this layer of my research.

#### ***4.8 Conclusion: How does Lesson Study develop teacher learning?***

In conclusion to this chapter, I think it is important to return to the overall research question of this thesis: How does Lesson Study develop teachers?

I think in my analysis of Team 1 and 2 I have shown that there are a lot of pitfalls and potential difficulties with using Lesson Study to develop teachers, but I will conclude here not on how it might go wrong but on how it did develop teachers.



*There is a need to avoid these pitfalls and potential difficulties in future as they did detract from the learning teachers could have made in Lesson Study. However, without this exploration, the pitfalls I am trying to avoid would remain hidden. Yet the workings of Lesson Study in my school were complex and dependent on variables: person, experience, professional conflict-readiness, expertise, all of which need to be taken into consideration in any future Lesson Study work we undertake as a school in the future.*



For Team 2 some of the teacher learning happened in their Lesson Study work. Team 2 were able to develop a sense of joint endeavour and explored their 'steps to success' theme which provided them with information which was counter to the ideas they had held and therefore

## A Primary Head Teacher's Exploration of Lesson Study

developed their pedagogical practice, by getting them to think about points of reassurance within lessons rather than structured support –as seen in Lesson 4. For this to happen Lesson Study seems to have provided this group with a framework of collaboration which allowed them to generate dissonance between themselves to try to solve learning problems like those Nish exhibited in Lesson 2.

I would suggest that for Team 2 Lesson Study supported teacher learning through the generation of dissonance which they embraced and used to build up their understanding around systems they had in their classroom.

While I think that Lesson Study supported teacher learning in Team 2, I think that both Team 1 and 2 learnt about their own professionalism (occupational professionalism – Evetts, 2009) during and following their Lesson Study work. I think this is tied to my learning about the need to develop collaboration and expertise and the subsequent training and development I have conducted with staff. I think the initial Lesson Study work provided us with an incentive in understanding our professional relationships, how professional conflict and dissonance work and how we can use observations to closely observe teaching and learning without focusing on the individual teacher.

I also suggest that our Lesson Study work indicates why it is so important that further research is conducted into how Lesson Study works, in order to enable teachers to build up their skills with understanding and engaging in Lesson Study work even in a school or country that is culturally and tacitly different from Japan.

***Chapter 5: Collaboration: How does Lesson Study develop teacher learning?***

---

***Chapter 5: Contents***

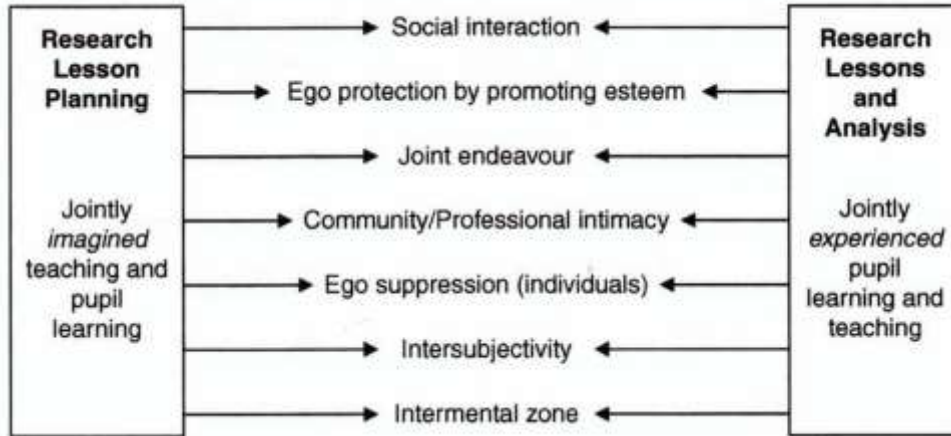
<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>5.0</b>	<i>Introduction</i>	213
<b>5.1</b>	<i>Structuring Collaboration</i>	215
<b>5.2</b>	<i>Theorising Teacher Learning Outcomes from Lesson Study</i>	219
<b>5.3</b>	<i>Positioning Research Data on the Theoretical Outcome Model</i>	223
<b>5.4</b>	<i>Considering Collaboration within Lesson Study</i>	230
<b>5.5</b>	<i>Conclusion: Searching for 'just right'</i>	239

---

***5.0 Introduction***

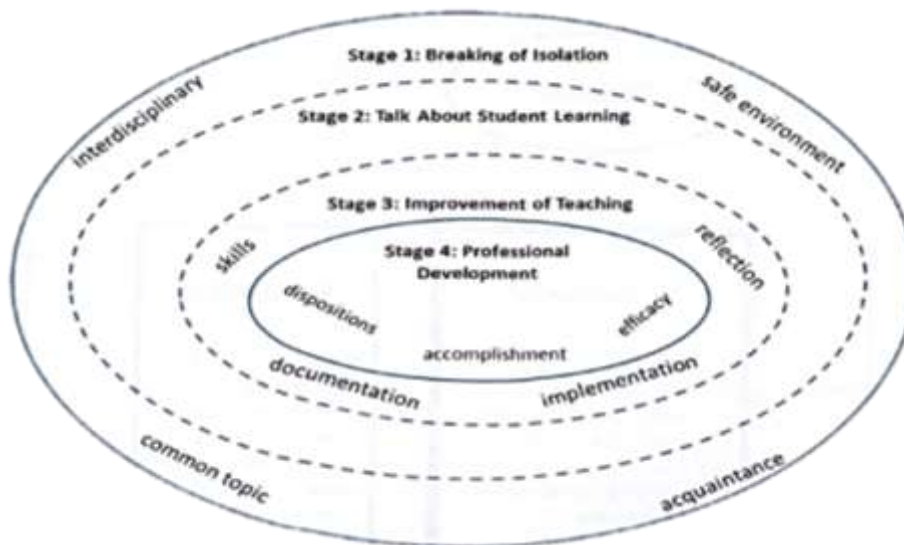
Building on the work of Chapters 3 and 4 this chapter will explore my research question: How does Lesson Study develop teacher learning? through the theme of Collaboration.

There are many different terms that might be encompassed by Collaboration: Partnership, Community/ Professional Intimacy or Joint Endeavour as Dudley (2011; 2015) labels it in his diagram – Figure 1.2 - on teacher learning as a feature of Lesson Study. For me in this chapter, I will use collaboration to mean the working with others to undertake a task or an activity through which the opportunity to create dissonance, discontinuity and thus the opportunity for professional learning may arise.



**Figure 1.2:** How planning, experiencing and analysing research lessons contribute to aspects of teacher learning in Lesson Study (Dudley, 2011 reprinted in Dudley, 2015: 17)

Collaboration occurs in Lesson Study both in its structural method – where the teachers work together to plan, teach and review lessons over time – and in how it develops teacher learning. The sharing of potential knowledge, ideas, skills and expertise happens through the structures designed in the Lesson Study method or rather it can happen providing the teachers involved are adequately prepared to work collaboratively and open to breaking their mutual isolation as indicated by Hadar & Brody (2012) - Figure 5.1.



**Figure 5.1:** Layered model of professional development based on the professional development community paradigm (Hadar & Brody, 2012: 147)

Hadar and Brody's (2012) diagram suggests components such as reflection, safe environment and dispositions may have significance in collaboration between teachers in schools. I have found, through analysing my research data in Teams 1 and 2 that the mere use of collaborative methods, Lesson Study, does not in turn mean that teachers will collaborate in their work. Indeed, collaboration needs further support, within the Lesson Study method, to enable the professional intimacy and trust needed for teachers to feel safe enough to share their opinions, disagree and in doing so produce moments of conflict that may then turn into learning. It is these moments that I believe Dudley (2013) labels, as learning-points, and Pella (2011) labels as transformations.

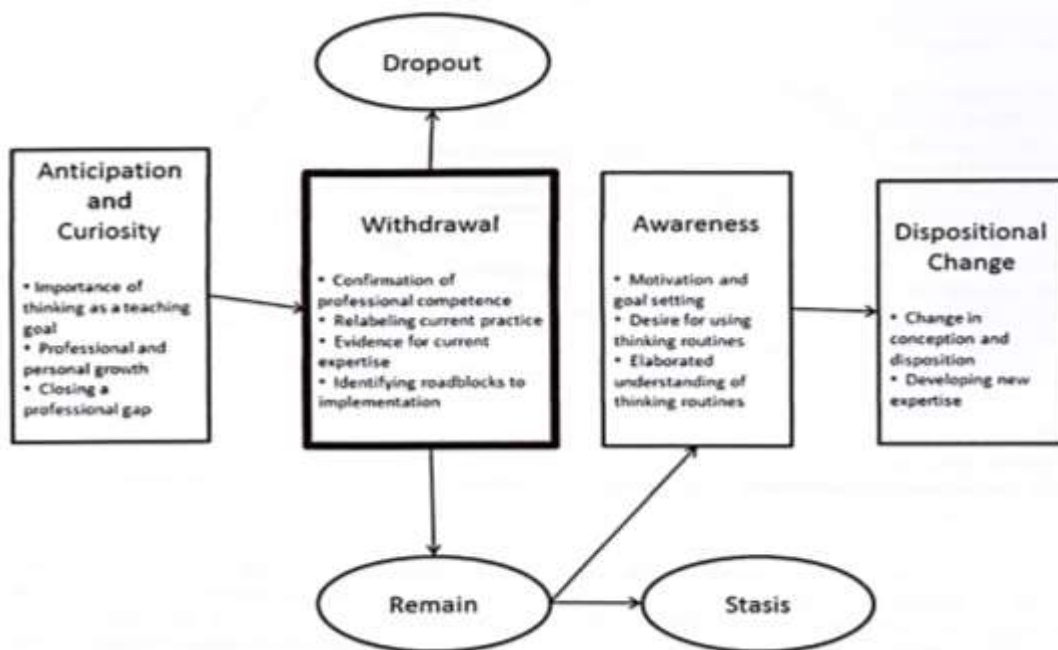
In this chapter, I will build on the discussions I have already had in the text about how Team 1 and 2 collaborated and the ways in which I think their collaboration could have been improved with the view that the conclusion of this chapter will inform my conclusion to this thesis, both in its contribution to new knowledge on Lesson Study but also for how I intend to adapt and use Lesson Study in my school in the future.

### ***5.1 Structuring Collaboration***

I have previously expressed dissatisfaction with Dudley's (2011) diagram – Figure 1.2 and his use of it in later texts (Dudley 2015) as while it suggests that joint endeavour, professional intimacy and collaboration will be created through the Lesson Study process, he does not say how this occurs. Dudley's handbook on Lesson Study (2014) also does not say how these aspects of teacher learning are generated and this is information absent from the literature on Lesson Study as a whole.

Seemingly, my Lesson Study work did not automatically create the collaboration I had been expecting. Of course, this could be in part due to external pressures and differences from the Lesson Study models I had read about in Japan (Fernandez & Yoshida, 2004; Fernandez,

2002) where the tacit culture of Lesson Study meant that Japanese teachers had no real option but to see Lesson Study work, and collaboration as part of their daily roles (Takahashi, 2014; Mooij, 2014). These cultural differences can be seen clearly in Takahashi (2014) and Fernandez & Yoshida's (2004) articles where even differences like all the staff returning to a desk in the staffroom to complete their preparation work shows how the entire culture of teachers in Japan feels different from my English primary school. As a result, it would be unlikely that a method like Lesson Study could surmount all the cultural differences (Mooij, 2014). Thus, to create a sense of collaboration in my school there is likely to be more work and/ or training required than in Japan where Lesson Study and collaboration are more part of the established culture (Takahashi, 2014; Mooij, 2014).



**Figure 5.2:** *Dynamic four-stage model of personal professional trajectories (Hadar & Brody, 2012: 148)*

Hadar & Brody (2012) have considered how culture and an individual's journey to collaboration might be modelled – Figures 5.1 and 5.2. Figure 5.2 suggest that a withdrawal stage should be an expected part of any journey to collaborative processes – such as a Lesson



## A Primary Head Teacher's Exploration of Lesson Study

Study. The option of withdrawal – as demonstrated by Team 1 in my study – I think is easier in my school, in England than it would be in Japan. As Takahashi (2014) suggests, in Japan, the organic development of Lesson Study has meant that it is seen as part of teachers' daily roles and not doing Lesson Study is just not an option. As this kind of cultural expectation is unlikely to permeate across English teaching it means that if collaboration is really going to happen there needs to be work around Lesson Study to enable teachers to develop collaboration.

Misha, a teacher in Team 1, exemplified the difference in culture in my school and the one described by Japanese Lesson Study writers. Many of my conversations around Lesson Study with Misha link to the concept that Lesson Study, on its own, as a process, does not necessarily engender increased collaboration.

*Misha hates Lesson Study. She says she finds it really difficult to think of a question and does not have any ideas of how to make things better.*

*Extract from Research Journal: June 2014*

What is most interesting about Misha's comments is that I think she is a practitioner who naturally seeks collaboration and works with others to solve problems in her class, and in other classrooms across the school. From my experience working with her, she is highly reflective on her own practice and reads widely and with excitement about her professional role. Yet, Misha is also humble and does not wish to boast about her development. This modesty means that she is also unable, currently, to see herself as an expert within her own practice and this could then link to why she hates Lesson Study as the nature of the Lesson Study process expects sharing of knowledge between teachers. For Misha, it might be that she was not ready, or did not feel confident in her own expertise to do this, and because the culture of my school is different from those in the Japanese examples (Takahashi, 2014;

Fernandez & Yoshida, 2004) she was able to withdraw from Lesson Study rather than be culturally expected to continue.



*Misha is an interesting teacher in the Lesson Study process, she continues to be the most anti-Lesson Study teacher yet she is already using expertise and sharing it unlike some of her colleagues. This led me to question whether Lesson Study helps those teachers learn who are already seeking learning for themselves. I hope it does because I think I am a teacher who has learnt through Lesson Study processes, and through the exploration of Lesson Study, but I can recognise why Misha is less keen. Her review was that she found it difficult to present herself confidently so that she can support and develop others, as such she might need a group which already knows the value her contributions could bring to their discussions so Misha's own modesty and uncertainty about her expertise does not prevent her participation. Again, this might be linked to training on professional conflict so individuals can recognise how sharing their thoughts might help themselves and others learn.*



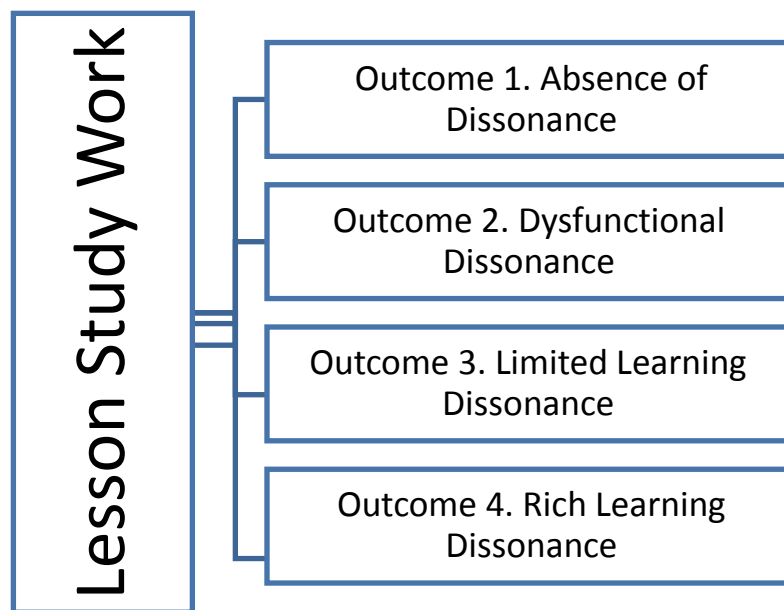
What Team 1 collaboration did not manage to do, was to move through Hadar & Brody's (2012) model of professional development – Figures 5.1 and 5.2. – and this means that Lesson Study as a method does not automatically provide collaboration between teachers. While Team 1 did break isolation, and did talk about children's learning this did not lead to teacher learning opportunities – seen within Team 2's Lesson Study sessions – and as such it did not lead to Stage 4, Dispositional Change on Hadar & Brody's (2012) model. This means

that there is a range of potential outcomes for collaboration within Lesson Study that need to be considered.

### ***5.2 Theorising Teacher Learning Outcomes from Lesson Study***

The potential outcomes of Lesson Study work must therefore be considered before I can continue my exploration of collaboration within Lesson Study.

In Chapters 3 and 4, I detailed how the two Lesson Study groups varied in terms of their opportunities for teacher learning. For Alex, Camille and Teresa, teacher learning opportunities arose whereas for Misha, Hanna, Jasmine and Libby teacher learning opportunities appeared more limited, if they occurred at all. These outcomes in relation to potential teacher learning from the presence of dissonance have led me to theorise four potential outcomes of Lesson Study work:



***Figure 5.3: Model of Potential Teacher Learning Outcomes in Lesson Study***

I will now define what I mean by each potential outcome before using the rest of this chapter to position and discuss my research findings in relation to these theorised positions.

*Outcome 1: Absence of Dissonance*

This outcome is where a Lesson Study Team are unable to generate moments of dissonance and then sustain them into discontinuity and subsequently have the opportunity for teacher learning as shown in Figure 1.3.



**Figure 1.3:** A visualisation of the steps to teacher learning opportunities

I theorise that there might be a multitude of reasons behind the inability for dissonance to be generated within Lesson Study work and these reasons link to some of the ideas Hadar and Brody (2012) indicate in their diagram – Figure 5.1. I have grouped the reasons for the Absence of Dissonance together to form four core reasons: Consensus-seeking behaviour; Incompatibility; Lack of knowledge or skills and Time constraints.

I consider consensus-seeking behaviour as an extreme position on a safe environment establishment spectrum. It is where a team diminish dissonance by seeking to affirm social-professional relationships, work-friendships or avoid conflict. Achinstein (2002) describes one of her two case-study schools as being avoidant of conflict and this would be encompassed within this reason for the absence of dissonance. Within Achinstein's (2002) conflict avoidant school the individual sought to promote their professional unity over change and development, this meant that they were not ready or open to professional learning that conflicted with their current positioning. It is this consensus-seeking behaviour that means that when moments of dissonance occur through discussion the group dynamic employs a check which diminishes and reduces the dissonance meaning that it does not continue to discontinuity or potential teacher learning.

## A Primary Head Teacher's Exploration of Lesson Study

The second reason is incompatibility. This is a broad reason as it includes: lack of reflection, lack of interest in the Lesson Study process, lack of comprehension of the perceived or actual value of the method and challenges of personality within a Lesson Study team. Incompatibility would reduce the structures of collaboration and would mean that the teachers working within the Lesson Study team might find it harder to work together as the incompatibility may produce dissonance which means the structure of a Lesson Study may not be able to be created.

The third reason I suggest may lead to an absence of dissonance is that a Lesson Study team may lack expertise, in knowledge, pedagogic skill or/ and Lesson Study understanding. A lack of expertise may mean that the group are unable to produce moments of dissonance as they do not know enough to generate or they do not possess enough different knowledge within the Lesson Study team to generate their knowledge. I will explore expertise and its role within Lesson Study in greater depth in Chapter 6.

The final reason for absence of dissonance within Lesson Study is linked to the second reason in that time constraints on Lesson Study work may mean that a group has insufficient time to generate moments of dissonance as the team may struggle to meet, or have the space to generate a discussion which allows them to present each other with moments of dissonance.

### *Outcome 2: Dysfunctional Dissonance*

I propose that outcome 2 – dysfunctional dissonance is when the intensity of the dissonance is unproductive to the Lesson Study team moving through their discussion. Dysfunctional dissonance might be typified by the generation of moments of dissonance that create such discord in the group that the individuals find the conversation too hard to maintain and thus seek to end or avoid further discussion. The reasons for this may be varied but could include that the moments of dissonance are presented against one member of the Lesson Study team;

## A Primary Head Teacher's Exploration of Lesson Study

there is a significant disagreement and little way forward; a member or members of the team might be intransigent in their viewpoint and rigid in their thinking and/ or the team might not be able to move past other wider cultural issues within the school that mean their discussion is unproductive and focused on what is negative in their work rather than a problem-solving scenario as envisioned through the Lesson Study process.

