

“When the water flows, a channel is formed”:
Professional Learning and Practice Innovation through
District Research Lesson Study in the Context of China’s
New Curriculum Reform

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Abstract

This thesis investigates the systemic and contextualised nature of professional learning and practice development through district research lesson study (DRLS), a widespread LS practice in China. Through close examination of a DRLS case carried out in the context of curriculum reform in the subject area of EFL, the study focuses on understanding the conditions, processes, and outcomes of learning at three levels of analysis: individual teachers, subject teams, and the district EFL teaching community as a whole. The study focuses particular attention to the role and processes of language mediation in the professional learning and practice development of teachers, given the discursive nature of DRLS activities.

The study shows that the DRLS provided a collaborative and continuous structure for supporting EFL teachers across a district to collectively make sense of the new curriculum framework, and to innovate, validate, and share practices in contexts of specific curriculum implementation. Over time, the district as a whole developed a shared public repertoire of practices and pedagogic ideas which permeated the thinking and practices of members of the district through the development of a common language for talking about practice. In the collaborative context of DRLS, different kinds of individual teacher’s learning were at play due to differences in their prior knowledge, understandings and approaches to participating in the DRLS. The different ways teachers used language to formulate their conceptions of practice also influenced their learning and practice development. At the team level, teams engaged in two distinct patterns of talk, each of which was reflected in different modes of collaboration and learning. The study proposes a new framework of talk and proposes explicit emphasis in future DRLS practices for developing teachers’ language practices as important ways of supporting their individual and collective learning in contexts of professional collaboration and curriculum development.

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List of abbreviations

TRG	teaching research group
DRLS	district research lesson study
DTR	district teaching researcher
TPD	teacher professional development
MLD	mild learning difficulties
IF	interaction function
DF	discursive features
LS	lesson study
PCK	pedagogical content knowledge
RL	research lesson
ZPD	Zone of Proximal Development
IDZ	Intermental Development Zone
CCP	conception of practice
FPA	focal practice area
S-PA	Specific practice area
PPT	powerpoints
CRIC	collective, reflective, interpretative, and co-constructive

Chapter 1: Introduction

1.1 The systemic nature of lesson study (LS) practices in China and Japan

LS is a mode of collaborative and practice-focused teacher inquiry and development that places teachers at the heart of iterative cycles of lesson planning, teaching/observation, evaluation and revision with the aim to effectively enhance the quality of classroom teaching and learning in schools. One of the key characteristics of LS is that it brings together, within a shared and clear set of procedures, opportunities for teachers not only to develop grounded insights into their subject teaching and pupils' learning, but also to verify and embed those insights within the most germane unit of their everyday practice – the classroom lesson. Hence through engagement in LS, teachers can undertake a more continuous, collaborative and practice-based approach to teacher learning reported by many researchers as effective for enhancing teacher learning and classroom practice (Katsarou and Tsafos, 2008; Opfer and Pedder, 2011; Pedder *et al.*, 2005; Pedder and Opfer, 2013; Quicke, 2000; Schwille *et al.*, 2007; Villegas-Reimers, 2003).

The practice of LS has been an established tradition among Chinese and Japanese teachers and schools for many decades (Chen and Yang, 2013; Dudley, 2003; Fernandez, 2002; Lewis, 2009; Saito, 2012; Huang and Han, 2015; Tsui and Wong, 2010; Yang, 2009). In both China and Japan, the historical origin and evolution of LS practices have been closely linked to critical stages of transformative change in each of these education systems (Chong and Kong, 2012; Dong, 2009; Ono and Ferreira, 2010; Saito, 2012; Saito and Sato, 2012). In fact in both countries a national system and network remains in place to support the conduct of LS activities at different administrative levels of their school systems including the local, regional and national levels (Fernandez, 2002, 2005; Lewis, 2009; Saito, 2012; Tsui and Wong, 2010). As a result, a nested system of LS variations has been developed, with each nested LS variation involving a different configuration or balance between bottom-up and top-down activity and initiative to fulfill specific professional learning and classroom change needs (Gu and Wang, 2006; Ono and Ferreira, 2010; Saito and Sato, 2012). LS

practices in these countries, therefore, connote a system and network of strategic practices that mobilise and connect a wide range of educational expertise and resources to serve the related undertakings of promoting teacher learning, curriculum development and classroom change. It has been claimed that such system-wide practices of LS have made significant contributions to changes in these national education systems (Gu and Wang, 2006; Huang and Han, 2015) and to their pupils' outstanding attainments in recent international comparisons such as PISA and TIMSS (Huang and Han, 2015; Stigler and Hiebert, 1999).