### *Outcome 3: Limited Learning Dissonance*

Limited Learning Dissonance is an outcome stage where a group will be able to generate moments of dissonance, move these to moments of discontinuity and provide the potential for learning opportunities to take place. However, the learning opportunities or potential outcomes are reduced by a limiting factor which reduces the learning potential to the teachers within the Lesson Study team. These factors are similar to the ones identified in Outcome 1 – Absence of Dissonance, namely: consensus-seeking; incompatibility; lack of expertise and/ or time. As with Outcome 1 these reasons reduce the overall learning opportunities within the Lesson Study team but crucially in Outcome 3 there is some dissonance generation which in turn allows some limited learning to take place.

### *Outcome 4: Rich Learning Dissonance*

As this outcome model is a theoretical model Outcome 4 is synonymous with the ideal outcome for Lesson Study; an outcome where rich learning takes place and is sustained. Essentially, Outcome 4 is Outcome 3 without the reductive elements. I see this outcome as being one where discussions continually provide the steps towards teacher learning I have outlined in Figure 1.3.

I have put a fourth outcome on the diagram because I think there is a potential outcome that I did not see in the Lesson Study work at Layer 3. I think there had to be a notion of a group that is able to sustain teacher learning through dissonance beyond that explored in Team 2's

Lesson Study work. So, I have included Outcome 4 as being a measure of sustainable Lesson Study work where learning and dissonance are sustained through the Lesson Study cycle.

Outcome 4 would correspond to the impression that is given in the literature around Lesson Study both in Japan (Fujii, 2014, Takahashi, 2014; Takahashi & McDougal, 2015) and elsewhere (Dudley, 2013; 2015). While I am optimistic of Outcome 4 being a potential outcome I am also wary that it appears to be the prominent outcome featured in published research on Lesson Study. By that I mean there is little attention given to Lesson Study groups who produce outcomes at Outcome 1 or 2, although Hart, Alston & Murata (2011) do allude to the potential of less successful Lesson Study groups. Yet, I found in Chapters 3 and 4 that both Team 1 – at Outcome 1 – and Team 2 – at Outcome 3 – proved to be very enlightening for me in seeing how Lesson Study might work to develop teacher learning. The absence of such research in the body of knowledge on Lesson Study means that Lesson Study might be portrayed or understood by head teachers like me as being a method that promises to support teacher learning in a collaborative way.

### ***5.3 Positioning Research Data on the theoretical outcome model***

By considering the research data, I have explored in the previous chapters against my Lesson Study outcome model it is possible to show how Lesson Study can, through collaboration, support the generation of teacher learning and how the Lesson Study method and its collaboration is also insufficient in isolation to provide all the conditions to support opportunities for teacher learning. The limitations of collaboration consistently relate back to the barriers to dissonance generation I have established in Outcome 1 – absence of dissonance.

## A Primary Head Teacher's Exploration of Lesson Study

### *Team 1: Outcome 1*

Team 1's initial transcripts showed high levels of agreement, including adding to previous statements and echoing each other, all behaviours that supported the group to communicate and get on well with each other. However, the group's affirmation reduced dissonance and their focus was on consensus-seeking, which was also avoidant of conflict within the Lesson Study team, prevented collaboration which could have led to the development of teacher learning. I place Team 1 at Outcome 1 – Absence of Dissonance due to their consensus-seeking behaviour removing the opportunities to sustain dissonance into discontinuity.

The positioning of Team 1 at Outcome 1 suggests that the collaborative methods of Lesson Study are insufficient to always elicit opportunities for teacher learning as they do not automatically allow the generation of dissonance. In a team where there is a strong socio-professional dynamic and focus on consensus rather than on conflict the collaborative method of Lesson Study will not be able to break through the establish culture and thus even though moments of dissonance may occur they will be reduced or ignore as they were in Team 1's Lesson Study discussions. So, a key component of Lesson Study being able to generate opportunities for teacher learning through collaboration is the culture of the school and whether the teachers within that group are able to generate and receive professional conflict in an embracing way (Achinstein, 2002).

---

*Is the group structure more important? I wonder if someone like Camille had been in Team 1, would they have had dissonance then?*

---

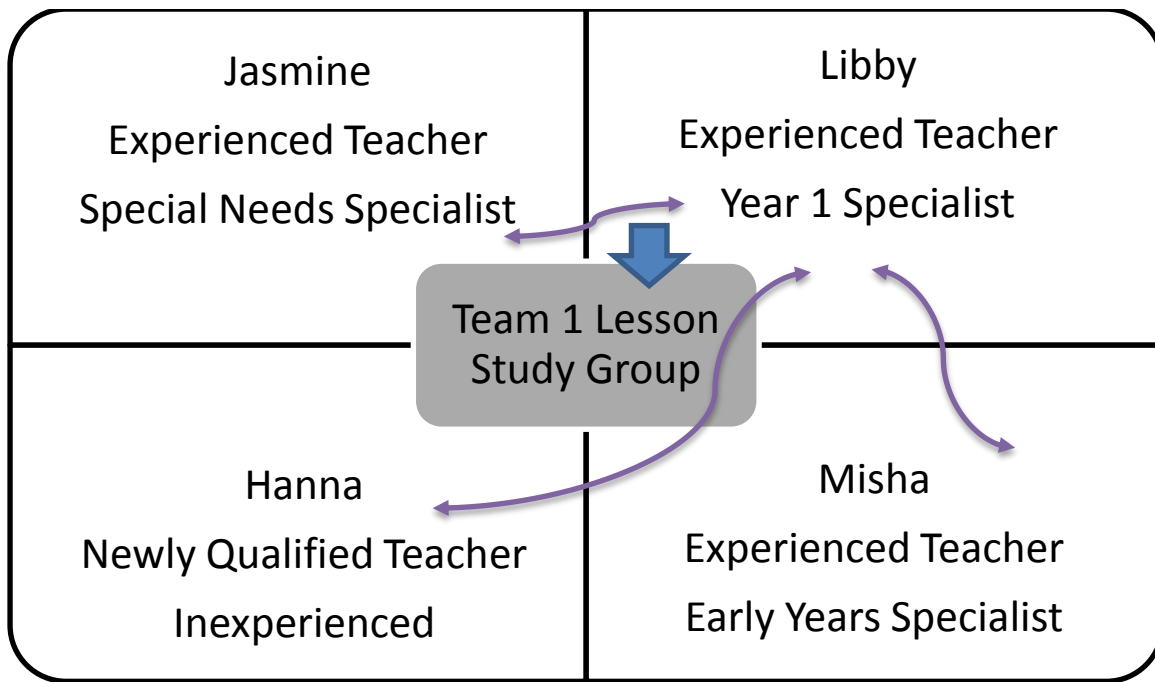
Does this mean that the team's structure, its generation or its membership needs to be more carefully considered before the commencement of Lesson Study work?



## A Primary Head Teacher's Exploration of Lesson Study

I have reflected on the idea that a person can, in one group, provide dissonance. Horn & Little (2010) looked at two curriculum teams, one for English and one Maths, within a school in the United States, and while their focus was not on Lesson Study, they did look at collaborative planning and conversations about teaching and learning in class. The synergy and the contrast between the two lesson study groups selected from my research data for consideration and the two curriculum teams in Horn & Little's (2010) is striking with one group seemingly being more able to sustain and use dissonance to develop their learning than the other. Yet a difference between the experience recalled in Horn & Little (2010) and Misha, Hanna, Jasmine and Libby's group is that in the English curriculum group there is a teacher called Alice, who is persistent in expressing her view on the learning that the team are undertaking with the 9th Grade groups. Alice's persistence in conveying her identification of a potential misconception that pupils could have is quite striking (Horn & Little, 2010). However, for me it indicated the element which was missing in Team 1 – the individual who was happy to have a little discomfort between colleagues because it was less about maintaining relationships than it was about children's learning. If Alice had not been in that curriculum team in Horn & Little's (2010) study then that misconception she identifies would have gone unconsidered, and it is likely that some pupils would have then found the creative writing task on memories rather challenging to complete, which is the point Alice eventually conveys to the team. This example from Horn & Little (2010) and my own analysis suggests that there is a need within Lesson Study for participants to be able to express their thinking, and provide dissonance while not worrying about social and professional relationships or group harmony. This means that consideration of the individuals being assembled together is important in generating outcomes above Outcome 1 on figure 5.3.

The individuals within Team 1 are considered in Figure 5.4 below.



**Figure 5.4** Visualisation of the social consensus and dissonance in Team 1

Figure 5.4 shows purple double arrowed lines which indicate the reduction of dissonance as the group affirmed Libby's teacher ego during their Lesson reviews. However, I have also included the blue arrow that represents the attempts in Lesson 2 from Libby to try to provide some dissonance to herself. Does this attempt by Libby to initiate moments of dissonance show that in a different team culture she would have been able to have sustained this dissonance to discontinuity and ultimately had the opportunity to generate teacher learning? Would training have helped? Can the culture of the other individuals in the team be changed? Crucially, Jasmine had been different in the generation of dissonance within the pilot study and as such the dimensions of Team 1 is interesting as it showed that while individuals like Alice (Horn & Little, 2010) might be important, the prevailing culture, embracing or avoidant (Achinstein, 2002) seems to be most important in reducing dissonance and this placing a Lesson Study team at Outcome 1. The learning here for me is that if a team appears to be consensus-seeking or avoidant of conflict then something needs to change within the dynamic of the team, such as training on conflict or providing the team with someone with an external

position which would help generate dissonance while enabling the team to maintain their social-professional consensus (Achinstein, 2002).



*Would placing an individual like Alice (Horn & Little, 2010) in Team 1 actually have worked for the team to generate dissonance?*

*Libby is anxious about conflict – Jasmine suggests an expert would be better in their group – do you need to make a list of everyone in the school and group where there are strengths and weaknesses – is knowing professional conflict will happen enough?*

*Can you really train for professional conflict?*



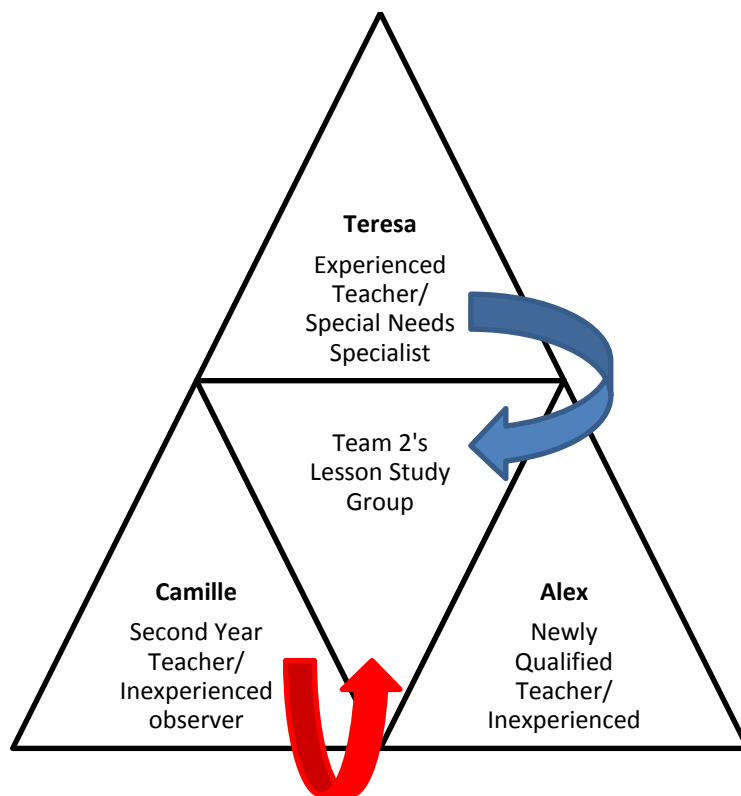
*Team 2: Outcome 2 moving to Outcome 3*

Team 2 did not start off with any socio-professional relationship and were a newly formed team on the outset of their Lesson Study work. As discussed previously, this manifested itself as a team where the teachers did not take turns effectively or equally share the views of the team's participants. While this generated high levels of dissonance between the Team, the dissonance was dysfunctional because it felt like a personal critique of Alex, and the paralanguage within the discussion indicates that the more critique that was received the less receptive Alex became to it. Alex's passive defiance, indicated by her reduction of responses, toward Camille emphasises that the dissonance was dysfunctional as it was not a collaborative discussion where all members were equally involved. This in turn meant that the dissonance was not continued to discontinuity or a potential opportunity for teacher

## A Primary Head Teacher's Exploration of Lesson Study

learning as dissonance was too frequent and insufficient space was given by Camille to allow Alex the time to consider the moments of dissonance. This then resulted in the dissonance closing down the team's conversation, and it is likely had Alex been less resilient this Lesson Study team may have failed to undertake any further lessons.

By Lesson 3 Alex, Teresa and Camille presented as a team, emphasised by their pronoun shift from I to We throughout their review and the building and adding onto each other's ideas. Their dissonance generation remained frequent, and often generated through reflection which meant that they also had limited affirmation behaviours. They were comfortable with feeling uncomfortable and this allowed them to develop teacher learning.



**Figure 5.5:** Visualisation of the individuals around Team 2's Lesson Study work showing dissonance arrows

## A Primary Head Teacher's Exploration of Lesson Study

Figure 5.5 shows that in Team 2, dissonance was brought into the dynamic of the Lesson Study team by Teresa's expertise and experience – seen in Lessons 2, 3 and 4 – and from Camille's lack of experience as an observer – Lesson 1.

The differences between the initial lessons and the 3 and 4 lesson in Team 2's Lesson Study work suggest that this team initially occupied Outcome 2 – Dysfunctional Dissonance and we able to transition, with support, to Outcome 3 – Limited Learning Dissonance. They established their collaboration and started to work through their moments of dissonance transforming them to teacher learning opportunities. Yet, this work was limited. As the analysis in Chapter 4 showed the team plateaued and their final lesson is very similar to their fourth lesson, adding little and providing little dissonance. I suggested the reasons for this plateau were linked to expertise of subject and pedagogy. Team 2 seemed to have exhausted their difference by the end of lesson 4 and thus their Lesson Study became limited.



*Team 2 exemplify why the training needed to be different. While I may have been able to be clearer in my generic training on turn taking in review sessions based on Stepanek et al (2007), I had little indication from the literature that dissonance would be generated for a Lesson Study review in the way Camille generated it in Lesson 1 of Team 2's work. Had Camille had more training on depersonalising her feedback – which I did after the first lesson – or there had been someone else present as an external moderator or expert in this group, it might have been possible to have supported this Team in finding a more productive structure in this first lesson review.*



*Pilot Study: Outcome 3*

My pilot study can also be described as reaching Outcome 3 – Limited Learning Dissonance as while the team has high group consensus, and limited affirmation behaviours there were opportunities for dissonance to be sustained to become a teacher learning opportunity, particularly around understanding Ama's fraction misconceptions, which have hugely altered my own thinking about fractions and have influenced the way I teach fractions now.

While not perfect, the pilot study group were ready to be collaborative and did not exhibit dysfunctional dissonance like Team 2 and the teachers were prepared to share and take turns creating dissonance at the expense of affirmation which meant that teacher learning could develop this was limited by time, and the expertise of Lesson Study and thus the outcome of the Lesson Study was limited learning.

***5.4 Considering Collaboration within Lesson Study***

September 2015

*Dear Head Teacher,*

*Lesson Study promises to be a collaborative process but I think we should take care with this statement. I have found in my research that collaboration within Lesson Study might be dependent on a wider range of factors than following guidance on Lesson Study in the Lesson Study Handbooks.*

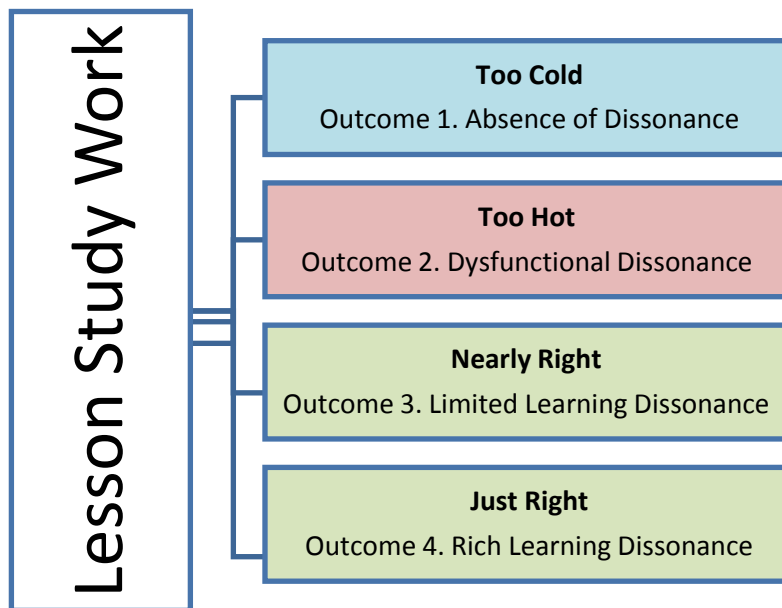
*I am currently in pursuit for a 'just right' notion of Lesson Study collaboration. I have identified that Lesson Study can have a range of potential outcomes: 1 Absence of Dissonance; 2 Dysfunctional Dissonance; 3 Limited Learning Dissonance and 4 Rich Learning Dissonance. Yet my experience so far suggests that achieving the fourth outcome is harder than anticipated or suggested by the current literature on Lesson Study. There are many complicating factors surrounding collaboration that need to be considered before starting – even compiling a Lesson Study team – as these factors might make the difference between a team experiencing the potential to learn or not.*

*Warm regards,*

*JP Mynott*

## A Primary Head Teacher's Exploration of Lesson Study

To continue exploring collaboration within Lesson Study and its involvement in the generation of the potential opportunities for teacher learning it is important to consider what does not make a Lesson Study 'just right' as much as what might make it 'just right'. With this in mind I suggest that my Lesson Study outcome model – figure 5.3 – could be amended – figure 5.6 – to show how collaboration might be too cold, too hot and just right in Lesson Study teams in its generation of dissonance.



*Figure 5.6: Model of Potential Teacher Learning Outcomes in Lesson Study with consideration of a rating for dissonance generation*

I am suggesting in this chapter that a consideration of the desired outcomes of Lesson Study is important at the outset of any Lesson Study work that might be undertaken. As I have shown through my exploration thus far the reality of Lesson Study might not be Outcome 4 as to reach this 'just right' outcome would involve effectively navigating the complexity of collaboration within Lesson Study and a school's culture.

I have suggested that in order to prepare for Lesson Study further consideration must be made on training on dissonance; preparing to generate dissonance through team selection and support to build expertise.

*5.5.1 Training on dissonance*

One way I think the collaborative element of Lesson Study could be further enabled in my school is through training my staff on professional conflict.

—

*Who here is someone who avoids conflict? About half the hands in the room are raised, and some teachers are looking around – can they say they dislike conflict...*

—

Training on providing and accepting dissonance would help teachers, like those in Team 1, separate their social-professional relationship and their professional relationships so that they are able to talk about learning without worrying about causing offence or avoiding saying what they thought.



*Achinstein (2002) talks about her understanding of collaborative schools where conflict is present, and while she endeavours to describe these two different models, it is clear from the tone of her book that she is in favour of the more conflict-embracing style. This is a style that has resonance with me, and my school. I do not want a community of people who all think alike, as while this is good for group harmony (Achinstein, 2002) it is not necessarily the best thing for development of staff or for pupil learning. Hadar & Brody (2012) try to capture the dynamics of the group function, which is equally something Achinstein (2002) tries to do. Their elaboration, on the challenges of working collaboratively due to the difficulties of the personal overriding the professional are evident in both texts. Achinstein (2002) even gives the examples of teachers leaving a school because their views conflict with the school's culture and thus they feel their views are ignored. In such cases an individual teacher must*



*conform or leave. I do not consider this to be an effective form of professional conflict, and conformity should be carefully considered in teacher learning, as it might mean we are all doing something ineffectively or incorrectly but do not wish to be challenged on it.*



While Team 2 were given some of this training and support, I think it would have really prepared them for their Lesson Study work if it had preceded the start of their cycle. By structuring their collaboration in this way, alongside the generic training I had provided on Lesson Study – as outlined in my methodology, I think this would have given them a structure that would have supported their Lesson Study work to develop teacher learning. As a result, I will be adapting future Lesson Study work at my school to ensure it responds to this learning and I will continue to reflect on the elements of structure within collaboration that Lesson Study groups need to find the ‘just right’ conditions to develop teacher learning.