1.2 Systemic infrastructure and support for LS practices in China

Teaching in China has long had a public and collective tradition (Li and Li, 2009; Ma, 1999; Tusi and Wong, 2010; Wong, 2010; Yang, 2009). In schools across China, teachers are often grouped by subject area into *Jiaoyanzu* and expected to collaborate with and learn from each other (Ma, 1999; Pang and Marton, 2003; Wong, 2010). *Jiaoyanzu*, are teacher groupings based on subject and translated as 'Teaching Research Groups' (Li and Li, 2009; Pang and Marton, 2003), or 'Teaching and Research Groups' (Tsui and Wong, 2010), or 'Teacher Research Groups' (Schwille *et al.*, 2007). Under an umbrella subject 'Teaching Research Group' (TRG) there can be further differentiated 'Lesson Preparation Groups' for teachers teaching the same grade levels (Li and Li, 2009; Wang and Paine, 2003). It is common practice for Chinese schools to set aside time in their timetabling, typically two hours per week, for these subject groups to regularly meet, plan lessons, observe each other, and reflect on their practice together (Paine and Fang, 2006; Pang and Marton, 2003; Schwille *et al.*, 2007).

This structure was set up nationwide in the early 1950s under the instruction of the Ministry of Education (MOE) in China to boost the classroom competence of many untrained teachers who were enrolled into the profession due to serious teacher shortages at that time (Xie, 2001 as cited in Tsui and Wong, 2010; Yang, 2009). MOE in China defined the role of TRGs as studying and improving the methods of teaching (MOE, 1952, 1957, 2001). Therefore in the early TRGs teachers were expected to work together to develop ways of planning and conducting "good" lessons and to deepen understandings of the theoretical underpinnings of good pedagogical practices (Tsui and Wong, 2010). Because this model embeds teachers' learning in teachers' routine

professional work, it has lasted to this day as a significant strategy for promoting and supporting teacher professional development even though teacher shortage is no longer a significant problem in China today (Tsui and Wong, 2010).

The significance of such a classroom-based, lesson-oriented, and collaborative mode of professional learning and practice development has taken on further importance in the era of the latest educational reform. A national system or network has re-configured to provide support for effective interpretation, implementation, and adaptation for use of the new reform and curriculum ideas in teachers' classrooms. This system consists of chains of educational policy making and dissemination bodies, educational science and research bodies such as educational institutes, academies and research offices, and pedagogical research and dissemination bodies such as teaching research offices including school-based TRGs (Tsui and Wong, 2010). Within this kind of network of bodies, different levels of teaching researchers are designated to promote increasingly close links between educational research and improvements in classroom practice. On one hand, local teaching researchers are expected to work closely with school-based TRGs to support teachers in developing new classroom practices that are envisioned by the new national curriculum. On the other hand, they are expected to facilitate practice sharing and dissemination among teachers across educational jurisdictions. Together teaching researchers and school-based subject teachers are expected to work imaginatively and experimentally together to re-invent classroom practices according to the broad set of new curriculum guidelines.

1.3 The context of China's latest curriculum reform and curriculum reforms in the subject area of English as a foreign language (EFL)

Initially in 1999 and formally in 2003, Chinese MOE launched its latest chapter of national curriculum reform. The new curriculum reform was guided by the ideology of *Suzhi Jiaoyu* (Huang, 2004; Liu and Fang, 2009; Woronov, 2009). *Suzhi Jiaoyu*, sometimes translates as quality education, or competence education, and embodies China's re-thinking both about the ends of its education system and the means to achieve them. In the sense of educational ends, *Suzhi Jiaoyu* aims for the all-around development of an individual rather than the one-sided acquisition of knowledge. Behind this ideology is a deep and critical reflection over its long-standing narrowly

conceived examination-oriented educational mandate that can trace its roots back to the imperial past (Dello-Iacovo, 2008; Pepper, 2000). In the sense of educational means, *Suzhi Jiaoyu* reflects a commitment to radical changes in Chinese classrooms from teacher-centered content transmission and rote memorisation towards more pupil-centered learning such as ‘learning as doing’ and ‘learning through participation’ (Dello-Iacovo, 2008; Woronov, 2009). Overall the new curriculum reform prioritises the cultivation in pupils of qualities and dispositions of inquiry, creativity, problem-solving and lifelong learning which are seen as crucial competences for participating in the 21st century (Gu and Wang, 2006). Accompanying the ambition for systemic change towards quality education, a comprehensive set of new subject curriculum have been developed and introduced by the Chinese MOE in primary and secondary schools. Because the thesis research I have undertaken is embedded in the subject area of EFL, it is useful to trace the development and change of English language as a subject area in China in order to better understand the rationale for curriculum change in this particular subject area.

English language is a unique subject area in China that has been closely tied to critical events in China’s social, cultural, and historical life during the last century. The history of English language teaching (ELT) in China as a recognised school subject can be traced back to the early 20th century. It was first established as a compulsory course in middle schools in the late Qing Dynasty in 1902 and was accorded much importance as a means to steer China out of seclusion and technological fall-behind (Wang, 2007). However, hampered by multiple waves of later political and social unrest, English language learning was gradually neglected, then abandoned in much of the 20th century, and only restored to the national curriculum in 1978 (Chen and Shen, 2010; Wang, 2007). Since then, English language started to regain prominence as a key school subject in the broad context of China’s modernisation and participation in the global community.

Such a paramount need has been driving China’s national English language curriculum through four major phases of curriculum development and change in the last few decades in order to adapt to the increasingly complex needs of language teaching, learning, and use in society. The first was the *Restoration Phase* between 1978 and 1985 following the Cultural Revolution. The MOE issued *The Primary and Secondary*

English Syllabus for Ten-year Full-time schools in 1978, the focus of which was on phonetics, vocabulary, grammar, and basic reading, speaking, listening and writing skills (Wang, 2006). During this phase, the grammar-based audio-lingual method was used as the predominant teaching method in classrooms. The second was the *Rapid Development Phase* between 1986 and 1992. The MOE issued the 1986 English Syllabus to address the serious limitations of the 1978 syllabus for promoting communicative language abilities. Alongside the rewriting of curriculum frameworks and course books, the MOE also promoted a range of teaching approaches and models that had been developed and tested by expert teachers in their classrooms. This phase of ELT development saw gradual attention to ideas such as communication, individual needs and language learning in contexts. The third was the *Reform Phase* between 1993 and 2000. In the 1993 syllabus notions such as English for communication were for the first time formally integrated and introduced as the guiding values and learning objectives for ELT in China. This period saw the flourishing of course books and learning materials that were locally developed around situational topics and dialogues. It also saw increasing willingness among teachers to experiment with the “communicative approach” (Brumfit and Johnson, 1979), although the term still seemed quite general and vague to many teachers at that time. But the major limitation with this third syllabus was that it was regarded as a poorly connected aggregation or compromise of elements from the grammar approach and the communicative approach with no coherent underlying logic or rationale (Chen and Shen, 2010; Wang, 2006).

The latest syllabus reform that was piloted in 2001 and formally launched in 2003 saw the beginning of the fourth and also the *Innovation Phase* of EFL curriculum reform in China. This latest reform initiative is by far the most comprehensive, covering primary through to the tertiary sector. It is also the most ambitious, aiming for fundamental transformation from a knowledge-based approach to a competence-based approach to English language teaching and learning; this reflects more closely than before the overarching national curriculum reform goal of developing a more holistic notion of ‘quality’ that fosters the education of the whole person rather than a more narrow focus on the acquisition of knowledge (Chen and Shen, 2010; Dello-lacovo, 2008; Hu 2004, 2007; Wang, 2007). This is reflected in far-reaching revisions to the text of the entire National English Curriculum Framework including a series of new statements that carry an explicit commitment to pupils’ development of learning competences and specify

what pupils should be able to do with English (MOE, 2001, 2003). Although the new English Curriculum Framework does not specify particular teaching methods, it does recommend a more learner-centered and task-based approach to language teaching on the assumption that such approaches are more conducive to boosting pupil engagement, self-discovery, and their ability to use English to interact with others and to accomplish real-life tasks (MOE, 2001, 2003).