None of the first lessons was the ‘just right’ scenario of structured collaboration and this backs up my exploration of Lesson Study in this thesis, however I do think that Lesson 3 from Team 2 gives a closer representation of this than any other point in my research.



*The literature I have read on Lesson Study continues to promise me Outcome 4 on my model. My experience has shown me Outcome 1 and Outcome 3. When I embarked on Lesson Study I was expecting everyone to get to Outcome 4 because that was what I thought the literature implied, this is in part due to me reading into the success of the articles Lesson Study groups without questioning enough as to why everyone was successful and outcomes were great.*

## A Primary Head Teacher's Exploration of Lesson Study

*Recent literature (Takahashi & McDougal, 2015; Takahashi, 2014; Fuji, 2014) has started to suggest that not everything is as positive in Lesson Study as it might have appeared in 2013, and my research experience supports the notion that there are far more potential outcomes for Lesson Study groups than the literature implies, even today.*

*In hindsight, while I thought about the lack of deviant studies and how it was odd, I did not think about how the outcomes of my Lesson Study teams might vary from the published research and so did not prepare for the outcomes I have modelled.*

*That said, my research has allowed me to propose these models, and this may help me think about future Lesson Study groups and how adjustments to group dynamics, membership and the use of expertise might avoid a group ending with Outcome 1 or 2.*



Yet, before discussing group dynamics and Lesson Study dissonance generation it is important to note an aspect of culture identified by Achinstein (2002) is that dissonance can feel uncomfortable and to be able to use dissonance as part of a learning process as I have suggested in Figure 1.3 there must be some awareness of the need to feel a little uncomfortable in order to experience a discontinuity. Thus, I am suggesting, that I agree with Achinstein (2002), Harmon-Jones & Mills (1999) and Festinger (1957) that disagreement and dissonance can and do feel uncomfortable but that seeking-consensus and affirmation rather than exploring dissonance, like in Team 1, can be detrimental to the teacher learning opportunities that Lesson Study can present.

## A Primary Head Teacher's Exploration of Lesson Study

I think the work of Piaget (1923) and Vygotsky (1934) has been very useful in helping teachers understand how we become socialised in both our language and our thinking.

---

*So, if being uncomfortable professionally is good. I need to help my teachers understand how they can embrace conflict more to have a professional conversation.*

---

In many ways, I think that we have become over-affirming in my school's culture and while it feels difficult at times to think about dissonance positively understanding that an amount of dissonance is important to learning. Training on dissonance would also aid Team 2 as it may have moderated the huge amount of dissonance between Alex and Camille – a dysfunctional amount – so that they may have been able to move to Outcome 3 earlier within their cycle and if over limitations were overcome moved to Outcome 4.

### *5.5.2 Preparing to generate dissonance through team selection*

A fundamental finding from my research has to be the nature of the relationship of the team's participants. For as much as Team 1 was affirming and consensus-seeking, Team 2 were dysfunctional in their dissonance generation. The balance of the team's participants seemed to be lacking. This is not what Pella (2011), Dudley (2013) or Horn & Little (2010) found in their studies and while only Pella (2011) is explicit in her design surrounding the selection of her participants it seems that an important consideration for the perceived success of Lesson Study might be who is involved in the discussions and how they might generate dissonance.

The suggestion from research that Lesson Study automatically presents learning through collaborations needs more consideration here. Pella's (2011) article cites four teachers, who are all advanced in their teaching skills as they are working in their schools and with others as consultants, from four very different settings with four very different classes (pupil

## A Primary Head Teacher's Exploration of Lesson Study

population/ social-economic factors, Pella, 2011). What Pella has created in her study is a situation where the four teachers are very different and operate in four different school cultures, bringing them together to work on a collaborative Lesson Study cycle means that they bring this difference into that study and with it the potential for professional conflict and subsequent teacher learning opportunities. They are not four teachers in one school who already have a social-professional relationship and as such Pella's (2011) example of collaboration promoting teacher learning is flawed as it does not consider if the learning would be replicable with other teachers who are less experienced, less trained and who might be more reluctant to participate, those barriers I have suggested could prevail in Outcome 1.

The Pella (2011) scenario of expert collaboration is harder to see in Dudley's (2013) example of Rose and Wanda. The reason this is harder to see is that Dudley's focus is on a word level analysis and not the context of these teachers. Pella (2011) is explicit in her research design about the selection of the teachers, whereas Dudley (2013) is not. Dudley does talk about how Wanda coaches Rose when they have a difference of opinion (Dudley, 2013: 113) and I think this combined with Wanda leading the discussion within Dudley's Lesson Study suggests there is an element of difference – maybe in terms of hierarchy - between these teachers, which in turn provides the potential for professional conflict. It could be that Wanda is a teacher akin to those selected by Pella (2011) for her research study, but without the context we cannot say. What I can say is that if Wanda had not been present then the opportunity for Rose to learn may have been reduced and again this questions whether it is Lesson Study and the collaborative nature of the Lesson Study process that provides teacher learning opportunities or whether the individuals within that process are more significant to teacher learning opportunities.

The examples of both Pella (2011) and Dudley's (2013) Lesson Study groups are thus very important in understanding how the collaborative nature of Lesson Study develops teacher

learning. If there are differences (significant in the case of Pella's, 2011 study) between the individuals, then it will be easier to create moments of dissonance and if these individuals are more expert in their own skills they are likely to be more able to enable opportunities for teacher learning. I found that if there are fewer discernible differences between individuals and the group had not been selected to have discernible differences – Team 1 – then professional conflict is less likely to occur. Equally, the frequency of affirmation might be higher in groups which are closer and do not wish to create friction between themselves and their colleagues, so collaboration, in these groups, may end up reducing opportunities for teacher learning.



*The design of the team is important, but how do you know which individuals to put together. Jasmine was able to give dissonance to me but unable to achieve this in Team 1. Does that mean that I need to think about who and how she generates dissonance?*



It was through my subsequent conversations with Jasmine that I started to understand more about team dynamics and dissonance generation. Jasmine was very clear that she knew I would not take her views personally even if they were hard to hear because she knew that I would be able to understand that they were about improving learning for children. She also knew that I would be able to respond, defend and support my ideas meaning that she would be able to hold a challenging and purposeful discussion with me. Although, she was unclear as to the elements of working within Team 1 that meant she did not feel that she was able to replicate the dissonance generation within this team. This confliction shows both the

complexity of establishing a team for Lesson Study and also the challenges of understanding how an individual might respond within the Lesson Study's collaborative process. Crucially, as a teacher and a Lesson Study researcher I need to explore this further to continue to understand how the design of the Lesson Study team might generate Outcome 4 on my model, and produce the same meaningful learning as suggested in research (Dudley, 2013; Pella, 2011).

### *5.5.3 Support to build expertise*

Tied into the need to further consider the individuals within the team is the need to consider the individual's subject, pedagogic and Lesson Study expertise. As within Team 2's plateau there was a need to draw on something more than the team members could provide. Their expertise had got them so far but they could not move from limited learning to rich learning because they could not see a way to evolve and continue their enquiry further.

There is a case for suggesting that opportunities can come from the differences in expertise between the participants. Pella (2011) demonstrates this with her study on the four English teachers working through Lesson Study and creating dissonance with each other's practice, around high expectations of English language learners. This enabling of dissonance works because of the nature of our isolation as teachers (Hadar & Brody, 2012) as being brought together to discuss something you have done on your own, and with your own expertise is likely to generate differences with someone else who has also developed in isolation or in a different school. As each individual teacher, will have their own perspective and thoughts on teaching and learning that they bring to the Lesson Study work, there is likely to be some potential for dissonance. Although this potential may in fact be limited learning dissonance rather than rich learning dissonance as the expertise as a whole within the group may be insufficient to continually provide dissonance throughout the Lesson Study cycle. I would suggest that the prevalence of a 3-Lesson Study cycle (Dudley, 2014; Stepanek, 2007) might

disguise this lack of expertise initially as it would mean that plateaus like the one I have identified in Team 2 may go unnoticed, and instead the learning might appear richer than it really is if the enquiry had been followed further.

Expertise will be the focus of the next chapter as this is an important strand to be consider in how Lesson Study develops teacher learning.

### ***5.5 Conclusion: Searching for 'just right'***

At the beginning of this chapter I set out to explore: How does collaboration in Lesson Study develops teacher learning? I have identified that there are elements of the structure that produce the opportunity for individuals to break their isolation and share their experience and expertise. There are opportunities to work with others in a way that allows for the generation of dissonance between teachers which if appropriate and appropriately sustained can allow for the generation of teacher learning. However, I have also articulated that learning is not the only outcome for Lesson Study work and there are many cultural aspects and limiting factors that can persist within a Lesson Study team that may send their work to dysfunctional dissonance or absence of dissonance rather than limited learning or rich learning dissonance. In my exploration of Lesson Study thus far I have suggested that the search for a 'just right' model of Lesson Study may need more consideration of the limiting factors that I have identified and my Teams have experienced so the impact of these are diminished and the likelihood of achieving Outcome 3 and Outcome 4 on my Lesson Study model as increased.

***Chapter 6: Expertise: How does Lesson Study develop teacher learning?***

---

***Chapter 6: Contents***

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>6.0</b>	<i>Introduction</i>	240
<b>6.1</b>	<i>Expertise of the Lesson Study Process</i>	241
<b>6.2</b>	<i>Planning and Conducting Lesson Study</i>	244
<b>6.3</b>	<i>Reviewing Lesson Study</i>	251
<b>6.4</b>	<i>Pedagogical Expertise</i>	259
<b>6.5</b>	<i>Sequences</i>	261
<b>6.6</b>	<i>External Expertise</i>	264
<b>6.7</b>	<i>Knowledgeable Expertise in School</i>	267
<b>6.8</b>	<i>Conclusion</i>	269

---

***6.0 Introduction***

As with Chapter 5 this chapter will build on my analysis of Lesson Study undertaken in Chapters 3 and 4; in doing so, I will explore the theme of expertise in Lesson Study.

Expertise in Lesson Study can mean two things. Firstly, it can be someone who understands the processes of Lesson Study in the cultural and educational setting that Lesson Study is being undertaken. Based on the literature review in 2013 this is likely to only have been described by a few authors in England, most notably Dudley. Secondly, expertise might also be described as the knowledge, skills and understanding of the individuals involved in Lesson Study about the specific subject being researched, whether that is pedagogical or contextual.

In this chapter, I will explore the complexities of expertise in Lesson Study with relation to the possible development of teacher learning before articulating in the conclusion of this chapter the ways I would want to take the use of expertise forward in my own Lesson Study work to facilitate the development of teacher learning.



### ***6.1 Expertise of the Lesson Study Process***

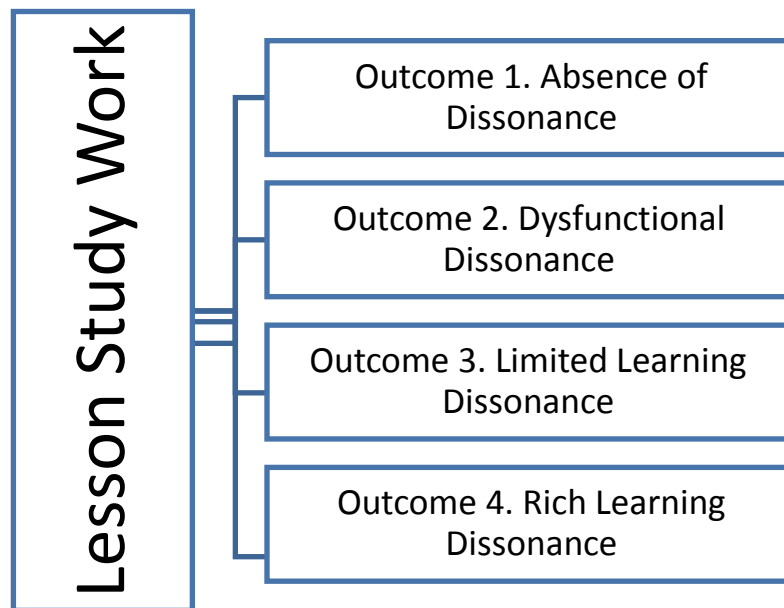
In the introduction of this chapter, I spoke about the need to consider two main types of expertise in Lesson Study; Firstly, expertise in conducting a Lesson Study process and secondly, wider knowledge and pedagogical expertise which can enhance the opportunities for teacher learning within a Lesson Study cycle. In this section, I will explore the evidence about expertise in the Lesson Study Process.

As I set out in my methodology, I provided initial training on Lesson Study for my teachers, and this was designed to give them an overview of the Lesson Study process using handbook guidance (Dudley, 2014; Stepanek et al, 2007; Lewis, 2002) to provide structures and systems that would enable the teachers to conduct their own Lesson Study.

Like in Chapter 5, I have noticed a difference between the experience of my pilot study and that of the teachers' Lesson Study teams where I took a step away from conducting the Lesson Study cycles. In my pilot study, I was able to hold focus on the Lesson Study session in our review and use this to consider how this was forming a question about our practice that we wanted to explore. This was different in Lesson 1 for both Team 1 and Team 2. Team 1 were unable to hold their focus on the learning of their lesson as their strong social-professional dynamic meant that affirming their interactions and Libby's ego protection overpowered any desire to dig deeper into their lesson, thus preventing dissonance from being sustained into discontinuity. On the other hand, Team 2 were unable to channel their lesson feedback into a dialogue about learning. Instead their inexperience in giving and receiving feedback meant that Alex faced a hostile critique of her teaching, which generated high levels of dissonance, but did not lead to Alex reflecting on her experience as it led to her shutting down in terms of accepting the feedback other than to ask if the review had finished.

## A Primary Head Teacher's Exploration of Lesson Study

The differences between the Pilot Study and the outcomes of Team 1 and Team 2 seemed to be linked to my ability within the group to maintain the focus of that Lesson Study on the learning the group was making. While this did not make for an Outcome 4 in my pilot study – based on figure 5.3 - it did mean that as a team Jasmine, Miqdad and I were able to provide ourselves with an opportunity for teaching learning within our first lesson, unlike Team 1 and Team 2's first lessons.



*Figure 5.3: Model of Potential Teacher Learning Outcomes in Lesson Study*

After further training, Team 2 were able to modify their lesson study reviews, which in turn gave them opportunities for teacher learning, as I showed in Lessons 2, 3 and 4. This means that a difference existed between the way Team 2 and my pilot study were able to draw on expertise about the processes of Lesson Study. Did my reading on Lesson Study make me more able to realise that Jasmine's intervention in the Pilot Study about Ama's learning was an opportunity for teacher learning, as opposed to a critique of my teaching? My understanding of Lesson Study processes was more informed than the teachers in my Lesson Study teams, as I had read around the information presented in Lesson Study handbooks and

tried to gain further insights into the Lesson Study process. Reading Fernandez and Yoshida (2004), Pella (2011), Hart, Alston & Murata (2011) and Dudley (2013) had given a breadth to my understanding beyond the how of the Lesson Study process as far as to why these steps and stages might be valuable and how they in turn could inform my own teacher learning.



*So, did I not do enough training with the teachers to help them understand the Lesson Study process?*

*I can reflect on the first lesson review in my pilot study, and how putting into practice the systems and processes I had read was more challenging than I suspected. Dudley (2013) describes the process of Lesson Study as being breath-takingly simple and my own naivety means that initially I thought this too. I now think describing the processes sounds simple enough, but implementing them in a way that provides professional conflict and subsequent opportunities for teacher learning is far more challenging and requires a lot more preparation and training on the linked skills for each stage of the Lesson Study process, for example, feedback skills would be important for any review session.*

*As my pilot group was made up of individuals with more experience in schools than many of my Lesson Study teams it seems that we might have been able to bridge some gaps between our understanding of Lesson Study through the implementation of our wider professional skills, something a less experienced teacher/ leader might find more challenging to do.*

*Thus, I really do wonder about which elements of Lesson Study Dudley can claim to be (2013) breath-takingly simple because the more I reflect on each stage the more complicated I see the whole of Lesson Study to be.*



## ***6.2 Planning and Conducting Lesson Study***

Initially, I think the planning of Lesson Study lessons seemed to be within the expertise of the teachers involved in the Lesson Study teams. Both Team 1 and Team 2 were able to plan and deliver lessons as part of their cycle, but by returning to their reviews, I can see that within both groups planning was problematic.

In Team 1, this is seen in both Lesson 1 and Lesson 2 by their lack of direction around their lesson's focus.

### **Team 1: Lesson Study Review: Lesson 1 September 2013**

Continued...

Hanna: Like you could do role play in literacy/ speaking and listening talk with her/ Some of them were expressing themselves

Jasmine: That is what I think is so interesting so far/ what we are talking about is not about...

Libby: Maths

Jasmine: it is about the talk and the lack of talk especially the new EAL learners that is preventing them accessing the maths at the higher level we are expecting of them

Hanna: but it is more the talk not the maths

Libby: but where would like the next step be with this what could we provide to ensure that Kornelia could verbalise and access

Hanna: I think the speaking cards would be good. Yeah

The extract from Team 1's Lesson 1 indicates this lack of direction as the group who are aware they are looking at EAL learners in Mathematics are talking about role play and speaking and listening, and even once they identify this: *Hanna: but it is more the talk not the maths*, they continue their discussion about other aspects they have found interesting. This is in part linked to the group's dynamic and by avoidance of the focus they do not have to

## A Primary Head Teacher's Exploration of Lesson Study

produce dissonance with each other and are thus able to maintain their social-professional relationships. Yet, it is also more than this, as this lack of clarity on the purpose of their lesson stems from their planning. In the initial training, I did with the teachers I discussed the need to ensure that they choose a focus as my pilot study had shown that while opportunities may present themselves in the observed lesson this will only happen if you are focused on an area. In the pilot study, we had been focused on understanding of concepts and that allowed Ama to be identified by Jasmine as not having understand the concept of a whole in the fractions work we were completing. Team 1 had initially identified themselves as being interested in practical mathematics when they assembled as a group, but while elements of the lesson feedback discuss the role-play, they do not focus consistently on the role of the practical maths on the pupil learning in the lesson.

This lack of clarity was recognised by the group in the additional training I provided between Lesson 1 and Lesson 2 of the Lesson Study cycle. Yet in Lesson 2, the team were not much clearer on the direction of their observation and feedback and I think this links back to a lack of clarity around their planned work. I do not think they were clear in the question they wanted to ask themselves and as such, I do not think they were then able to test out their teaching to investigate it through that specific lens.

### **Team 1, Lesson Study Lesson 2 Review: December 2013**

Jasmine: What were we looking for?

Libby: Well, we were looking for vocabulary and how they apply that mathematical vocabulary by themselves. So we continued from the first observation of a shop environment and what we can pick up from a shop environment in terms of vocabulary in role.

Hanna: And what we picked up last time was modelling the vocab for them to be able to do it independently

Jasmine: I thought they had the mathematical skills, but because they did not have the vocabulary that was not mathematical, they did not have the vocabulary to express it

**Team 1, Lesson Study Lesson 2 Review: December 2013**

Jasmine: You asked everyone to come back together at the end and to refocus and she did not she went to the coins, completely appropriately.

Libby: I must say for the whole group as a whole, have moved on from the consolidation of the money concepts. Have they remembered the tapping the coins? Have they counted the money, the extension of having two items and obviously using the number lines? I was really proud as they had moved on and away from money, but it has stuck.

Hanna: It was really obvious that there was a range of strategies that they could use,

Libby: Borrow a friend

Jasmine: You really celebrated all the ways they could work.

Libby: But number line did not come up when we talked about strategies

Misha: With Marli it did...