1.4 Challenges for effective implementation of the new English language curriculum and systems of teacher support such as district research lesson study

This kind of ambitious reform inevitably places high demands on the professional knowledge, skills and adaptability of EFL teachers. In order to ensure satisfactory implementation of both spirit and letter of the new curriculum, EFL teachers are expected to change from teaching to the textbook and the exam to adopting a more responsive flexibility in adapting and developing curriculum and pedagogy in ways that most effectively cater to the needs of different pupil groups they teach.

Changing beliefs and practices is often slow and gradual, and can be difficult and stressful, especially when new practice demands are still only vaguely apprehended, in other words, yet to be clearly defined or understood in different particular classroom contexts of practice (Li, 1998). This is particularly challenging for primary school EFL teachers because this was the first time in Chinese history that primary EFL was formally integrated into the national curriculum. Prior to that, it was only offered on a voluntary basis at selected public primary schools across the country; the majority of primary English courses were offered in private language institutions (Wang, 2007). Many primary teachers came into the job without appropriate training or experience in teaching English to young learners. Taking the capital city Beijing as an example, about 30% of its primary EFL teachers were initially high school leavers who were ‘fast-track’ trained for these new teaching posts through a three-year course offered in collaboration with a number of high schools and special purpose colleges (Chen and Shen, 2010). In addition, primary EFL teachers were to become familiar with new sets of curriculum resources such as course books that were developed to embed new curriculum aims and pedagogical approaches. There was not much scope for a more gradual development of experience or skills.

Acknowledging the challenges associated with the implementation of the new national English language curriculum, the provision of support for teachers at the classroom level was made a priority of the curriculum reform (Chen and Shen, 2010; Wang 2007). As well as providing a wide range of professional learning opportunities such as expert talks, seminars, and workshops, more emphasis was placed upon facilitating teacher collaboration at the classroom level and within teacher communities so that they could collectively deliberate and experiment with the new curriculum ideas, and develop and share innovative practices (Gu and Wang, 2006). Special measures were taken to support development of primary English teachers. Primary EFL Teaching Researchers (important in the context of the research I report in this thesis) were also put in place at district, municipal, and national levels of educational authorities to support teachers with their classroom experimentation with new curriculum ideas (Chen and Shen, 2010; Wang, 2007).

The key role of these teaching researchers is to engage and support EFL teachers to adopt collaborative, classroom-based approaches to experimentation with new curriculum ideas, develop innovative and effective classroom practices, and disseminate and share good practices with each other. One of the key ways they fulfill such mandates is through conducting public research lesson study such as district research lesson study (DRLS) (Huang and Han, 2015) and this is also important in the context of the thesis research I report here . Different from typical school subject department-based LS, a DRLS often includes two phases: first, a research lesson development phase in which a particular school EFL team works in collaboration with a district teaching researcher (DTR) to develop and refine a research lesson to address a focal practical issue; and second, a dissemination phase in which the final research lesson is taught publicly and its rationale and insights shared with other EFL teachers in the district area. The research lesson development at the school level goes through similar cycles of lesson planning, teaching/observation, evaluation and revision to the most common accounts of LS procedures reported in the literature (i.e. as described by Fernandez, 2002 and Lewis, 2006). A main procedural difference, though, is that in DRLS it is often the same teacher who teaches the collectively planned and refined research lessons. The purpose is to identify with increasing sharpness through successive iterations and refinements the distinctive influence of the revised lesson on pupil learning, taking into account the influence of such other factors as differences in

teachers' experiences and teaching styles. In some cases it also provides a quite different focused opportunity to support the development and learning of a particular teacher through participation in LS (Gu and Wang, 2006).

1.5 My research interests in district research lesson study (DRLS)

My interest in LS arose initially from my personal experience as an EFL teacher in China between 2001 and 2008. During this professional period I had frequent opportunities to engage in LS activities that were oriented towards new curriculum experimentation and adaptation at the classroom level. These included LS activities that were held each term within and across school departments at the school level, organised by the district teaching researchers at the district level, and a few times at municipal and national levels. These experiences helped me personally to develop as an EFL teacher in the context of the new curriculum reform. This practical interest in LS developed further during my MPhil studies which brought me into contact with more generalised accounts of LS in the research literature together with conceptual frameworks that helped me think through how teachers' learning and change might be supported through participation in LS processes and procedures.

My particular research interests in DRLS are twofold. First, although the practice of LS has been in China for many decades, published research about LS itself as an alternative mode of teacher learning and practice development in China is still relatively scarce. It only began after interest in LS had taken off in the west through Stigler and Hiebert's publication *The Teaching Gap: Best ideas from the world's teachers for improving education in the classroom* in 1999. A literature search that I conducted on the Chinese academic database CNKI for LS literature when I started this thesis research generated predominantly case reports written by classroom teachers or classroom researchers explicating new pedagogic understandings in relation to specific subject areas through using LS as an action research tool. To my knowledge, only a small number of researchers in China, i.e. from Shanghai Institute of Educational Science (Gu and Wang, 2006, Yang, 2009), Peking University (Chen and Fang, 2013), some researchers in HK (Wong and Tsui, 2010), and a few researchers residing in the US (Huang and Bao, 2006; Huang and Han, 2015) are engaged in developing empirical and theoretical understandings about Chinese LS. Some of these researchers are committed to

excavating the cultural roots and philosophical beliefs that underpin Chinese teachers' LS practices (Chen and Fang, 2013; Gu and Wang, 2006). Some introduce the educational infrastructure and systemic support for LS practice in China (Wong and Tsui, 2010). And some aim to introduce the use of particular LS variations in China such as *Keli* or Exemplary Lesson Study (Huang and Bao, 2006; Yang, 2009) and Parallel Lesson Study (Huang and Han, 2015), especially in the mathematics subject area. No research study has been conducted so far to understand DRLS as an important mode of LS practice in China for supporting new curriculum experimentation and practice development over the last decade. And yet empirical and theoretical insights about the processes and outcomes of teachers' professional learning and practice development through DRLS may yield important new understandings about how to support this kind of LS activity more effectively among teachers.

Second, as part of my doctoral research I conducted an international review of 67 LS research studies that have been carried out in 18 countries and geographical regions spanning Asia, North America, Europe, the Middle East, and Africa, covering the whole spectrum of educational settings from preschool to higher education, and within a wide range of subject areas. These studies have contributed significant empirical understandings about the impact and benefits of LS practices in different cultural and educational settings. But interestingly, research literature developed in countries outside China and Japan has tended to develop comparatively restrictive representations of LS as a set of local procedures among small groups of teachers. Very little research attention has been devoted to understanding the systemic and nested dimensions of LS practice as manifest in its diverse configurations in countries such as China and Japan. Without attending to the versatility and potential of LS practices as systemic or network phenomena, their potential for facilitating large-scale transformative learning and change, such as in the context of a new curriculum reform, can easily be under-appreciated.

DRLS provides a useful site for developing provisional understandings about the systemic nature of LS practices in China. This structure and approach includes both top-down and bottom-up elements in its nested LS configurations aimed at supporting curriculum and professional development in ways that connect local, regional and national spheres of policy and practice development.

The current research, a small-scale doctoral study, necessarily local in ambition, investigates a particular DRLS case conducted within the subject area of EFL in a particular district area in Beijing. The focus of this research is to develop understandings about the conditions, processes and outcomes of learning and practice development for the EFL teams that take part in the DRLS, for the individual teachers within those teams, and for the district EFL teaching community as a whole through district-wide practical inquiry supported by DRLS. Particularly I want to understand how language use at individual, team, and community levels gives rise to individual and collective learning through the DRLS context. This research focus is informed by my methodical and detailed review of the LS research literature as well as my consideration of more general theoretical understandings of learning in the conceptual literature.

The thesis includes five chapters in total. In Chapter 2, I provide a more elaborate discussion of my review of the international LS research literature and explain how findings from the review inform development of my research focus and the formulation of my research questions. Also in this chapter I discuss a range of theoretical insights that have been useful for helping me think about learning processes and outcomes in the context of DRLS. In the light of these considerations I formulate a set of specific research questions that have guided the study. In Chapter 3, I present and discuss the research design I developed to address these questions and the underpinning philosophical and methodological thinking that proved influential in its development and enactment. I include a detailed account of the processes and procedures I developed for collecting and analysing different data sets. In chapter 4, I provide a detailed and contextualised account of the research findings in relation to individual and collective learning and practice development through the DRLS activity, centred in particular on the learning of individual teachers, the two EFL teams, and the district EFL teaching community respectively. Finally in Chapter 5, I discuss more generally the theoretical and practical implications of this research and consider future research prospects building on the current research.