The two extracts from Team 1's second lesson exemplify this lack of direction. They had chosen to focus on vocabulary, a change from their initial Lesson Study focus and while the first extract shows that they were keen initially to pursue this focus, by the middle of the lesson review the focus had changed to mathematical strategies, and was no longer about vocabulary. This lack of clarity of the purpose of their planning in Lesson Study underlines another reason as to why Team 1 found professional conflict harder to generate as they were unable to see the purpose of their planned work because their planning was not committed to in the same way as Team 2 committed to their focus on groups and partnership working in Mathematics.

Team 2 after my intervention were very clear on their planned focus area and this allowed them in their joint planning to evolve as they explored it. However, as I mentioned in the analysis around the concept of professional conflict, Team 2 started to lose their momentum and the opportunities for teacher learning diminished between Lessons 4 and 5. I identified that this was due to a diminishing of the natural differences between the teachers and their relative experience bases combined with a lack of awareness of how to draw on others, and

other expertise to further develop their knowledge to refine and develop the opportunities within their Lesson Study further.

This lack of pedagogical and research expertise will be discussed later in this chapter, but at this point I would like to explore how this relates to planning Lesson Study and my own experience with the Pilot Study.



*An initial assumption I had from reading the Lesson Study literature is that Lesson Study works because teachers can readily share their expertise with each other and thus they are enabled to break their isolation (Hadar & Brody, 2012). However, with the greater experience of having conducted Lesson Study I can see that this assumption only works if there are highly trained experts within the Lesson Study group as the initial experience differentiated between individual teachers are likely to be used up very quickly in Lesson Study work as I found with Team 2. For me this means that for Lesson Study to endure and continue to provide professional conflict consideration needs to be taken in the planning stages of what expertise a Lesson Study group needs to draw on – individual experts, reading, research analysis, previous Lesson Study work – so that the Lesson Study team is more informed at the initial planning stage and is enabled to be more focused going into their Lesson Study cycle, which in turn may facilitate more teacher learning opportunities.*



I think the assumption that a teacher can just learn from another teacher is an easy one to make as Team 2 shows their differences enabled opportunities for teacher learning in the second to fourth lessons of their cycle. However, when they got to a point of equilibrium of

## A Primary Head Teacher's Exploration of Lesson Study

their experience in Lesson Study they did not exhibit any strategies for going beyond their own knowledge base and this is why Lesson 5 appeared to be a replication of Lesson 4's discussion rather than an advancement like Lesson 4's review discussion had promised. I think if Team 2 had drawn on further reading about their use of partners, they would have been able to further develop their learning opportunities into Lesson 5 in their cycle.

I can notice a similar trend in my Pilot Study between Lesson 1 and Lesson 2 when Miqdad, Jasmine and I drew on our knowledge of fractions and our conception of a whole. We had an interesting discussion, which provided each of us with moments of dissonance. Miqdad wanted to use a fraction wall and I wanted to use more practical resources to show demonstrably how you can cut a whole into parts to form fractions of that whole. We did not consult research into this or consider how we might be more informed to explore how experts in mathematics may approach this dilemma. As such, we went into Lesson 2 and undertook our lesson, which did help Ama understand more about whole items and fractions, but I now wonder whether consulting research might have made our teacher learning opportunity more than a sharing of Miqdad's, Jasmine's and my own experience in teaching Year 4 Mathematics. Equally, had we gone on in our Pilot Study to complete five lessons, would our shared experience have provided enough difference for opportunities for teacher learning to be sustained? I suspect it is unlikely that we would have been able to maintain our generation of professional conflict without drawing on wider expertise.

I think that this inability to perceive wider expertise might link to a challenge in my school's culture around further developing our occupational knowledge through accessing research, literature and wider expertise. I think this is an element of my school's culture that has become more apparent to me throughout this research and as such is something as the school leader I need to consider in more detail. How can I develop pedagogic and subject expertise



to help Lesson Study work support opportunities for teacher learning through accessing expertise beyond the individual teachers within each Lesson Study team?

Fernandez & Yoshida (2004) and Hart & Carriere (2011) suggest that this occupational development problem I have identified is not the same in Japan, where Lesson Study originated. The reasons for this are linked to the culture within Japanese schools of on-going refinement and development of teaching and intrinsically tied to this is the practice of *kyozaikenkyu* [the study of instructional aids] (Doig, Groves & Fujii, 2011). It is this focus on continual refinement through experimentation, which I feel, is the teacher development Hiebert & Stigler (1999) noted when they reviewed Japanese Mathematics teaching. Doig, Groves & Fujii (2011) detail how it is expected that teachers consider the sequencing of the learning a child will navigate through in a lesson or a succession of lessons and which things they may encounter which are more problematic – e.g. misconceptions. Doig, Groves & Fujii (2011) illustrate this with the example of subtraction in Japanese textbooks – of which there were six, at the time of the article being written – which all suggest that when introducing subtraction using regrouping you would start off with either 18-9 or 12-3 for example (Doig, Groves & Fujii, 2011:192). Crucially, this is an example of expertise, as it shows not only have the 36 possible regrouping examples had been considered but also that, either 18-9 or 12-3 have been so well considered that six different text book publishers have aligned their product to fit the expertise of the teachers (Doig, Groves & Fujii, 2011). As Doig, Groves & Fujii (2011) point out, this level of expertise does not end contested viewpoints on whether 18-9 or 12-3 should be done first, and then the order of how to tackle the other 34 examples of subtraction of one-digit numbers from 2-digit numbers, but these things will be considered and refined through a focus on *kyozaikenkyu* and subsequently the knowledge base of all teachers in a school grows over time.



*I certainly do not feel that my training as a teacher, or my professional development over my career have given me the expertise displayed in this subtraction by regrouping example. There are parts of my practice, where I think I have very detailed subject knowledge, and I am able to think about the nuances of the instructional order, sequence and the tasks and activities I would want to use in the same detail. However, I certainly do not feel that it is something I could do for all eight year groups and all fourteen subjects within my school's phase and curriculum. Clearly, even Japanese teachers do not all commence their careers with this expertise, as detailed in Fernandez & Yoshida (2004) which captures the worries of the second-year teacher who believes she is disadvantaging her pupils because she is not as skilled in teaching as her more experienced colleague. Yet throughout their careers they focus on kyozaikenkyu and their expertise builds up. This seems to be a crucial variation between English primary teachers and their Japanese counterparts and our dominant educational cultures.*



This variation in the conceptualisation of how expertise builds up over time in Japanese education can be seen clearly articulated in Takahashi's (2014) article on expertise in Japanese Lesson Study which shows the biographies of three teachers (Koshi) who are considered experts in Japan, and how their expertise is built from experience, and years of working with and facilitating Lesson Study. I will consider the role of a Koshi later in this chapter.

Therefore, if it seems possible to build up the expertise within teachers in Japan, through a continued focus on task selection and refinement then it seems sensible that this should be factored into planning of Lesson Study cycles. Would a focus on *kyozaikenkyu* have aided the development of professional conflict in Team 1 and would this linked focus of *kyozaikenkyu* and drawing on wider expertise have helped me in the Pilot Study and Team 2 to further their learning opportunities For me this means I need to consider how I am focusing Lesson Study work and I might need it to focus on a situation where teachers are considering the process of a lesson or aspect of a sequence in order to enable them to engage in the practice of *kyozaikenkyu*, which will enable them to develop their occupational and organizational skills in future Lesson Study work. I think that it is an important avenue to explore further with Lesson Study as not getting the expertise quite right in the planning stages of Lesson Study seems to have had an impact on both my teams and may reduce teacher learning opportunities?

### ***6.3 Reviewing Lesson Study***

Reviewing Lesson Study appears to be an aspect of the process that has gathered further scrutiny during my research. Takahashi (2014), Takahashi & McDougal (2015), Allan (2015), Simmons (2016), Archer (2016) and Fujii (2016) all discuss aspects of the review in their writing on Lesson Study. Within these articles there tends to be a more descriptive narration of the observed practice in Japanese Lesson Study and how elements of this have not fully translated into anglicised versions of Lesson Study (Archer, 2016; Simmons, 2016; Fujii, 2016; 2014).

One of these elements seems to be the process through which the review meeting is conducted. My initial training for the Lesson Study teams based the review sessions on the advice in Stepanek et al (2007) and Dudley's (2012) handbooks. Yet, the feedback within Lesson Study proved to be illuminating in identifying to me the notion of professional

conflict and its link to teacher learning opportunities. I do not want to replicate the discussion on the research data I held at the end of Chapter 3 and throughout Chapter 4 here, but I think it is important to return to two key aspects of expertise in Lesson Study process that need to be developed to support Lesson Study in my school. The first aspect is expertise in generating and receiving feedback from observation and the second is how to hold a productive review session.

### *6.3.1 Generating and Receiving Feedback from Observation Expertise*

I have already discussed in Chapters 3 and 4 potential challenges Team 1 and 2 found in generating and receiving feedback. In summary Team 1 were too affable in their feedback and affirming of their social-professional relationship to delve deep enough into their observations and Team 2 were initially discordant, moved to a productive structure of lesson review which gradually dissipated with reductions in the amount and duration of dissonance leading to teacher learning opportunities. How were Team 2 able to move from their discordant first lesson review, to provide feedback that moved on their Lesson Study cycle, before it dissipated? I will explore Team 2's development in this section before returning to look at Team 1 and 2 in section 6.3.2 when I will discuss how to keep a review session productive.

Figure 6.1 summarises feedback reviews of each of the lessons in the 2013 – 2014 Lesson Study cycle for Teams 1 and 2. This overview narrates the journey Team 2 took in generating and receiving feedback. Key to their relative success in generating feedback in Lessons 2 – 4 was overcoming the difficult first lesson and building on not wanting that discordant discussion to be replicated.

## A Primary Head Teacher's Exploration of Lesson Study

	Team 1	Team 2
Lesson 1	<ul style="list-style-type: none"> <li>• Focused on teacher affirmation</li> <li>• Socialisation important</li> <li>• Dissonance was reduced by all team members</li> <li>• No real learning focus, more of a general review</li> <li>• Individualistic with lesson linked to Libby</li> </ul>	<ul style="list-style-type: none"> <li>• Highly discordant feedback</li> <li>• Focused on teacher inadequacies</li> <li>• No real learning focus, more of a general review</li> <li>• No sense of joint endeavour</li> <li>• Individualistic with the emphasis on Alex</li> </ul>
Lesson 2	<ul style="list-style-type: none"> <li>• Focused on teacher affirmation</li> <li>• Socialisation important</li> <li>• Dissonance was reduced by all team members although Libby tied to generate some dissonance</li> <li>• Initial learning focus was not sustained and focus varied throughout review</li> <li>• Individualistic with lesson linked to Libby</li> </ul>	<ul style="list-style-type: none"> <li>• Dissonance is sustained to provide discontinuity (Teresa and Alex)</li> <li>• Focused on children's learning</li> <li>• Start of a sense of joint endeavour with a general focus on learning</li> <li>• Generally individualistic, Alex is still responsible for the lesson and thus the feedback is on her</li> </ul>
Lesson 3		<ul style="list-style-type: none"> <li>• Dissonance is sustained to provide discontinuity</li> <li>• Focus is on different children's learning</li> <li>• Group refer to the lesson as 'our' lesson and have a pronoun shift to 'we' indicating joint endeavour</li> <li>• Reflection is about each individual's thoughts and responses</li> </ul>
Lesson 4		<ul style="list-style-type: none"> <li>• Dissonance is sustained to provide discontinuity (a reduction on Lesson 3)</li> <li>• Focus is on different children's learning and how the evidence in observation varied from pre-conceptions</li> <li>• Joint endeavour</li> <li>• Reflection is about each individual's thoughts and responses</li> <li>• Returns regularly to their research question</li> </ul>
Lesson 5		<ul style="list-style-type: none"> <li>• Little dissonance throughout the feedback session with the same discussion as Lesson 4</li> <li>• Returns to research question regularly but does not advance response from Lesson 4</li> <li>• Focus is on different children's learning and how the evidence in observation</li> </ul>

*Figure 6.1: Table summarising feedback in Lesson Study Teams 1 and 2.*

The first lesson review was largely unstructured which allowed it to be dominated by Camille. O'Leary (2014) discusses qualitative lesson observations as being able to be

positioned broadly within three types: 1) Stream of Consciousness; 2) Semi-structured and 3) Highly Structured (O'Leary, 2014: 54). I would position the Lesson Study reviews described by Dudley (2014) and Stepanek et al (2007) as being a semi-structured review based on the Lesson Study outlined in a planning document. Team 2's first lesson is more a stream of consciousness (O'Leary, 2014) as it is Camille's thoughts on the lesson based on what she has seen, rather than working from a planned focus of document.



*Stream of consciousness observations (O'Leary, 2014) are what I had modelled to my teachers and still do model to my teachers as mostly I will talk about what I have seen in a lesson observation with a teacher, rather than highly structured ones. I still use low structured observations as part of my work, but I wonder if this is unhelpful to teachers who have little experience with doing observation as how do they know what I notice, ignore, or emphasise.*



Despite my continued, use of less structured observations to inform my own practice O'Leary (2014) shows that they are invariably flawed and open to bias on the part of the observer. This is further supported by Mason's (2002) work on noticing which suggests that a person may notice things dependent on their experience. Mason (2002) exemplifies this with the idea that once you return from a holiday destination, that location seems to appear more frequently in the media and in general conversation, and while it appears more prevalent in its manifestations around you it is likely that you are just more tuned into that particular reference. Clearly, in observations this could mean that the observer is noticing things that are

relevant to them and by the same idea not noticing other aspects that could be relevant. As a consequence of this the subjectivity and bias of an individual observer must be considered when undertaking lesson observations (O'Leary, 2014: 63). Yet, seeing teachers teach and learning from others is something I have found invaluable to my own teacher learning, and I would suggest that while O'Leary (2014) is correct in stating that a lesson observation should not be used in an accountability matrix it remains a window into the practice and culture of teaching. This means that just like auto/ethnographers and anthropologists can describe their observations and experiences, it is possible to find meaning and understanding through lesson observations, if they are considered as exploratory and non-judgemental, which is a standard that Team 2 did not achieve in their first lesson. After the intervention training of November 2013, which focused on giving feedback, revisiting Stepanek et al (2007) and Dudley's (2012) guidance on Lesson Study reviews and turn-taking, Team 2 were able to conduct their Lesson Observations in a more semi-structured way (O'Leary, 2014) and this corresponds to their ability in Lesson 2 – 4 to focus on the learning in the lesson, and gradually concentrate on their chosen research focus.

As intervention was needed to support Team 2 to give feedback in a way that supported the opportunities for teacher learning I think another aspect of my school's culture has been made transparent to me around how lesson observation is conducted and perceived.



*I have always thought of myself as being a competent observer. Yet, my tendency to rely on a stream of consciousness as O'Leary (2014) describes leaves me open to the subjectivity and bias challenges he and Mason (2002) articulate. Alongside this I also have to consider that my observations might be open-minded and allow for a broad spectrum of teaching styles,*

## A Primary Head Teacher's Exploration of Lesson Study

*but are there elements of my lesson observations which are transparent to the rest of my team and as such when people replicate my style of observation, are they susceptible to missing elements out.*

*Should my lesson observations be more informed by foci and dialogue with teachers, and should I replicate a more Lesson Study approach to all of my observations in future. Time permitting it might be a more valuable way to observe as the semi-structured approach would allow me to work alongside my teachers more to develop pedagogy, which is certainly something I found beneficial in the Pilot Study.*



The consideration of the culture I model as a lesson observer is a key reflection point for me. If I am saying that as part of Lesson Study training reviews need to be focused on a research question and pupil learning while also maintaining a non-judgemental and peer relationship yet my lesson observations are conducted in a different way, this may be confusing to my teachers. In my Pilot Study this was less of an issue because I was involved and thus able to work with Miqdad and Jasmine on the Lesson Study approach, but by not being directly part of the Lesson Study teams in the 2013 – 2014 cycle, I may have inadvertently created a situation where I was not always embodying in my own practice what I was suggesting to others. This links back to the examples given by dissonance writers who suggest that it is possible to align your consonance with a different point of view than your actions (Cooper, 2007; Chatzidakis, Hibbert & Smith, 2007) and if I am to support a culture within my school of Lesson Study, it might mean I need to look more closely at my own observation practice.



*6.3.2 Productive Review Sessions*

Observation is only part of the review session as this gives the information which teachers are able to feedback to each other. How that feedback is delivered and how a review is structured is also important. Throughout the research analysis sections of this thesis aspects of making a review session productive have persisted. Focusing on an aspect of learning was prevalent in the expertise needed to plan and conduct a Lesson Study review; the generation of professional conflict features strongly in Chapters 3 and 4 and the need to be collaborative in just the right way is explored through Chapter 5. Each element is important to the productive review session and I will briefly revisit them here under this section heading.

Ensuring there is a focus on an aspect of learning is a key difference between Team 1 and Team 2. Team 1 were unable to sustain this, even in Lesson 2 when they open with vocabulary as their focus, whereas Team 2 were able to develop and hone their focus throughout their work. Returning to their focus was something Team 2 did throughout the reviews of Lesson 3 and 4 and this helped maintain their conversation and their exploration of their lesson. Team 1's lack of focus in their reviews made it difficult to think about ways to hone their group thinking and may have been a contributing factor to the ending of their Lesson Study cycle after Lesson 2. This reinforces the need to remain focused on the learning aspect each team is exploring and using this exploration I can demonstrate this to my teachers more clearly in future training.

Remaining focused will also assist the generation and sustaining of dissonance to discontinuity within professional conflict as by returning to the learning the Lesson Study team is able to pursue ideas about learning, which can provide a focus away from the individual teacher. This is what occurs in Lesson 2 of Team 2's cycle where Teresa is able to build up dissonance with Alex, not about Alex but about the learning of Nish. This is in contrast to that which was observed in Team 1 Lesson 2 where Libby tries to generate a

## A Primary Head Teacher's Exploration of Lesson Study

moment of dissonance about a pupil's learning but someone else in the group will move to a new subject or aspect of the lesson. Thus, if professional conflict is a key ingredient in supporting an opportunity for professional learning then the review needs to be structured in a way that enables its generation.

How could a review structure support that generation of professional conflict? It seems from the Pilot Study and from Team 2 that there must be the persevering of an individual or idea throughout a sustained part of the review, which challenges an aspect of a pupil's learning or the way something is deployed by the teachers. For instance, Teresa refers back to her observations of Nish in Lesson 2 and Team 2 continue this focus on key children in Lessons 3 and 4 as a way to discuss their work. In my Pilot Study, this was Ama, and Jasmine's sustained conversation with me about her observation of Ama's learning or lack thereof in Lesson 1. For me it was significant to be presented with Jasmine's observations of Ama as it meant that I had to challenge my own thinking about how I thought the lesson went and hearing about how Ama presented to me and to Jasmine in completely different ways allowed me to move to a moment of discontinuity. Thus, as described in previous chapters the need to sustain dissonance linked to observation is crucial to the generation of professional conflict and subsequent opportunities for teacher learning.

A way that Team 2 found useful in tying their professional conflict generation back to observations was through turn taking. In Lessons 2 – 5 each teacher took turns to go through their observations. This turn-taking model is one I reinforced from Stepanek et al (2007) as being a useful way to facilitate feedback as it meant each individual was able to say their observations without being spoken over. This is significant in Lesson 2 as for Team 2 it is this turn taking that allows Teresa to build her dissonance with Alex about Nish, whereas in Team 1 there continued to be over-talking and as such no one piece of dissonance is ever sustained. Takahashi (2014) shows that in his work on knowledgeable others (Koshi) that it is

important for even the Koshi to take a turn, usually at the end, so that teachers can identify their evidence from their observation and a discussion can build on this. Something that I had not insisted on, which Stepanek et al (2007) suggests could be useful to facilitate turn taking, is a chair person. When I revisited Fernandez and Yoshida (2004) it is possible to see that this person might in fact be the head teacher of the school. They do not dominate the discussion but they do raise questions and ensure that each person can be heard (Fernandez & Yoshida, 2004). My absence from the Lesson Study teams meant I was unable to do something similar to this.



*Thus, is my presence within each Lesson Study cycle a way to ensure that the collaboration of each Lesson Study team is facilitated through turn taking. I had originally stepped aside because I wanted to see how my teachers were able to implement and explore Lesson Study, but I think the Japanese contexts (Fernandez and Yoshida, 2004; Takahashi, 2014; Archer, 2016; Simmons, 2016) suggest that head teachers are present in Lesson Study in Japan and Takahashi (2014) even suggests that over time Koshi are formed from their presence in Lesson Study over a number of years. I think it would be interesting to see if I can support the process of the Lesson Study review with teams to support turn-taking, focus on the learning and the generation of professional conflict in future Lesson Study.*



#### **6.4 Pedagogical Expertise**

Expertise on Lesson Study is important but I think the experience of Team 2 shows that it might only get a Lesson Study team so far. In Team 2 their work ultimately diminished as

they got to Lesson 5 in their Lesson Study cycle and this appears in part to be due to a lack of further pedagogical expertise or their ability to draw on this expertise.



*For me this feels like a moment when something becomes apparent that had previously been transparent. I feel like the second-year teacher in Fernandez & Yoshida's (2004) account, when she realises that there is far more to teaching than she has been doing. I feel like this because I think that I have been prioritising organizational development over occupational learning (Evetts, 2009) and as such have not been giving my teachers the opportunities to learn about the occupational side of their pedagogical expertise, as they have been too busy implementing successive organisational changes, often lead by government changes.*



Teacher knowledge and pedagogical expertise are difficult concepts to define. There have been several strong attempts to do so. Shulman (1986) defines teacher knowledge with his discussion and his identification of parts of teacher knowledge like Content Knowledge (CK) and Pedagogical Content Knowledge (PCK), and his work remains useful to this discussion as many later writers on teacher knowledge refer to CK and PCK in their own discussions around teacher knowledge. Ball, Thames & Phelps (2008) take Shulman's work further through their discussion on teacher knowledge in Mathematics in which they restructure the terms used by Shulman (1986) to present three sub areas underneath the two headings. Ball, Thames & Phelps (2008: 403) rename Content Knowledge as Subject Matter Knowledge (SMK) and underneath this heading place, Common Content Knowledge (CCK), Horizon Content Knowledge (HCK) and Specialised Content Knowledge (SCK). They do retain the

PCK heading from Shulman (1986) but add their subgroups of Knowledge of the Content and Curriculum (KCC), Knowledge of Content and Students (KCS) and Knowledge of Content and Teaching (KCT) (Ball, Thames & Phelps, 2008: 403). Both Shulman (1986) and Ball, Thames & Phelps (2008) are attempting to give definitions to teacher knowledge. Ball, Thames and Phelps (2008: 389) rightly point out that Shulman's (1986) work was a breakthrough in starting to conceptualise teacher knowledge as both something which requires content skills (CK or CCK/ SCK/ HCK) and also bridges the gap between knowing a subject area and knowing and delivering the practice of teaching. Yet Ball, Thames & Phelps (2008) praised Shulman for his attention to content, with their critiques mainly linking to a sense of incompleteness to the definitions of teacher knowledge. The work of Ball, Thames & Phelps (2008) was then to clarify further the work outlined by Shulman. I think Ball, Thames & Phelps (2008) are successful in their elaboration of Shulman's (1986) work. It is primarily most useful to teachers of Mathematics and secondary teachers, as there are insights such as the mathematical knowledge needed around and about mathematics, by the teacher, to identify misconceptions (Ball, Thames & Phelps, 2008: 396-7), which are fundamentally useful to understanding teacher knowledge in the primary classroom.

I feel that my exploration of Lesson Study has shown that there needs to be more consideration of the pedagogical skills of planning sequences of learning; developing understanding from external expertise (knowledgeable others or literature) and through exploring how knowledge expertise is planned for in Lesson Study.

### ***6.5 Sequences***

Archer (2016) is struck by the use of textbooks in Japan when he reviewed Lesson Study in a Japanese school, this is presumably because while textbooks are present in school in England, they are not nationally sanctioned and in my experience, teachers will 'dip in and out' of a range of them. In Japan, textbooks have been built on the work of teachers (Archer, 2016;

Doig, Groves & Fujii, 2011; Hart, Alston & Murata, 2011) and the research and knowledge of Lesson Study (Takahashi, 2014; Fujii, 2016). This means that sequences of learning are thought about in detail as I exemplified earlier in this chapter with the discussion on *kyozaikenkyu*. This depth of sequential understanding is not something in 2013 I think I would say was a strength of my school.

Within my Pilot Study, Miqdad, Jasmine and I used our experience to consider our next steps to supporting Ama's understanding and this is replicated in Team 2's journey through their Lesson Study cycle, which is one of the reasons why when their collective experience runs dry in Lesson 5 their teacher learning opportunities diminish. However, in neither example do we draw on sequences of learning to support the pupil learning we are exploring. This led me to consider the possibility that it might be that we did not always consider the journey through learning for children as much as we could.



*When I was a classroom teacher and even now with the teaching I undertake, I always think about the whole unit of work I will undertake and plan out the activities and learning according to the time and resources I have to hand. This is a sequence, but on my reflection of the Lesson Study work, I can see that this is actually a limited sequence as it does not always consider the skills and knowledge that a pupil might need to bring to the lesson in order to access the learning and as such it might be that I need to rethink and adapt my lesson during the lesson or after the first lesson to accommodate a spectrum of starting points. If I were to spend more time thinking about the elements of knowledge and the skills a pupil needs prior to commencing my new unit of work I might find there is a smaller need for adaptation during my lessons.*



In my Pilot Study, we were lucky that our experience meant that Miqdad and I could talk about the various benefits of how we might address the concept of one whole in Mathematics with Year 4 children. However, if we had considered fractions in more detail first we could have looked at the question of what we meant by a whole. Lopez-Charles (2001) considers whether children are being taught discrete wholes – objects like cherries, individual sweets; continuous wholes – objects like cake, or pizza; definite wholes – when we know the extent of the whole or indefinite wholes – where we do not know the full extent of the whole (NRICH, 2011).

In the end, we focused on continuous wholes, but ignored the other three categories of wholes completely, and thus when I said after Lesson 2 that I felt Ama understood a whole in Mathematics, I was incorrect, as I would have not had sufficient evidence to prove that. Indeed, Lopez-Charles (2001) indicates that different children might be at different stages when encountering the whole, with some children counting, while others might be considering parts or be ready for partitioning. Miqdad, Jasmine and I did not consider this in our work with Ama, nor did we check that we had grounded our work in work that had already been conducted on wholes in mathematics (Azis & Pa, 1991; Nunes, 1996; Streefland, 1996). As a result, we did not consider sequencing our work on wholes and thus only focused on continuous wholes rather than other types, which might have, help Ama's conceptual understanding more, or have built on her previous learning.

It is easy to reflect now on what we did not do in the Pilot Study and suggest that sequences are important to understanding how to progress both pupil learning and opportunities for teacher learning, but it is also worth noting that it is through exploring Lesson Study that this has become apparent, and if I had not done this work I would probably still be unaware of the

importance of checking and building on my learning sequences to ensure that my teaching was informed by previous research as well as my own experience. As the reliance on sharing experience within a Lesson Study, team is not always going to provide ways forward, which are as complete as they could be.

### ***6.6 External Expertise***

There seem to be two main ways presented to further pedagogical knowledge through Lesson Study. The first is through the knowledgeable other (Koshi) approach and the second is through the enhancement of knowledge from reading research. This section will consider both of these further within Lesson Study expertise.

#### ***6.6.1 Koshi***

Recently more articles have started to emerge about the role of the expert (The Koshi) in Japanese Lesson Study (Archer, 2016, Simmons, 2016, Takahashi, 2014, Takahashi & McDougal, 2015) but this has been a long-established part of Japanese Lesson Study.

Takahashi's (2014) article really clarifies the level of expertise of the Koshi and why their role is important in developing Lesson Study work in schools in Japan. They seem to perform two key roles, one is to extend the learning of the group through a lecture at the end of the Lesson Study review, which adds to the discussion of the reviewing teachers, and the second is to disseminate research and literature to teachers who may not have found the time to have engaged with it. Crucially for me both roles mean that they are able to provide dissonance to the Lesson Study group, through giving them ideas to consider that they may not have heard and are beyond their experience and through extending the thinking through their reviews, so that scenarios like the one seen in Team 1, where dissonance is reduced, would be much less likely to occur.



## A Primary Head Teacher's Exploration of Lesson Study

I think the role of the Koshi is very powerful but might also be very challenging to replicate in my school. I do not know of any local Koshi and I suspect that even local experts in mathematics may not have sufficient understanding of how Lesson Study works to develop teacher learning to advance a Lesson Study group in the way Takahashi (2014) describes.

What this does do though is indicate the role of an expert in Lesson Study literature, which is largely written by the expert (Dudley, 2013; Lewis, 2011) involved – not always directly – in those Lesson Study sequences. The experts do not suggest that they are Koshi, but I think that they have a role in the outcomes of the Lesson Study groups, but it is hard to examine the extent of this as most articles do not elaborate on the involvement of the experts beyond saying they provided some training and advice (Alston, Hart & Murata, 2011).

I think exploring how experts, like Koshi, could be used to sustain and develop Lesson Study in my school would be something very interesting to look into further as it might help overcome the challenges that different groups have and it might make dissonance easier for some groups – like Team 1 – because it was coming from outside the group.

In the established Lesson Study system of Japan, the role of the visiting expert (Koshi) is more established. Takahashi (2014) writes about how this visiting expert has the role of extending the learning of a Lesson Study lesson for the participants, in a way that has not really been considered in the English Language Lesson Study models. Takahashi's (2014) article demonstrates again how the model of Lesson Study is so established in Japan that visiting experts have a defined role – emphasised by the three experts taking similar approaches to their final comment talks. Archer (2016) and Simmons (2016) both note the benefit of the Koshi in enhancing the Lesson Study experience. Building up the expertise of a Lesson Study group and providing further information and dissonance would be a beneficial aspect of using a Koshi in Lesson Study. Unfortunately, there is not a system of Lesson Study

in England yet that means we have experts in the same way that Takahashi (2014) and Simmons (2016) describe the Koshi in the Japanese Lesson Study. This is a situation unlikely to change in the foreseeable future as Takahashi's (2014) experts had been involved in Lesson Study for the entirety of their educational careers and had been involved in Lesson Study as participants, organisers and as Lesson Study leaders.



*I think the role of the Koshi in Lesson Study in the United Kingdom would be an interesting consideration to look into to see if it would enhance moments of dissonance, which, in turn, may help groups like Team 1 who found it harder to generate and build their own dissonance from within.*



#### *6.6.2 Research and Literature*

I have reflected on Team 2's experience with their diminishing work at different points in this chapter and also shown that their and my own experience in the Pilot Study could have been enhanced by drawing on expertise presented in research and literature. It is more difficult to consider the role drawing on research and literature might have played in supporting Team 1's experience with Lesson Study.

Team 1's challenge was surmounting the high levels of affirmation towards Libby and the maintenance of their socio-professional relationship. As research and literature would have presented a view that would have been outside of this dynamic it is possible if it were used as a starting point it could have achieved a similar effect to that of an expert, which is to have

provided external professional conflict. This might have been achieved through the testing of a piece of literature or research in their own context.

### ***6.7 Knowledge expertise in school***

It was clear that just like our understanding of building sequences we were lacking in expertise, particularly around PCK, and exploration choices that might be linked to PCK, the development of learning from misconceptions and knowledge about maths (Ball, 2000). A recent blog (Rose, 2015) spoke about subject knowledge not necessarily being key to effective teaching. While I agree, you do not have to be trained to expert levels in all subjects, this blog post failed to take into consideration the PCK as set out by Ball, Thames and Phelps (2008). It seemed to consider knowledge of the subject as content knowledge, while it only forms a part of content knowledge. I would suggest that you need to be able to call on a level of expertise, either from a peer, an advisor, a resource or an experience in order to provide opportunities for teacher learning. This is due to the need for dissonance to be created that promotes learning as explained in Chapter 3. I am also very clear on the fact that the decisions I have made since identifying a need to be more of an expert in subjects and sequences myself, have seen our children understanding learning more efficiently and with greater depth.

As the head teacher in the school I think it is important to consider my role in this expertise chapter. While I may not be an expert in all areas, as I have demonstrated in the Pilot Study, I was the individual with the most expertise in Lesson Study and in examples like (Fernandez and Yoshida, 2004; Takahashi, 2014; Archer, 2016; Simmons, 2016) indicate that I may have been able to adopt a knowledgeable insider role in the research like other head teachers have done.



*I feel more able to do this now I have conducted this research because I feel that I understand professional conflict, the role of expertise and how to collaborate more clearly. However, I do not think in 2013 – 2014 I would have been able to provide much more than the teachers did as I had not experienced the potential pitfalls of Lesson Study at that point, and with the Lesson Study literature presenting a more positive outcome it is possible that I would not have been able to see how I could have played a role in Lesson Study if I had not removed myself from the initial research groups.*



Reflecting on the role of expertise and how I might have played a more active role in the Lesson Study teams and their reviews, I also considered how the formation of the groups may have enabled socio-professional relationships at the expense of sharing expertise. As I stated previously Team 1 chose to work together because they believed they would be kind to each other, not because they felt that they offered expertise in the learning area that the team was interested in. Whereas Team 2 choose to work together due to a shared interest in the learning focus that they then pursued. As Team 2 were more able to generate professional conflict it would be interesting to consider whether if the group had been formed with an internal expert within the team it would have been possible to generate further opportunities for teacher learning and sustain these throughout the cycle. To form groups with this level of expertise it would mean that I would need to know how to utilise knowledge of both the interests of teachers and their expertise areas.

## **6.8 Conclusion**

Throughout the study of expertise in this chapter, I have identified that Lesson Study processes require expertise both in order to carry out Lesson Study and to further opportunities for professional conflict and subsequently opportunities for teacher learning. Crucially, expertise is essential to Lesson Study work and I have identified that in my exploration of Lesson Study there are elements of our expertise that I need to reflect upon and consider further. Unlike the *just right* model presented in Chapter 5 for collaboration I think expertise is layered and there are elements that need to exist within each cycle to support the opportunities for teacher learning. The layers are grouped as fundamental expertise within all members of the group; using and building expertise within school and accessing external expertise.

### *6.8.1 Fundamental Expertise*

The fundamental expertise is linked to the processes of Lesson Study. All participants need to be trained in observation and feedback. This will ensure that participants in Lesson Study teams will be able to focus on an aspect of learning, use their lesson observation evidence to generate dissonance, sustain this dissonance through giving space and turn-taking which may then lead to professional conflict and opportunities for teacher learning. All of these individual elements require further training in my school and in the research data, each element impacted on the opportunity of teacher learning. As such, I need to consider the elements and how I will further support my staff so that they are enabled to succeed in future Lesson Study work and avoid the potential pitfalls Team 1, Team 2 and my Pilot Study found.

### *6.8.2 Using and Building Expertise Within School*

On top of the fundamental expertise there is a need to think about preventing diminishing levels of professional conflict throughout the Lesson Study cycle as Team 2 experienced

towards the end of their cycle. In this layer, it is important to consider the expertise within the school and within myself as the placement of these internal experts might facilitate increased levels of expertise in pedagogy and in Lesson Study, which will enable the generation of professional conflict.

### *6.8.3 Accessing External Expertise*

Ensuring that each Lesson Study team is able to access expertise beyond their group is the third layer that I think is important for future Lesson Study work. This might be accessing research, journals or literature about a topic to further inform and refine the group's thinking about sequence or task generation. It is also worth considering external experts like the Koshi's described by Archer (2016), Simmons, (2016) and Takahashi (2014) so that for groups like Team 1, who found generating their own conflict challenging, were enabled to experience sustained dissonance so that they were able to have professional conflict with improved opportunities for teacher learning.

### *6.8.4 Using expertise*

It is within the layers of expertise that I think I can refine Lesson Study in my school so that it presents more opportunities for professional conflict and subsequently teacher learning. This exploration has shown me that I need to revisit each layer so that I facilitate the Lesson Study process. Dudley (2013) describes Lesson Study as breath-takingly simple, however this would be a description that is only suitable to define the stages of a cycle, as the expertise required within each participant is not a simple matter and the training that I feel needs to be undertaken before a participant is facilitated in their Lesson Study. To ignore this complicated layering of expertise leaves Lesson Study teams like the ones in my exploration reliant on their own experience, which may not be sufficient to engender professional conflict and teacher learning opportunities.

**Chapter 7: Conclusion**

---

**Chapter 7: Contents**

<b>Section</b>	<b>Section Heading</b>	<b>Page</b>
<b>7.0</b>	<i>My experience of Lesson Study</i>	271
<b>7.1</b>	<i>Changing Lesson Study to work for me</i>	280
<b>7.2</b>	<i>How does Lesson Study develop teacher learning? Contribution to new knowledge</i>	284

---

October 2015

*Dear Head Teacher,*

*It is clear from my Lesson Study research that we have a long journey ahead of us as a school. It is an exciting journey, but a long one nevertheless.*

*I have had a chance to sit back and review all the letters I have sent you over the past few years and I can see that throughout them all I have been overwhelmingly biased in favour of Lesson Study as a professional learning tool. Moreover, I worry that my positivity towards it means that you have gone ahead and implemented it in your school. You should not be worried if you have already implemented it, but if you have, then this letter is all the more important, as there are some things you need to consider in detail.*

*The first thing you must consider is whether at least some of the teachers in each group have high levels of expertise (whether teaching experience or subject knowledge) in the subject of the Lesson Study and do you have access to further information or wider literature on the subject of the Lesson Study? This is important, as they need to be able to develop their expertise in order to create and explore different instructional aids.*

*Secondly, you need to think about the way your staff think about teacher learning. If they get too caught up in all the changes nationally you will find that their learning might be very superficial or only focused on the procedural- what happens within your school's systems- rather than developing their professional skills and judgement.*

*Thirdly, you need to be able to establish a joint aim between staff. This is probably something you are working on already. I still find that there is too much frustration placed on the previous year group's teachers by the current ones in my school, and I really hope to get to a point where we are all working towards the same goal.*

*Warm regards,*

*JP Mynott*

### *7.0 My experience of Lesson Study*

This thesis set out to tell a research story about my experience of exploring Lesson Study. Throughout the story, I have referenced my own learning and reflections, but as a starting point to this conclusion it seems sensible to summarise my experience of my exploration.

Exploring Lesson Study has taught me that a process that allows an individual to see it as being breath-takingly simple (Dudley, 2013) is likely to be far more complicated than meets the eye. Lesson Study is just a complicated process masquerading in an easy to describe sequence of planning, conducting and reviewing lessons. What this process does not allude to is the need to consider foundations, of expertise, collaboration, training and conflict readiness within a school's dominant culture, as these elements will have an impact on whether or not opportunities for teacher learning emerge from Lesson Study.

To start my conclusion to this thesis I will consider: the need to enhance the skills and knowledge of potential Lesson Study participants; the need to train and nurture confidence with professional conflict; the need to carefully plan and consider Lesson Study work; the need to remain focused on learning throughout the full cycle and the need to alter the structure of Lesson Study to fit my school's culture and context.

#### *7.0.1 Enhancing the skills and knowledge of a school team*

While I do not feel, my teachers lacked skills in observation, feedback, and turn taking in general it was apparent through my exploration of Lesson Study that these skills need to be further enhanced if individual participant are going to be able to generate and sustain dissonance to produce and embrace professional conflict.

On conducting observations, this process causes me to reflect on how I might be modelling a stream of consciousness observation (O'Leary, 2014) through my every day practice, yet requiring Lesson Study participants to focus more on a specific aspect of teaching and



learning. This means that there is a discord in what I am saying observations should be like and how I conduct them. O'Leary (2014) makes the case that a semi-structured lesson observation like that in Lesson Study is likely to be less subjective and biased because the focus is clear on entry and is not dependent on what I may or may not be inclined to notice in that moment of observation (Mason, 2002). As such, I need to consider the culture of observation in my school, and reflect on how my model of observation guides the work of Lesson Study participants, as while I might be endeavouring to be fair, and to enable different teaching styles through my work in lesson observations, this endeavour is likely to be tacit and inaccessible to my teachers, just like it appeared to be to Camille in Team 2. This means I need to consider how I work, the model I present and also train not just my teachers in observation but also reflect on my own discontinuity with this discovery and consider if I need to also develop my observation skills further. I think having considered Mason (2002) and O'Leary (2014) developing my observational work will be crucial and aspiring to be more focused in my observations and feedback will form part of my development work.