Chapter 2: Literature review

My research is informed by my review of two main bodies of literature: first, a review of the range of international LS research literature, and second, a more selective review of particular theories of learning that have helped me theorise and understand teachers' learning in DRLS contexts. In this chapter, I first provide a brief account of the international review of LS research and how it has shaped the focus of this research. I then provide a more detailed discussion of theoretical insights that I have found useful for understanding professional learning processes and outcomes in the DRLS context.

2.1 International LS research literature

Because I wanted to develop a research focus on LS, I wanted to find out what previous research studies have already been carried out in LS, what research findings have been reported, and what potential research gaps may still remain. Therefore during the early stages of my doctoral study, I carried out a review of the extant LS research literature. I first explain the procedures through which I conducted the literature search and review. I then report what range of methods have been used in different research studies, what questions have been asked, and what research findings have been reported. Finally, I discuss this body of research critically especially in relation to the under-theorisation of learning within LS contexts.

2.1.1 Procedures of international literature search and review

For the purposes of this review I carried out a comprehensive literature search of the British Education Index (BEI), the Education Resources Information Center (ERIC) and the Australian Education Index (AUEI) databases using the search term "lesson study". I included peer-reviewed journal articles but excluded non peer-reviewed reports and conference papers. My search generated a list of 141 articles in total, spanning the years 1999 to 2013. I then went through a screening process to select studies for this review. The first step involved reading through the abstracts of these papers to decide their relevance, a judgment based on whether or not LS was addressed as the main research focus. The second step involved reading the articles selected from the first round to ensure that I included only the most rigorous research in my review. I came to decisions

about whether to include or exclude an article on the basis of whether the article included: (i) conceptual discussion of how LS contributes to teachers' learning and/or development of classroom practice; (ii) an explicit account of research design, particularly sample details and the methods and procedures for collecting and analysing data; and (iii) a clear presentation of findings and conclusions based on the data. In the end, a total of 67 articles were included in the review. My review was shaped by a concern to find out if, how and what teachers learn through working together in LS contexts. Furthermore, I was interested in how learning and professional development had been theorised in the reviewed studies.

As a routine part of my review procedures, I recorded the aims, objectives and research questions of the reviewed studies together with the characteristics of the teachers participating in any particular research study and the national and institutional context in which the research was carried out. I also recorded the research strategies and approaches used by the researchers whose work I reviewed. Examples of how I recorded details of the reviewed studies can be found in Appendix 3 and 4 (p. 281-282).

2.1.2 Main research focus and research findings about LS research

The reduced number of 67 articles identified for review were published between 2002 and 2013. The first research paper on LS to be published was written by Fernandez, and appeared in 2002. There had been publications before this in the late 1990s but these tended to be introductory texts or conceptual discussions about the LS approach and its potential. Between 2002 and 2007 seventeen articles reporting empirical research into LS, and meeting the criteria of rigour, were published. Between 2008 and 2013 there was a three-fold increase to fifty articles reflecting marked growth in interest in LS. Alongside this numerical increase there has also been a wider spread of geographical contexts in which LS has been researched. Initially, there was a predominance of studies carried out in North America and Asia. More recently research interest in LS has spread to Europe and Africa.

I identified four main categories of research into LS according to research focus and findings. The first category consists of 49 articles (73% of all reviewed articles) focused on the benefits and constraints that influence LS in different contexts. The second

category consists of 9 articles (14% of all reviewed articles) focused on how LS is used by teachers and teacher educators as a method to investigate specific aspects of teaching and learning. These articles tend to have a dual focus, with the primary and explicit focus on the specific aspect of teaching and learning under investigation, such as ‘use of manipulatives in mathematics classrooms and its influence on pupil learning’, and a second and sometimes implied focus on the benefits of LS for teacher learning and practice development. The third category consists of 5 articles (7% of all reviewed articles) which go further into learning processes and aim at helping us understand more about how LS contributes to enhanced quality of professional learning and classroom practice. The fourth category consists of 4 articles (6% of all reviewed articles) that focus on contextual factors and identify factors that influence how successfully LS can be implemented and sustained. I found it interesting that so much research has been concerned with benefits and implementation challenges and so little research focused on how teachers learn and develop practice through participation in LS. Table 2.1 summarises the range of research focus together with the geographic locations of the research studies listed.