It is not only undertaking the observation that will require further training, I can see how in Team 1 and Team 2 the feedback in the reviews was hindered by a variety of socio-professional and challenges linked to expertise. In Team 1 the feedback was unfocused and was more concerned with affirmation than a critique of the learning in the lessons. In Team 2 there was too much critique initially and little turn taking. While Team 2 were able to adapt their feedback and establish more collaborative systems which in turn improved their opportunities for teacher learning. Team 1 were no more successful in Lesson 2 than they had been in Lesson 1. The feedback intervention I put in place in November 2013 to enhance my teachers' expertise in feedback was then limited in its success which means that there is more training to do with my teachers so that feedback is not linked to unfocused streams of observation (O'Leary, 2014) but is instead tied to the focus of the Lesson Study cycle. Part of

this training will be through reflecting on how the different types of feedback in this study have differing impacts on opportunities for teacher learning.

This training on feedback must also consider the structure of a Lesson Study review, and I think that my writing on this in Chapter 6 has shown that I think a review needs to be structured and involve turn taking as described by Stepanek et al (2007). Again, it is the adoption of these principles into the work of a review that is important. I had talked about these in training at the commencement of the Lesson Study research, and then again in the November 2013 training, but the principles were not adopted by Team 1 and this led to limited teacher learning opportunities in their cycle. This suggests that the training was discordant with the culture of how this group had worked previously and as such they needed to revisit this training and experience it in a more supported way to ensure that they could have been able to break through their pattern of affirmation to engender professional conflict.

#### *7.0.2 Generating confidence with professional conflict*

I think to ensure teachers feel more confident and comfortable with professional conflict this also needs to be considered within training. Crucially, I think this training should focus on what is professional conflict as framed in Achinstein (2004) and in this thesis so that my teachers can see that professional conflict is not about them personally but rather about the practice and the focus of the learning so that it is able to present them with opportunities for teacher learning. This training would perhaps be a lot narrower in terms of the focus of observations and might explore consideration of sequences of learning, task development and the drawing of expertise so as to move any conflict away from individuals and onto the learning being observed and reviewed subsequently.

One of the ways I think I could approach this work is through further considering learning sequences. I have shown in my own reflection that while I thought I was considering the

## A Primary Head Teacher's Exploration of Lesson Study

sequence of learning prior to conducting my Pilot Study, I was not fully considering the learning required and as a result my work with Ama was less successful in review than I had considered it originally. Again, like with the observation and feedback this has given me discontinuity and thus the opportunity for learning about how I work to plan, deliver and assess learning. For example, the challenge I have found just using my experience to facilitate learning about wholes in fractions has shown that it was not a full overview of the subject matter and thus meant my work was not as comprehensive as it could have been. For me this will mean reconsidering my approach to learning and as such, this means I also need to consider the culture of my school's approach to learning and whether we need to do work on sequences to inform our work.

Doig, Groves & Fujii (2011) cite four Japanese textbooks written by teachers with SCK enhanced over time with Lesson Study, who all give variations of the same calculations when introducing a topic. The same quality of resource is just not available to the primary school teachers in England, nor was there the culture to expect it in my school when I commenced Lesson Study work. The order of learning was not always considered and certainly conversations about the learning sequence like the examples given by Fernandez & Yoshida (2004), Ball, Thames & Phelps (2008) and Doig, Groves and Fujii (2011) which show the teachers discussing the relative benefits of introducing particular number calculations before others were not apparent to me. Thus, a way to consider generating professional conflict might initially be through looking at and focusing on sequences.

For me it was not until I read this article by Doig, Groves & Fujii (2011) that I had considered this as a question I needed to know the answer to for my teaching.  $12-3=$  or  $18-9=$  which would be the most useful for me to help a child understand the concept? Surely, someone with a decade's worth of working in primary schools should have already formed a viewpoint on this, but no, not I.

## A Primary Head Teacher's Exploration of Lesson Study

My learning through introducing Lesson Study now means I would also want to go further than this and I would also want to look into the stages that a child needed to understand before they got to this point in their learning about subtraction. They would need to understand grouping, they would need to understand subtracting something from something else to make a number smaller and there would be further nuances within each of these that I would seek to understand in order to be able to put together a series of learning stages that children could be taught over a period of time. I do not remember considering learning subtraction in this depth at any point in my training, or my pseudo-apprenticeship and I wonder if that is because as a teacher I have also been kept so busy with the pressing organizational things to learn and to do that I have not necessarily had sufficient time to consider it in any real depth.



*This is probably the same for my teachers – if not more so as I am undoubtedly adding to their work too. Therefore, Lesson Study also needs space and that means planning more time than I gave in the research project.*



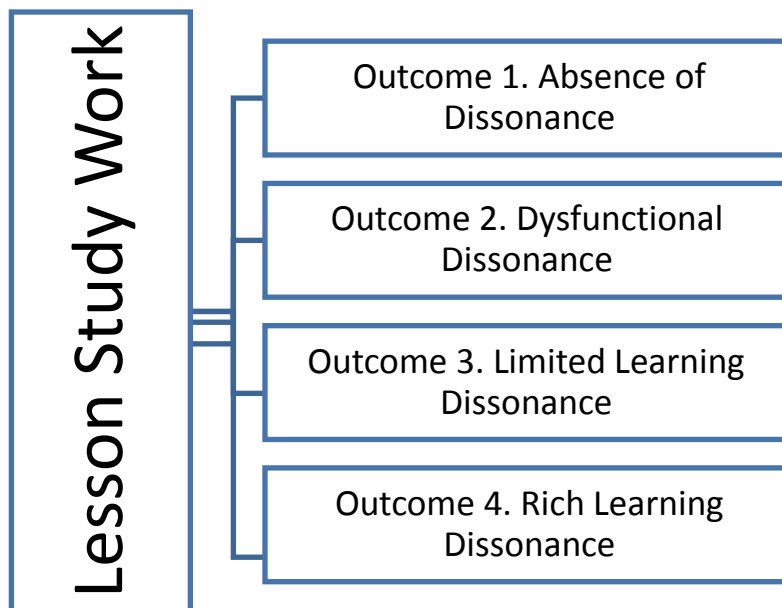
In Japan, the Lesson Study model, as I understand it, provides time and space for focusing on refinements to sequence and resources. The focus on resources and detail is much greater than I have seen in our own study and this is accompanied by an understanding that teachers will continue to learn, (Fernandez & Yoshida, 2004; Doig, Groves & Fujii, 2011) refine and discuss aspects of sequence and resource through a professional dialogue, which will involve dissonance and the associated professional conflict. This conflict may be tacit to the Japanese

teacher, and is something a newer teacher might find more challenging as exemplified by Fernandez & Yoshida (2004). Yet the teachers Fernandez & Yoshida (2004), Takahashi (2014), Archer (2016) describe are confident that while they do not know something straight away they can acquire more understanding over time and through drawing on expertise beyond themselves, which I think is something I and my school could do more of to help improve our knowledge and understanding of learning and sequences.

Drawing on expertise beyond the individual is another aspect that I think has struck me throughout my exploration. In each Lesson Study group: Team 1, Team 2 and the Pilot Study there were points where external expertise either as a person or as a resource would have supported the generation of professional conflict. In Team 1, a Koshi-like individual or a resource would have enabled them to have had an external conflict, which would have allowed them to focus on the lesson in a way that was critical of an outsider stance rather than someone within their socio-professional dynamic. For Team 2 expertise in literature may have helped them continue their professional conflict to Lesson 5 and for me in the Pilot Study it might have helped me realise that Ama's misconception of the whole in fractions was at a different stage and far more complicated than I thought. As a result of this I think planning the use of expertise into Lesson Study work needs to be considered carefully.

As I noted in the Lesson Study literature review, research and external expertise does not feature as prominently as I think it should. This might be because as you can get to a certain level of professional conflict on experience alone, as I showed in the Pilot Study and in Team 2. However, I have also shown that this is limited and would only reach a Lesson Study Outcome 3 in my model for potential teacher learning – Figure 5.3 – as it is ultimately not sustainable, as Team 2 showed. It is also inherently flawed because as I showed with Miqdad, Jasmine and I using our experience alone meant that we were complicit in not fully exploring the misconception. Therefore, I think it is important to carefully consider the expertise and

resources, whether it is a Koshi-like individual or literature a Lesson Study group might need before embarking on a new Lesson Study cycle.



*Figure 5.3: Model of Potential Teacher Learning Outcomes in Lesson Study*

### 7.0.3 Carefully planning and constructing Lesson Study

A personal reflection on this need to consider expertise is whether I know enough about my teachers to use this information to carefully plan and construct Lesson Study teams in the future.



*Had I known that Team 1 were likely to only seek to affirm each other, would I have put them together in a group? Now that I know this information, I am more informed about the individuals and can in theory help individuals find professional conflict within their colleagues through supporting the selection of Lesson Study teams.*

## A Primary Head Teacher's Exploration of Lesson Study

*Yet, I worry that while I am more informed I am still not knowledgeable. If I reflect on the whole exploration I would suggest that I am starting to be more informed about my teachers and as such I need to consider further work with them before I undertake Lesson Study in the same way I undertook it in 2013 – 2014.*



Crucially, the Lesson Study exploration has shown me that I know little about my teachers and while I know more about them having conducted this research, if I were to create Lesson Study groups for the next cycle, I am likely to still create groups with too much or too little dissonance as I do not know enough about how each individual will work within a Lesson Study team. One way I think this might be achieved is through placing myself in the Lesson Study groups so that I can increase my awareness of my individual teachers and think about where they have gotten to with the training we have down to accompany our Lesson Study work, as stated previously.

I would then be able to use this knowledge of the teachers and the identification of their experience with the different aspects of fundamental expertise I identified in Chapter 6 so that I would then be able to support the creation of new Lesson Study teams where I would be able to specifically plan in support to bridge expertise gaps and help in the generation of Professional Conflict. This would have the added benefit of meaning that I would also be more aware of the potential sources of internal expertise and how these individuals could work within Lesson Study teams to support development of ideas.

This system of supporting the creation of teams including me, and then moving on from me would also mean that I could support with researching the focus for each team and ensuring that they considered research and ideas beyond themselves when planning their work so they

did not fall into the same pitfall as I did which is being overly reliant on experience rather than enhancing that professional experience with wider reading and ideas.

#### *7.0.4 Maintain focus throughout*

This support in planning and using the internal expertise as well as by positioning me within the Lesson Study teams could also help maintain the focus of teams on the aspect of learning they are enquiring about. Team 1 were unable to stay focused on an aspect of learning and this meant that they were not able to generate dissonance to discontinuity about their element of learning. If they had had someone, like me, returning them to that point of enquiry each time they detoured away from it, this may have helped them generate professional conflict.

Maintaining focus is also likely to be easier if the focus is clearly established and work has been undertaken to research the area and identify expertise before the Lesson Study work commences. While I do think the Lesson Study teams found the planning formats helpful and used these in their reviews, I think that building their expertise through training and reinforcing their focus with research and external expertise will help them remain in a position to generate professional conflict and I think this will enhance the opportunities for learning in future Lesson Study work we undertake as a school.

#### *7.0.5 Alter the structure*

Ultimately, if Lesson Study is to be enabled in my school I need to alter the way we undertake it in future cycles so that I am enabling professional conflict. This will mean that there needs to be more training and a longer timeframe of set up for each Lesson Study, something which also features in Takahashi (2014) Fujii (2016) and Archer's (2016) work which suggest that Lesson Study in Japan has a long planning process. As such I need to think about how planning and training become key elements of each cycle, ensuring that all participants have the fundamental expertise and there are members with further expertise as



well as drawing on external expertise to further inform the work, all prior to commencing the planning of Lesson 1.

I need to be more directly involved in Lesson Study like Fernandez & Yoshida's (2004) descriptions of the head teacher being present, not always conversant, but present. This presence will enhance my knowledge of the teachers and will contribute to how Lesson Study teams are structured and my knowledge of where expertise is contained in both the fundamental layer and the layers above it.

### ***7.1 Changing Lesson Study to work for me***

This altered structure also needs to link to the sequences of learning in the school and to enable collaboration to be just right, a mixture of team members who are confident in professional conflict need to be present to generate opportunities for teacher learning.

In Chapter 2 I noted that I felt that Lesson Study might have experienced a phylogenetic mutation when it was translated into English and this mutation may have changed the ontological positioning of Lesson Study in the English-Language literature. I believe that my exploration of Lesson Study thus far has shown that there are a series of contextual hurdles to undertaking a more successful Lesson Study cycle, which would reach Outcome 4 on my Lesson Study Outcome diagram – Figure 5.3

Having reviewed the research data and considered the findings carefully, I think I would now revisit how I introduced Lesson Study to my school. All of the elements I have talked about throughout my research suggest that Lesson Study needs to be adapted for my school.

I have learnt a lot about Lesson Study through its introduction into my school and I know that as a staff body we have learnt a lot about how Lesson Study can work, and how it does not

## A Primary Head Teacher's Exploration of Lesson Study

work as well. What I need to do now is outline how I think Lesson Study needs to be adapted to work in my school.

To start with I would introduce Lesson Study work with a longer preparation block. I have shown this preparation block in the diagram – Figure 7.1 below.

<b>Training:</b> Provide training on professional conflict and develop teachers understanding of dissonance	<b>Planning:</b> Plan out Lesson Study questions relating to a <b>specific</b> aspect of teaching	<b>Seek Expertise:</b> Find a teacher/ advisor to support the group as an expert	<b>Planning:</b> Team Plan Lesson 1	<b>Teach:</b> Team Teach Lesson 1
<b>Review:</b> Team review Lesson 1 and expert extends learning following discussion	<b>Planning:</b> Team Plan Lesson 2	<b>Teach:</b> Team Teach Lesson 2	<b>Review:</b> Team review Lesson 2 and expert extends learning following	<b>Planning:</b> Team Plan Lesson 3
<b>Teach:</b> Team Teach Lesson 3	<b>Review:</b> Team review Lesson 3 and expert extends learning following	<b>Planning:</b> Team Plan Lesson 4	<b>Teach:</b> Team Teach Lesson 4	<b>Review:</b> Team review Lesson 4 and expert extends learning following

**Figure 7.1:** A plan of a four-lesson Lesson Study Cycle, with elongated preparation period

This longer preparation would allow me and the Lesson Study teams to undergo training on dissonance and holding conversation with conflict as well as seeking out expertise – people and research – to support the initial enquiry. This longer planning stage could mean that Lesson Study could be started up to a half term before the planned delivery of the observed Lesson Study lessons. This is also reflective of the advancements made in the Lesson Study literature on expertise, particularly the closer observation of Japanese Lesson Study work which indicates that there are multiple planning meetings before a Lesson Study lesson is undertaken (Fujii, 2016). In my school, this would mean that the team could take their time to

## A Primary Head Teacher's Exploration of Lesson Study

share their thinking, research their area of focus and prepare their own expertise on the research lesson, which in turn I hope would allow them to be more able to provide moments of conflict within their Lesson Study work.

Alongside this, for Lesson Study to be effective in my school it needs to tie more closely to the sequence of learning. Our Mathematics work is usually undertaken in blocks of learning, averaging two to three weeks in length. Therefore, for Lesson Study to be really effective, I think it needs to take into account the whole of this sequence and the timescales be reduced to accommodate this. O'Shea, Teague, Jordan, Lang & Dudley (2015) talk about how other schools have varied the timetable to help adapt Lesson Study to look at the sequence of learning, and for me I think it would have to be tied to something specific to ensure it has clarity and purpose. For instance, if I were doing Lesson Study with the Year 4 teachers, whom I have spoken about already, I would look at Lesson Study starting with the two-week sequence plan. Those moments where we have had a discussion or disagreement about a resource or a sequence element would then become the Lesson Study lessons where we would look into those elements in more detail to help us understand them more clearly and inform whether the decision we took was correct or not.

Equally, if I were looking at using planning frames in writing or developing progression in an Art module, the frequency of my lessons might then be weekly or at the same point in the planning cycle. Fundamentally, if Lesson Study is going to be providing teacher learning and not be an add-on activity in my school it has got to link to a genuine sense of enquiry, and that enquiry will vary depending on what we are considering. This is a break from the Japanese structure (Fernandez & Yoshida, 2004) and the model I used for this research (Dudley, 2012; Stepanek et al, 2007), but it is a necessary one. The reason it is necessary is while in Japan the teachers are tacitly accustomed to developing their occupational skills (Takahashi, 2014; Takahashi & McDougal, 2015; Fujii, 2014) this is not yet the case in my

## A Primary Head Teacher's Exploration of Lesson Study

school, as we have focused on organizational learning (Evetts, 2009) previously. As such, we need to be very specific about the elements of learning we are exploring and developing in Lesson Study and these need to be within the same aspect of learning for all of the Lesson Study lessons, meaning we cannot jump between topics within a subject. If we focus on our occupational development now we will be able to develop it into being able to hold a more Japanese-style Lesson Study cycle in the future, once we have built up our occupational skills. Although our version of Lesson Study will be our own interpretation of the Japanese-style rather than a replication of it as we cannot replicate a generation of occupational learning straightaway and our Lesson Study needs to take on board our education system's dominant culture. I also need to remember that my Lesson Study work will be chipping away at established dominant culture from the *edgelands* (Muncey, 2010) while we establish this Lesson Study model in school.

I have started this work with my teachers. We spent much of the Autumn Term 2015 looking at conflict, dissonance and sequences of learning. Now when we start to talk about our Lesson Study cycle 2016 – 2017, we are more equipped to successfully ensure we use the potential for dissonance moments to have professional conflict through Lesson Study's facilitation, this will allow us to develop teacher learning.

In planning our next Lesson Study cycle I have also considered the findings of Chapters 5 and 6. I want to work towards structuring Lesson Study so it is closer to the 'just right' model of collaboration, I discussed in my conclusion to Chapter 5 and the layers of expertise in Chapter 6, so the challenges we had in 2013 – 2014 are less likely to be replicated due to our lack of expertise.

In relation to groups, I intend to move forward with groups that I have selected, this allows me to think about where each teacher is in terms of working collaboratively; generating and

receiving feedback; dealing with and presenting moments of conflict, relative school experience and expertise in the content, subject or pedagogic area we are exploring. I think that by considering all of these elements in more depth before starting the work alongside the planned model of Lesson Study I have proposed in Figure 7.1 I can support my Lesson Study groups to be closer to the hypothetical 'just right' collaboration I posited in Chapter 5. Of course, whether these changes do ensure the outcomes I am expecting will make for interesting research in itself, and will further develop my understanding on how Lesson Study develops teacher learning in my school.

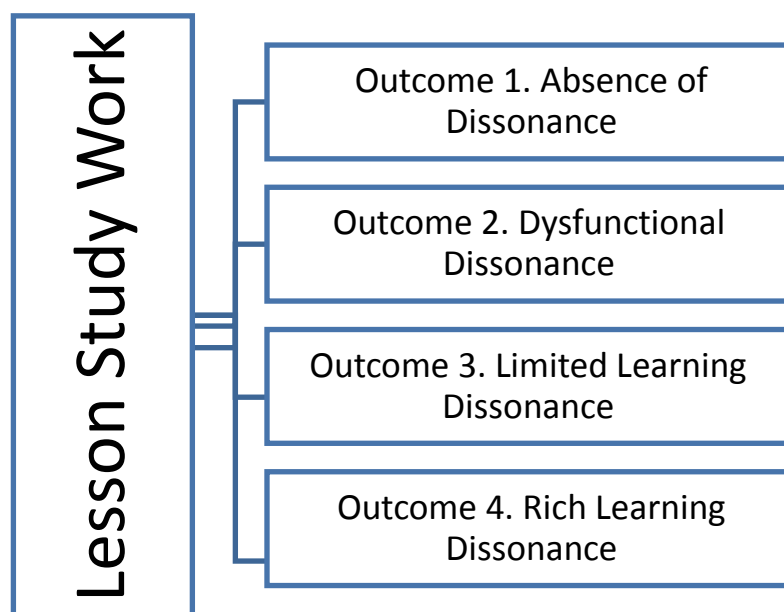
### ***7.2 How does Lesson Study develop teacher learning? Contribution to new knowledge***

In conclusion, I think that Lesson Study develops teacher learning by giving them a space and structure within which teachers are facilitated in presenting their different experiences, learning and ideas. The differences between teachers give each Lesson Study group the opportunity to develop dissonance points (learning points in Dudley, 2013; transformations in Pella, 2011). Each moment of dissonance can then be built on to develop teacher learning as I have shown in Team 2's Lesson Study cycle.

My establishment of moments of conflict has resonances with the work of Dudley (2013) and Pella (2011), however I am suggesting that the reason why these points occur is due to the teachers that are in the Lesson Study cycle rather than the collaborative structure that Lesson Study provides. As such when we consider teacher learning in Lesson Study cycles we must consider the differences and the potential dissonance those differences might provide. My failure to do so meant that I had one team who produced too little dissonance to enable them to have teacher learning – Team 1 – and one team who, at times, had too much conflict – Team 2. My reflection on this is that through exploring these Lesson Study teams, it is possible to see that if Lesson Study is to be effective at developing teacher learning the

conditions need to be right to create dissonance, build upon it and maintain it, which should then enable sustained teacher learning.

To help measure the outcomes of Lesson Study work, I have created four tiers to the outcomes I can perceive in Lesson Study work. I introduced these in Chapter 5 and have repeated them below:



*Figure 5.3: Model of Potential Teacher Learning Outcomes in Lesson Study*

I have identified that some groupings are more likely to have the potential to create dissonance moments. Teachers who are avoidant of conflict or have a higher sense of the need to sustain a harmonious consensus with their colleagues are more likely to reduce dissonance. In groups where there is a high level of difference between the individual teachers – Team 2 and Pella's (2011) study – they will likely be more successful at generating dissonance from within. I have suggested that training teachers prior to Lesson Study work in how to create and hold conversations with professional conflict would help

## A Primary Head Teacher's Exploration of Lesson Study

some teachers build on dissonance points in Lesson Study while also helping groups with higher potential levels of dissonance find a balance in their discussions. For others, I have noted that there is a need for an outsider (a Koshi or an expert) to work alongside a group to provide dissonance when their need for harmonious consensus overpowers their desire to develop their teacher learning. This expert could also be used to sustain groups when dissonance is wavering due to lack of expertise – as seen in Team 2, Lesson 5 – by providing research and resources to move a Lesson Study team outcome forward from Outcome 3 to Outcome 4 on Figure 5.3.

I have also indicated that for some individuals and groups, there needs to be a cultural shift so that they become more embracing of dissonance. This would need to take place at a whole school level, with the head teacher leading the way in encouraging dissonance points and showing that it is okay to have professional conflict within a school, while maintaining a sense of personal consensus.

I have shown this new knowledge about how teacher learning is developed in Lesson Study because I have embraced an exploration of Lesson Study that did not seek to find any particular outcome, but instead sought to explore how teacher learning occurs within the Lesson Study process and I have not shied away from the inclusion of what others might consider to be deviant groups and therefore not suitable for inclusion in research. This exploration needs to continue, and should also explore the role of the Koshi in Lesson Study and the impact of training teachers to have professional conflict in order to understand how we can adapt and improve Lesson Study so that it is even more effective.

Crucially, I can see that while the structures of Lesson Study are important in facilitating the collaboration and providing the space in which dissonance points can occur, it is the wider context around the teacher that influences the teacher learning in Lesson Study. My deviant

## A Primary Head Teacher's Exploration of Lesson Study

Lesson Study group – Team 1 – demonstrates this, as on paper they had a mixture of experiences and roles and should have been able to provide dissonance to each other, but the culture prevailing around them was to seek consensus and maintain harmony. A culture that I was partly responsible for, as I had considered those elements important to our school team, but I now see that if those elements are prioritised over dissonance points we might not be able to learn as effectively as we could. Understanding and developing group dynamics in Lesson Study is a key area for future research and I feel that my positing of the 'just right' structure of collaboration is an important step towards understanding this aspect further.

In order to learn as effectively as we can through Lesson Study I need to look at the culture that I am developing and just as I wrote in Chapter 1, now that I have made aspects of the culture of my school transparent I need to develop the dominant culture of my school so that it enables all teachers to succeed when using collaborative methods like Lesson Study.

In conclusion, in moving Lesson Study forward at my school and in my context, I will do so by paying particular attention to the following:

- Identify in my staff those who are avoidant or embracing of conflict in different contexts.
- Train my staff to generate and receive professional conflict by developing their focus on learning, feedback and observation skills
- Support each team to have the right levels of experience, expertise and training to conduct Lesson Study reviews that enable the generation of dissonance and 'just right' collaboration



## A Primary Head Teacher's Exploration of Lesson Study

- Ensure each group has a chosen focus, which is centred on occupational rather than organizational learning to give the group focus and purpose and allow the right type of “Koshi” to be identified to meet their needs as a group.
- Ensure each group contains or has access to a “Koshi” who can create dissonance or offer access to academic research, which can push the learning of that team onwards if it should be faltering or reaching a plateau.
- Make sure that Koshis and general staff have increased access to academic research and time in which to access it to deepen their understanding of their chosen Lesson Study focus.
- Be more present in the Lesson Study cycles to further develop my experience and expertise of my staff so that I can refine and develop their Lesson Study work further.

## **References**

- Achinstein, B. (2002). *Community, Diversity, And Conflict Among Schoolteachers: The ties that blind*, Teachers College Press, New York.
- Adams, T. E. & Holman Jones, S. (2011). 'Telling Stories: Reflexivity, queer theory and autoethnography', in *Cultural Studies Critical Methodologies*, Vol. 11:2, pp. 108-116.
- Adams, T. E. (2014). *Narrating the Closet: An autoethnography of same-sex attraction*, Left Coast Press, California.
- Adams, T. E., Jones, S. H. & Ellis, C. (2015). *Autoethnography: Understanding qualitative research*, Oxford University Press, Oxford.
- Alcoff, L. M. (2009). 'The Problem of Speaking for Others', in Jackson, A. & Mazzei, L. (eds.) *Voices in Qualitative Inquiry: Challenging conventional, interpretive and critical conceptions in qualitative research*, Routledge, Oxon. pp. 117-136.
- Alexander, B. K. (2014). 'Critical Autoethnography as Intersectional Praxis: A performative pedagogical interplay on bleeding borders of identity', in Boylorn, R. M. & Orbe, M. P. (ed.) *Critical Autoethnography: Intersecting cultural identities in everyday life*, Left Coast Press, California. pp. 110-122.
- Alexander, R. (2008). *Towards Dialogic Teaching: Rethinking classroom talk*, [4<sup>th</sup> Edition], Dialogos, Cambridge.
- Allan, D. (2015). 'I Think, Therefore I Share: Incorporating Lesson Study to enhance pedagogical knowledge exchange', in *Educate*, Vol. 15:1. pp. 2-5.
- Allen, D. C. (2015). 'Learning Autoethnography: A review of autoethnography: Understanding qualitative research', in *The Qualitative Report*, Vol. 20:2. pp. 33-35.
- Alston, A. S., Pedrick, L., Morris, K. P. & Basu, R. (2011). 'Lesson Study as a Tool for Developing Teachers' Close Attention to Students' Mathematical Thinking', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 135-152.
- Archer, R. (2016). 'Lesson Study, a Trip to Japan', in *Mathematics Teaching 250* pp. 36-40.
- Aronson, E. (1999). 'Dissonance, Hypocrisy, and the Self-Concept', in Harmon-Jones, E. & Mills, J. (ed.) *Cognitive Dissonance: Progress on a pivotal theory in social psychology*, American Psychological Association, Washington, pp. 103-126.
- Aspfors, J., Pörn, M., Forsman, L., Salo, P. & Karlberg-Granlund, G. (2015). 'The Researcher as a Negotiator – exploring collaborative professional development projects with teachers', in *Education Inquiry*, Vol. 6:4. pp. 401-416.
- Atkinson, B. M. & Rosiek, J. (2009). 'Researching and Representing Teacher Voice(s): A reader response approach', in Jackson, A. & Mazzei, L. (ed.) *Voices in Qualitative Inquiry*:

*Challenging conventional, interpretive and critical conceptions in qualitative research*, Routledge, Oxon. pp. 175-196.

Aull Davies, C. (2008). *Reflexive Ethnography: A guide to researching selves and others*, [2<sup>nd</sup> Edition] Routledge, London and New York.

Avidov-Ungar, O. (2016). 'School-Based Professional Development as an Organizational Learning Mechanism: The significant of teachers' involvement', in *International Journal of Educational Reform*, Vol. 25:1. pp. 16-37.

Aziz, N. & Pa, N. (1991). 'Primary School Pupils' Knowledge of Fractions', in *Journal for Research in Education*, Vol. 45.

Ball, D. L. (2000). 'Bridging Practices: Intertwining content and pedagogy in teaching and learning to teach', in *Journal of Teacher Education*, Vol. 51:3. pp. 241-247.

Ball, D. L., Thames, M. H. & Phelps, G. (2008). 'Content Knowledge for Teaching: What makes it special?', in *Journal of Teacher Education*, Vol. 59:5. pp. 389-407.

Ball, S. J. (2013). *The Education Debate*, [2<sup>nd</sup> Edition] The Policy Press, Bristol.

Bennett, T. (2013). *Teacher Proof: Why research in education doesn't always mean what it claims, and what you can do about it*, Routledge, London and New York.

Blair, T. (1997). *Leader's Speech, Brighton 1997*.

Blase, J. (ed.) (1991). *The Politics of Life in Schools: Power, conflict, and cooperation*, Corwin Press, California.

Bloom, A. (2016). 'Teachers Do Not Have Time to Learn About Research Evidence', in *Times Educational Supplement* May 20<sup>th</sup> 2016. accessed on 30.05.16 via <https://www.tes.com/news/school-news/breaking-news/teachers-do-not-have-time-learn-about-research-evidence-studies-find>

Bloom, B. S. (ed.) (1956). *Taxonomy of Educational Objectives: The classification of educational goals*, Longmans, London.

Bocher, A. P. & Riggs, N. (2014). 'Practicing Narrative Inquiry', in Leavy, P. (ed.) *The Oxford Handbook of Qualitative Research*, Oxford University Press, Oxford. pp. 195-222.

Borko, H. (2004). 'Professional Development and Teacher Learning: Mapping the terrain' *Educational Researcher*, Vol. 33:8, pp. 3-15

Boylorn, R. M. & Orbe, M. P. (ed.) (2014). *Critical Autoethnography: Intersecting cultural identities in everyday life*, Left Coast Press, California.

Brehm, J. (1956). 'Post-decision Changes in the Desirability of Alternatives', in *Journal of Abnormal and Social Psychology*, Vol. 52, pp. 384-89.

- Brody, D. & Hadar, L. (2011). "I Speak Prose and I Now Know It." Personal development trajectories among teacher educators in a professional development community', in *Teaching and Teacher Education*, Vol. 27. pp. 1223-1234.
- Brooks, C. & Dinan Thompson, M. (2015). 'Insiderness and Outsiderness – an autoethnography of a primary physical education specialist teacher', in *European Physical Education Review*, DOI: 10.1177/1356336X15568126. pp. 1-15.
- Buck, A. (2016). *Leadership Matters: How leaders at all levels can create great schools*, John Catt, Melton.
- Burns, C. P. E. (2006). 'Cognitive Dissonance Theory and the Induced Compliance Paradigm: Concerns for Teaching Religious Studies', in *Teaching Theology and Religion*, Vol. 9:1. pp. 3-8.
- Cajkler, W. & Wood, P. (2015). 'Lesson Study in Initial Teacher Education', in Dudley, P. (ed.) *Lesson Study: Professional learning for our time*, Routledge, Oxon. pp. 107-127.
- Cann, C. & DeMeulenaere, E. (2010). 'Forged in the Crucibles of Difference: Building discordant communities', in *Perspectives on Urban Education*, pp. 41-53.
- Carless, D. (2013). 'Cultural Constraints: Experiencing same-sex attraction in sport and dance', in Short, N. P., Turner, L. & Grant, A. (ed.) *Contemporary British Autoethnography* Sense Publishers, Rotterdam/ Boston/ Taipei. pp. 49-62.
- Cerbin, W. & Kopp, B. (2006). 'Lesson Study as a Model for Building Pedagogical Knowledge and Improving Teaching', in *International Journal of Teaching and Learning in Higher Education*, Vol. 18:3. pp. 250-257.
- Chang, H. (2008). *Autoethnography as Method*, Left Coast Press, California.
- Chatzidakis, A., Hibbert, S. & Smith, A. P. (2007). 'Why People Don't Take their Concerns about Fair Trade to the Supermarket: The role of neutralisation', in *Journal of Business Ethics*, Vol. 74. pp. 89-100.
- Clandinin, D. J. & Rosiek, J. (2007). 'Mapping a Landscape of Narrative Inquiry: Borderland spaces and tensions', in Clandinin, D. J. (ed.) *Handbook of Narrative Inquiry: Mapping a methodology*, Sage, London. pp. 35-76.
- Cooper, J. (1999). 'Unwanted Consequences and the Self: In Search of the motivation for dissonance reduction', in Harmon-Jones, E. & Mills, J. (ed.) *Cognitive Dissonance: progress on a pivotal theory in social psychology*, American Psychological Association, Washington, pp. 149-174.
- Cooper, J. (2007). *Cognitive Dissonance: Fifty years of a classic theory*, Sage, Los Angeles.
- De Mooij, M. (2014). *Global Marketing and Advertising: Understanding cultural paradoxes*, [4<sup>th</sup> Edition] Sage, Los Angeles and London.

## A Primary Head Teacher's Exploration of Lesson Study

Denzin, N. K. (2011). 'The Politics of Evidence', in Denzin, N. K. & Lincoln, Y. S. (ed.) *The Sage Handbook of Qualitative Research*, Sage, London. pp. 645-657.

Department for Education, (DfE). (2013). *The National Curriculum in England: Framework document*.

Department for Education, (DfE). (2015). *Final Report of the Commission on Assessment Without Levels*.

Department for Education, (DfE). (2015). *Coasting schools: Illustrative regulations*.

Department for Education and Employment, (DfEE). (1998). *National Literacy Strategy*.

Department for Education and Employment, (DfEE). (2006). *Primary Framework for Literacy and Mathematics*.

Deputy Prime Minister's Office, Department for Education (DfE). (2013). *Autumn Statement 2013, Children's health, Social mobility and Education of disadvantaged children*

Dewey, J. (1910). *How We Think*, republished in (2012). Martino Publishing, Mansfield.

Diamond, C. T. P. (1992). 'Accounting for Our Accounts: Autoethnographic approaches to teacher voice and vision', *Curriculum Inquiry*, Vol. 22:1, pp. 67-81.

Doig, B., Groves, S. & Fujii, T. (2011). 'The Critical Role of Task Development in Lesson Study', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 181-200.

Drury, H. (2014). *Mastering Mathematics: Teaching to transform achievement*, Oxford University Press, Oxford.

Dudley, P. (2011). 'Lessons for Learning: How teachers learn in contexts of Lesson Study', PhD thesis, University of Cambridge.

Dudley, P. (2012). 'Lesson Study Development in England: From school networks to national policy', in *International Journal of Lesson and Learning Studies* Vol. 1:1 pp. 85-100.

Dudley, P. (2013). 'Teacher Learning in Lesson Study: What interaction-level discourse analysis revealed about how teachers utilised imagination, tacit knowledge of teaching and fresh evidence of pupils learning, to develop practice knowledge and so enhances their pupils' learning', in *Teaching and Teacher Education* Vol. 34. pp. 107-121.

Dudley, P. (2013). 'The Power of Teachers Carrying out Lesson Study', in SecEd, accessed on 01.0317 via <http://www.sec-ed.co.uk/blog/the-power-of-teachers-carrying-out-lesson-study>

Dudley, P. (2014). *Lesson Study: A handbook*, Cambridge, Lesson Study UK (LSUK) accessed on 01.0317 via <http://lessonstudy.co.uk/lesson-study-a-handbook/>

## A Primary Head Teacher's Exploration of Lesson Study

- Dudley, P. (ed.) (2015). *Lesson Study: Professional learning for our time*, Routledge, Oxon.
- Ebaegu, M. & Stephens, M. (2013). 'Cultural Challenges in Adapting Lesson Study to a Philippines Setting', in *Mathematics Teacher Education & Development*. pp. 1-25.
- Elbaz-Luwisch, F. (2007). 'Studying Teachers' Lives and Experience: Narrative inquiry into K-12 teaching', in Clandinin, J. (ed.) *Handbook of Narrative Inquiry: Mapping a methodology*, Sage, London/ New Delhi. pp. 357-382.
- Elliot, A. J. & Devine, P. G. (1994). 'On the Motivational Nature of Cognitive Dissonance: Dissonance as psychological discomfort', in *Journal of Personality and Social Psychology*, Vol. 67. pp. 382-394.
- Ellis, C. & Adams, T. E. (2014). 'The Purposes, Practices and Principles of Autoethnographic Research', in Leavy, P. (ed.) *The Oxford Handbook of Qualitative Research*, Oxford University Press, Oxford. pp. 254-276.
- Emerson, R. M., Fretz, R. I. & Shaw, L. L. (2011). *Writing Ethnographic Fieldnotes*, [2<sup>nd</sup> Edition] The University of Chicago Press, Chicago and London.
- English, A. R. (2005). *Discontinuity in Learning: Dewey, Herbart, and education as transformation*, Cambridge University Press, Cambridge.
- Erlanson, D. A., Harris, E.L., Skipper, B. L. & Allen, S. D. (1993). *Doing Naturalistic Inquiry: A guide to methods*, Sage, London.
- Evetts, J. (2009). 'The Management of Professionalism: A contemporary paradox', in Gewirtz, S., Mahony, I. H. & Cribb, A. (ed.) *Changing Teacher Professionalism: International trends, challenges and ways forward*, Routledge, London and New York. pp. 19-30.
- Flagg, B. (1998). *Was Blind, But Now I See: White race consciousness and the law*, New York University Press, New York.
- Fernandez, C. (2002). 'Learning from Japanese Approaches to Professional Development: The case of Lesson Study', in *Journal of Teacher Education*, Vol. 53:5. pp. 393-405.
- Fernandez, C. (2005). 'Lesson Study: A means for elementary teachers to develop the knowledge of mathematics needed for reform-minded teaching?', in *Mathematical Thinking and Learning*, Vol. 7:4. pp. 265-89.
- Fernandez, C. & Yoshida, M. (2004). *Lesson Study: A Japanese approach to improving mathematics teaching and learning*, Routledge, Oxon.
- Festinger, L. (1957). *A Theory of Cognitive Dissonance*, Stanford University Press, Stanford.
- Forber-Pratt, (2015). "'You're Going to Do What?'" Challenges of Autoethnography in the Academy', in *Qualitative Inquiry*, Vol. 21:9. pp. 821-835.