Research focus	No. of articles	Geographical locations
Benefits (and constraints) of LS approach on TPD in local contexts	49	USA (23), Hong Kong (5), China (3), South Africa (2), Indonesia (2), Japan (1), Singapore (3), Brunei (1), Malaysia (1), Canada (2), UK (3), Spain (1), Sweden (1), Turkey (1)
Using LS to investigate specific aspects of teaching and learning	9	
-- teaching consensus building strategy		USA (1)
-- use of manipulatives in maths class		USA (1)
-- teaching informal inferential reasoning		Ireland (1)
-- teachers’ technological pedagogical content knowledge		USA (1)
-- pre-service teachers’ reflective thinking		USA (1)
-- pre-service teachers’ academic, school and pedagogical mathematics		USA (1)
-- teaching standards		Australia (1)
-- accountability testing		USA (1)
-- pedagogy development for students with MLD		UK (1)
How teachers learn through LS	5	
-- collaborative cognitive processes		Israel (1)
-- process reflection		USA (1)
-- expansive learning		HK (1)
-- knowledge synthesizing, tension negotiating, and belief and practice		USA (1)

transforming -- language mediation of teachers' learning		UK (1)
Other themes:	4	
--conditions and factors that support LS implementation and sustainability		USA (1), Singapore (1), Vietnam (1)
--importance of teacher-researcher collaboration in LS		Japan (1)

Table 2.1 Lesson Study research focus and geographic location

It can be seen from the table above that the majority of the LS research studies that I reviewed (49 out of 67) set out to testify to the benefits and usefulness of LS for meeting teacher learning and practice development needs. Most typically these studies report “impact”, “effects”, “benefits”, “changes”, and “challenges” of LS practice. Research evidence converges on four main aspects (discussed below) of positive outcomes associated with teachers’ engagement in LS:

- Teacher collaboration and development of professional learning community
- Development of professional knowledge, practice and professionalism
- More explicit focus on pupil learning
- Improved quality of classroom teaching and learning

2.1.2.1 Teacher collaboration and development of a professional learning community

As Puchner and Taylor summarise it, “collaboration among teachers has been identified as one of the most important features of a school culture that fosters professional development, teacher satisfaction, teacher effectiveness, and student achievement within a school” (2006: p.924). Twenty one studies in this category highlighted the benefits of teacher collaboration through LS with evidence from the testimonies of teachers and the observation records of researchers. These studies reported an increase in teachers’ collegiality, joint decision making, and joint ownership and responsibility for teaching leading to the cultivation of professional learning communities (Andrew, 2011; Cohan and Honigsfeld, 2007; Fernández and Robinson, 2006; Hunter and Back, 2011; Lawrence and Chong, 2010; Parks, 2009; Sims and Walsh, 2009). These research studies provide consistent and supportive empirical evidence that LS contributes to the quality of teachers’ learning, teachers’ professional lives, and classroom teaching and learning across a wide range of cultural and educational contexts.

2.1.2.2 Development of teacher knowledge, practice, and professionalism

Nineteen studies in this category reported that LS helped teachers to develop professional knowledge, professional practice, and an enhanced sense of professionalism (Dudley, 2013; Marble, 2007; Lee, 2008, Ono et al., 2011; Rock and Wilson, 2005). With a range of evidence from teacher interviews, researcher observations, and teachers' collaborative talk, researchers have reported significant improvement in teachers' knowledge and skills such as gains in their subject content knowledge (Dudley, 2012, 2013; Fernandez, 2005, Lewis, 2009; Yang, 2009), pedagogical knowledge (Dudley, 2012, 2013; Fernandez, 2005; Lewis et al. 2009; Marble, 2007), knowledge about pupils (Dudley, 2012, 2013; Fernandez, 2005; Lee, 2008; Lewis, 2009; Marble, 2007), knowledge about technology for teaching (Meng and Sam, 2011), and in addition, teacher's pedagogical content knowledge (Dudley, 2012, 2013; Fernandez, 2005; Lawrence and Chong, 2010; Lewis, 2009; Lewis et al., 2009; Sibbald, 2009). In sum, a growing body of research evidence suggests that LS supports growth in the highly contextualised forms of knowledge that are directly relevant to and find their use and application in teachers' classroom practice.