## A Primary Head Teacher's Exploration of Lesson Study

- Fujii, T. (2014). 'Implementing Japanese Lesson Study in Foreign Countries: Misconceptions revealed', in *Mathematics Teacher Education and Development*, Vol. 16:1. pp. 65-83.
- Fujii, T. (2016). 'Designing and Adapting Tasks in Lesson Planning: A critical process of Lesson Study', in *ZDM Mathematics Education*, DOI 10/1007/s11858-016-0770-3.
- Geertz, C. (1973). *The Interpretation of Cultures*, Basic Books, New York.
- Girandola, F. (1997). 'Double Forced Compliance and Cognitive Dissonance Theory', in *The Journal of Social Psychology*, Vol: 137:5. pp. 594-605.
- Hadar, L. & Brody, D. L. (2010). 'From Isolation to Symphonic Harmony: Building a community of learners among teacher educators', in *Teaching and Teacher Education*, Vol. 26. pp. 1641-1651.
- Hadar, L. L. & Brody, D. L. (2012). 'The Interaction Between Group Processes and Personal Professional Trajectories in a Professional Development Community for Teacher Educators', in *Journal of Teacher Education*, Vol. 64:2. pp. 145-161.
- Harmon-Jones, E. & Mills, J. (1999). 'An Introduction to Cognitive Dissonance Theory and an Overview of Current Perspectives on the Theory', in Harmon-Jones, E. & Mills, J. (ed.) *Cognitive Dissonance: Progress on a pivotal theory in social psychology*, American Psychological Association, Washington, pp. 3-24.
- Hart, L. C., Alston, A. S. & Murata, A. (ed.) (2011). *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York.
- Hart, L. (2009). 'A Study of Japanese Lesson Study with Third Grade Mathematics Teachers in a Small School District', in *STRATE Journal*, Vol.18:1. pp. 32-43.
- Hart, L. C. & Carriere, J. (2011). 'Developing the Habits of Mind for a Successful Lesson Study Community', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 27-38.
- Hart, S., Dixon, A., Drummond, M. J. & McIntyre, D. (2004). *Learning Without Limits*, Open University Press, Berkshire.
- Haylock, D. & Manning, R. (2014). *Mathematics Explained for Primary Teachers*, [5<sup>th</sup> Edition]. Sage, London.
- Herzfeld, M. (1997). 'The Taming of Revolution: Intense paradoxes of the self', in Reed-Danahay, D. E. (ed.) *Auto/Ethnography: Rewriting the self and the social*, Berg, Oxford/ New York. pp. 169-194.
- Hiebert, J., Gallimore, R. & Stigler, J. (2002). 'A Knowledge Base for the Teaching Profession: What would it look like and how can we get one?', in *Educational Researcher*, Vol. 31:5. pp. 3-15.

## A Primary Head Teacher's Exploration of Lesson Study

Horn, I. S. & Little, J. W. (2010). 'Attending to Problems of Practice: Routines and resources for professional learning in teachers' workplace interactions', in *American Educational Research Journal*, Vol. 47:1. pp. 181-217.

Humphreys, M. (2005). 'Getting Personal: Reflexivity and autoethnographic vignettes', in *Qualitative Inquiry*, Vol. 11:6, pp. 840-860.

Kamina, P. & Tinto, P. (2011). 'Lesson Study: A case of the investigations Mathematics Curriculum with practicing teacher in Fifth Grade', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 221-234.

Kelly, G. A. (1963). *A Theory of Personality: The psychology of personal constructs*, W.W. Norton & Company, New York/ London.

Knapp, A., Bomer, C. & Moore, C. (2011). 'Lesson Study as a Learning Environment for Coaches of Mathematics Teachers', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 153-164.

Lather, P. (2009). 'Against Empathy, Voice and Authenticity', in Jackson, A. & Mazzei, L. (ed.) *Voices in Qualitative Inquiry: Challenging conventional, interpretive and critical conceptions in qualitative research*, Routledge, Oxon. pp. 17-26.

Lapworth, P. & Sills, C. (2011). *An Introduction to Transactional Analysis*, [2<sup>nd</sup> Edition] Sage, London.

Leavy, P. (2015). *Method Meets Art: Arts-based research practice*, [2<sup>nd</sup> Edition], The Guilford Press, New York.

Leonardo, Z. (ed.) (2005). *Critical Pedagogy and Race*, Blackwell Publishing, Oxford.

Lewis, C. (2002). *Lesson study: A handbook of teacher-led instructional change*, Research for Better Schools, Philadelphia.

Lewis, C. (2009). 'What is the Nature of Knowledge Development in Lesson Study?', in *Educational Action Research*, Vol. 17:1. pp. 95-110.

Lewis, C., Perry, R. & Friedkin, S. (2009). 'Lesson Study as Action Research', in Noffke, S. & Somekh, B. (ed.) *The Sage Handbook of Educational Action Research*, Sage, London. pp. 142-154.

Lewis, C., Perry, R. R., & Hurd, J. (2009). 'Improving Mathematics Instruction through Lesson Study: A theoretical model and North American case', in *Journal of Mathematics Teacher Education*, Vol. 12:4. pp. 285-304.

Lewis, C. (2011). 'Response to Part IV: Seeing the whole iceberg – the critical role of tasks, inquiry stance and teacher learning in Lesson Study', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 235-240.



## A Primary Head Teacher's Exploration of Lesson Study

- Lichtman, M. (2013). *Qualitative Research in Education: A user's guide*, [3<sup>rd</sup> Edition], Sage, LA/ New York.
- Lincoln, Y. & Guba, E. (1985). *Naturalistic Inquiry*, Sage, London.
- Lopez-Charles, G. (2001). *Assessment of Children's Understanding of Rational Numbers*, PhD Thesis, Institute of Education, University of London.
- Lynch, S. (2013). 'Do I Really Want to be a Teacher? Despite the True Negatives: An autoethnography', *Reinvention: An International Journal of Undergraduate Research*, BCUR/ICUR 2013 Special Issue, accessed on 02.03.17 via <http://www.warwick.ac.uk/reinventionjournal>.
- MacLure, M. (2009). 'Broken Voices, Dirty Words: On the productive insufficiency of voice', in Jackson, A. & Mazzei, L. (ed.) *Voices in Qualitative Inquiry: Challenging conventional, interpretive and critical conceptions in qualitative research*, Routledge, Oxon. pp. 97-114.
- Mazzei, L. A. & Jackson, A. (2009). 'The Limit of Voice', in Jackson, A. & Mazzei, L. (ed.) *Voices in Qualitative Inquiry: Challenging conventional, interpretive and critical conceptions in qualitative research*, Routledge, Oxon. pp. 1-14.
- Mercer, N. (1995). *The Guided Construction of Knowledge: Talk amongst teachers and learners*, Multilingual Matters LTD. Clevedon.
- McNiff, J. (2007). 'My Story is My Living Educational Theory' in Clandinin, J. (ed.) *Handbook of Narrative Inquiry: Mapping a methodology*, Sage, London/ New Delhi. pp. 308-329.
- Morgan, N. (2015). 'War Declared: Illiteracy and innumeracy must perish', *The Sunday Times*, 1<sup>st</sup> Published, 1<sup>st</sup> February 2015, accessed on 23.04.16 via <http://www.thesundaytimes.co.uk/sto/comment/regulars/guestcolumn/article1513618.ece>
- Moriarty, J. (2013). 'Leaving the Blood in: Experiences with an autoethnographic doctoral thesis', in Short, N. P., Turner, L. & Grant, A. (ed.) *Contemporary British Autoethnography* Sense Publishers, Rotterdam/ Boston/ Taipei. pp. 63-78.
- Muncey, T. (2010). *Creating Autoethnographies*, Sage, London.
- Myatt, M. (2016). *High Challenge, Low Threat: Finding the balance*, John Catt, Melton.
- Nick, M. (2015). *The Market Place*, accessed on 28.02.16 via <http://lessonstudy.co.uk/2015/04/nick-martin-head>.
- NRICH. (2011). '*Teaching Fractions with Understanding: Part-whole Concept*,' accessed on 28.02.16 via <http://nrich.maths.org/>
- Nunes, T., (1996). 'Understanding Rational Numbers', in Nunes, T. and Bryant, P. E. (ed.) *Children Doing Mathematics*, Blackwell Publishers, Oxford.

## A Primary Head Teacher's Exploration of Lesson Study

- Ofsted. (2015). *The Common Inspection Framework: Education, skills and early years: Handbook for inspections carried out, respectively, under section 5 of the Education Act 2005 (as amended), section 109 of the Education and Skills Act 2008, the Education and Inspections Act 2006, and the Childcare Act 2006*. Reference number: 150065.
- O'Leary, M. (2014). *Classroom Observation: A guide to the effective observation of teaching and learning*, Routledge, London and New York.
- Opfer, V. D. & Pedder, D. (2011). 'Conceptualizing Teacher Professional Learning', in *Review of Educational Research*, Vol. 81:3. pp. 376-407.
- O'Shea, J., Teague, S., Jordan, G., Lang, J. & Dudley, P. (2015). 'Leading Lesson Study in Schools and Across School Systems', in Dudley, P. (ed.) *Lesson Study: Professional learning for our time*, Routledge, Oxon. pp. 59-85.
- Paradis, E. (2012). 'Boxers, Briefs or Bras? Bodies, Gender and Change in the Boxing Gym', in *Body & Society*, Vol.18:2. pp. 82-109.
- Peacock, A. (2016). *Assessment for Learning without Limits*, Open University Press, London.
- Pedder, D. (2015). 'Prospects for Further Development of Lesson Study', in Dudley, P. (ed.) *Lesson Study: Professional learning for our time*, Routledge, Oxon. pp. 145-151.
- Pelias, R. J. (2004). *A Methodology of the Heart: Evoking academic and daily life (ethnographic alternatives)*, AltaMira Press, Walnut Creek.
- Pella, S. (2011). 'A Situative Perspective on Developing Writing Pedagogy in a Teacher Professional Learning Community' in *Teacher Education Quarterly*, Winter, 2011. pp. 107-125.
- Piaget, J. (1923). *Le langage et la pensée chez l'enfant*, translated by Gabain, M & Gabain, R (1959). Published (2002). *The Language and Thought of the Child*, Routledge, Oxon.
- Puchner, L. D. & Taylor, A. R. (2006). 'Lesson Study, Collaboration and Teacher Efficacy: Stories from two school-based math Lesson Study groups', in *Teaching and Teacher Education*, Vol. 22:7. pp. 992-934.
- Richardson, L. (1997). *Fields of Play: Constructing an academic life*, Rutgers University Press, New Jersey.
- Ricks, T. E. (2011). 'Process Reflection During Japanese Lesson Study Experiences by Prospective Secondary Mathematics Teachers', in *Journal of Mathematics Education*, Vol. 14. pp. 251-67.
- Rivett, J. (2015). 'Step Out of the Shed and into the Garden – How Lesson Study enables deep professional learning', accessed on 02.02.17 via <http://blogs.ncl.ac.uk/education/2016/02/12/step-out-of-the-shed-and-into-the-garden-how-lesson-study-enables-deep-professional-learning>.

## A Primary Head Teacher's Exploration of Lesson Study

- Robinson, N. & Leikin, R. (2012). 'One Teacher, Two Lessons: The Lesson Study process', in *International Journal of Science and Mathematics Education*, Vol. 10. pp. 139-61.
- Rose, N. (2015). *Is Teaching a 'Natural Ability'? What characteristics does a teacher need to be effective?*, accessed on 01.03.17 via <https://evidenceintopractice.wordpress.com/2015/12/30/theory-of-mind/>
- Roth, W. (2005). 'Auto/Biography and Auto/Ethnography; Finding the generalized other in the self', in Roth, W. (ed.) *Auto/Biography and Auto/Ethnography: Praxis of Research Method*, Sense Publishers, Rotterdam/ Taipei. pp. 3-16.
- Sahlberg, P. (2010). *Finnish Lessons: What can the world learn from educational change in Finland?*, Teachers College Press, New York and London.
- Saito, E. & Atencio, M. (2013). 'A Conceptual Discussion of Lesson Study from a Micro-Political Perspective: Implications for teacher development and pupil learning', in *Teaching and Teacher Education*, Vol. 31. pp. 87-95.
- Samuel Whitbread Academy, (2015). *Anthecology*.
- Santoro, P. (2014). 'Lather, Rinse, Reclaim: Cultural (re)conditioning of the gay (bear) body', in Boylorn, R. M. & Orbe, M. P. (ed.) *Critical Autoethnography: Intersecting cultural identities in everyday life*, Left Coast Press, California. pp. 159-175.
- Shimahara, N. (1991). 'Teacher Education in Japan', in Beauchamp, E. R. (ed.) *Windows on Japanese Education*, Greenwood, Westport. pp. 259-280.
- Shulman, L. S. (1986). 'Those Who Understand: Knowledge growth in teaching', in *Educational Researcher*, Vol. 15:2. pp. 4-14.
- Simmons, M. (2016). 'The Role of the 'Koshi' in UK Lesson Study', in *Mathematics Teaching 250* pp. 41-43.
- Simpson, B., Rafut, J. & Budd, C. (2015) *Camden Lesson Study Project: Beulah Junior School*, accessed on 27.02.17 via [www.lessonstudy.camden.gov.uk](http://www.lessonstudy.camden.gov.uk).
- Smith, J. A., Flowers, P. & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, method and research*, Sage, London.
- Solórzano, D. G & Yosso, T. J. (2002). 'Critical Race Methodology: Counter-storytelling as an analytical framework for education research', in *Qualitative Inquiry*, Vol. 8:1. pp. 23-44.
- Solórzano, D. G & Yosso, T. J. (2005). 'Maintaining Social Justice Hopes within Academic Realities: A Freirean approach to critical race/ LatCrit pedagogy', in Leonardo, Z. (ed.) *Critical Pedagogy and Race*, Blackwell Publishing, Oxford. pp. 69-92.
- Spry, T. (2001). 'Performing Autoethnography: An embodied methodological praxis', in *Qualitative Inquiry*, Vol. 7:6. pp. 706-732.

## A Primary Head Teacher's Exploration of Lesson Study

Stepanek, J., Appel, G., Leong, M., Mangan, M. & Mitchell, M. (2007). *Leading Lesson Study: A practical guide for teachers and facilitators*, Corwin Oaks Press, California.

Stigler, J. W. & Hiebert, J. (1999). *The Teaching Gap: Best ideas from the World's teachers for improving education in the classroom*, Free Press, New York.

Streefland, L. (1996). 'Charming Fractions or Fractions being Charmed?', in Nunes, T. and Bryant, P.E. (ed.) *How Do Children Learn Mathematics?*, Erlbaum, Hove.

Swann, M., Peacock, A., Hart, S. & Drummond, M. J. (2012). *Creating Learning Without Limits*, Open University Press, Maidenhead.

Takahashi, A. (2014). 'The Role of the Knowledgeable Other in Lesson Study: Examining the final comments of experienced Lesson Study practitioners', in *Mathematics Teacher Education and Development* Vol. 16:1 pp. 2-17.

Takahashi, A. & McDougal, T. (2015). 'Collaborative Lesson Research: Maximizing the impact of Lesson Study', in *ZDM Mathematics Education* DOI: 10.1007/s11858-015-0752-x pp. 1-14.

Tepylo, D. H. & Moss, J. (2011). 'Examining Change in Teacher Mathematical Knowledge Through Lesson Study', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 59-78.

Traianou, A. (2014). 'The Centrality of Ethics in Qualitative Research', in in Leavy, P. (ed.) *The Oxford Handbook of Qualitative Research*, Oxford University Press, Oxford. pp. 62-81.

Tsui, A. B. M. & Law, D. Y. K. (2007). 'Learning as Boundary-Crossing in School-University Partnerships', *Teaching and Teacher Education*, Vol. 23:1. pp.289-301.

Tuhiwai Smith, L. (2012). *Decolonizing Methodologies: Research and indigenous peoples*, [2<sup>nd</sup> Edition] Zed Books, London & New York.

United Nations Educational, Scientific and Cultural Organization's – UNESCO - (1966). *Recommendation Concerning the Statue of Teachers*, adopted by the Special Intergovernmental Conference on the Status of Teachers, Paris 5<sup>th</sup> October 1966.

Vygotsky, L. (1934) *МЫШЛЕНИЕ И РЕЧЬ* [Thought and Language], translated by Hanfman, E. Vakar, G & Kozulin, A. (2012). MIT press, Massachusetts.

Wall, S. (2008). 'Easier Said Than Done: Writing an autoethnography', in *International Journal of Qualitative Method*, Vol. 7:1, pp. 38-52.

Watanabe, T. (2011). 'Response to Part III: Challenges and promises of uncharted water – Lesson Study and institutes of higher education', in Hart, L. C., Alston, A. S. & Murata, A. (ed.) *Lesson Study Research and Practice in Mathematics Education*, Springer, Dordrecht/ Heidelberg/ London/ New York. pp. 175-178.

Whitehead, J. & McNiff, J. (2006). *Action Research Living Theory*, Sage, London.

## A Primary Head Teacher's Exploration of Lesson Study

Xu, H. & Pedder, D. (2015) 'Lesson Study: An international review of the research' in Dudley, P. (ed.) *Lesson Study: Professional learning for our time* Routledge, Oxon. pp29-58.

Zeni, J. (2009). 'Ethics and the 'Personal' in Action Research', in Noffke, S. & Somekh, B. (ed.) *The Sage Handbook of Educational Action Research*, Sage, London. pp. 254-266.

## A Primary Head Teacher's Exploration of Lesson Study

### *Appendix A: Example of Lesson Plan Format*

	<b>Date and Time</b>	<b>Subject</b>	<b>Focus</b>	<b>Teachers involved</b>
	<b>Teaching Plan</b>	<b>Questions</b>	<b>Anticipated Misconceptions</b>	<b>Evaluation</b>
<b>Starter</b>				
<b>Main</b>				
<b>Tasks</b>				
<b>Plenary</b>				

## A Primary Head Teacher's Exploration of Lesson Study

### Appendix B: Example of Lesson Plan from Pilot Study - anonymised

	<b>Date and Time</b>	<b>Subject</b>	<b>Focus</b>
	11:20 – 12:10 09/07/13	Maths	Solving problems involving fractions
	<b>Teaching Plan</b>	<b>Questions</b>	<b>Anticipated Misconceptions</b>
<b>Starter 5-10 mins</b>	<p style="text-align: center;"><b><u>Can I multiply and divide quickly?</u></b></p> <p>Present pupils with a series of 2 and 3 digit numbers on the board and ask pupils to multiply these quickly. Give pupils a second set of numbers and get them to divide by these numbers.</p>	Can you quickly divide/ multiply numbers?	
<b>Main 10-15 mins</b>	<p style="text-align: center;"><b><u>Can I convert fractions?</u></b></p> <p>Reintroduce pupils to the concept of whole objects. Show pupils a series of classroom objects and talk about these being one whole.</p> <p>Show pupils that whole objects can be repeated – for example you can have three pieces of paper and these can be divided into the same sections. Rip these pieces of paper into quarters to exemplify how the different wholes might be cut into the same portions.</p> <p>Give a pupil a number of quarters (<math>\frac{7}{4}</math>) and ask them how many quarters they have. Ask them how many whole pieces of paper they have?</p> <p>Repeat with different examples such as <math>\frac{9}{4}</math> or <math>\frac{5}{4}</math> or <math>\frac{11}{4}</math></p>	<p>What is a whole? How can we describe a whole?</p> <p>Are these divided into the same portions? Who has most?</p> <p>How many whole pieces of paper do we have?</p>	<p>A struggled with the concept of a whole cake being cut into portions.</p> <p>Pupils may think that different pieces of paper are different sizes –despite being shown this visually</p> <p>Pupils may find it difficult to think about reconstituting the pieces back into wholes.</p>

## A Primary Head Teacher's Exploration of Lesson Study

<p><b>Tasks</b> <b>15-20 mins</b></p>	<p>HA Pupils will look at improper fractions written on the board and convert these into whole number mixed number fractions. Pupils will need a further input on converting fractions using their division skills to work out how many wholes they have in each example.</p> <p>MA Pupils will use a range of equipment including blocks to think about converting improper fractions to mixed number fractions. Some pupils will be able to do this numerically.</p> <p>LA (LO) Pupils in this group will work with blocks to create the different improper fractions as wholes, using the denominator as the indicator of how they can identify how many pieces there are in each whole.</p>		
<p><b>Plenary</b> <b>5-10 mins</b></p>	<p>Reverse the work from the lesson and look at how pupils can convert mixed number fractions into improper fractions. Show them a series of mixed number fractions and ask them what these would be as improper fractions. Use drawings on the board so that pupils can reinforce the whole item concept from the lesson.</p>		<p>Pupils might find it difficult to reverse the concept of improper to mixed number fractions</p>