2.1.2.3 More explicit focus on pupil learning

The primary concern of LS is to develop lessons, through carefully planned classroom strategies, that can better facilitate pupil learning (Dudley, 2003; Fernandez, 2005). Twenty one studies used a range of evidence from excerpts of teachers' discussions and interactions during collaborative planning and evaluation meetings, observation records of research lessons, and teachers' testimonies to show that LS participation helps in-service teachers or student teachers to shift their focus from teaching to learning (Norwich and Ylonen, 2013; Pang, 2006; Perry and Lewis, 2009) and develop greater awareness and deeper insights about learners and their needs (Andrew, 2011; Chassels and Melville, 2009; Davies and Dunnill, 2008; Lee, 2008; Pang, 2006; Roback et al., 2006; Rock and Wilson, 2005). For example the teachers or student teachers in these studies became more aware of and responsive to pupils' prior knowledge (Dotger, 2011; Lee, 2008) and more deliberately analytic about the learning goals of a lesson in relation to what their pupils already know (Holmqvist, 2011; Lawrence and Chong, 2010; Sims and Walsh, 2009; Yuk, 2011).

Teachers working in LS contexts reported that through the insights they were developing about their pupils' learning, they were developing a greater responsiveness to their pupils' learning needs by aligning their teaching more closely to their pupils' knowledge and understandings, thus creating more favourable conditions for learning (Fernández, 2010; Lee, 2008; Marble, 2006). Researchers also reported that teachers become better at anticipating pupils' learning difficulties and formulating strategies for helping pupils master difficult elements of the curriculum (Budak, 2012; Gao and Ko, 2009; Hart and Carriere, 2011; Yang, 2009).

2.1.2.4 Improved quality of classroom teaching and pupil learning

Another frequently reported benefit of LS is that it enhances the quality of classroom teaching in support of improvements in the quality of pupil learning. Twenty two studies provided a range of evidence including testimonies from teachers, observational records, and analysis of lesson videos to support claims about improvements in the quality of classroom teaching and learning as a result of LS participation (Fernandez, 2005; Gao and Ko, 2009; Huang and Bao, 2006; Lawrence and Chong, 2010; Lewis, 2009; Marble, 2007; Matoba et al., 2007; Ono and Ferreira, 2010; Robinson and Leiken, 2012; Rock and Wilson, 2005; Sims and Walsh, 2009).

These research findings provide consistent and heartening empirical evidence that LS indeed has the efficacy for enhancing the quality of teacher's learning, classroom teaching, and the learning of pupils in different cultural and educational contexts. However, the review also reveals a few areas of neglect in the reviewed LS research. In the next section I provide a critical discussion of the LS research by focusing on three main areas of neglect.

2.1.3 Critical discussion of the LS research

The first area of neglect is the common under-theorisation of learning and learning processes in LS contexts. The review shows that in the last decade or more LS research has tended to focus on establishing impact claims about LS as a useful professional development practice while neglecting to develop the kinds of theoretical explanations or conceptual models that might help us understand what is both distinctive and

effective about LS as an approach to teachers' professional learning and practice development.

This body of literature tends to report general claims about the “impact”, “effects” or “benefits” of LS while neglecting to focus sufficient attention on the particular facets of teachers' learning and practice that are enhanced through teachers' participation in any given context of LS. Furthermore, the majority of studies reviewed have tended to neglect questions of the processes through which these impacts or benefits were achieved. Indeed, only nine studies developed a theorised interest in teachers' learning processes and even in these articles the theoretical accounts were often vague and under-developed. These researchers have tended to be unclear about the theoretical constructs and frameworks that might explain how and why teachers learn and advance practice in LS contexts. In particular, social constructivist theory has often been invoked by researchers in relation to learning processes in LS contexts (e.g., Inoue 2010; Oshima et al. 2006; Pella 2011; Rock and Wilson 2005) but only in a general way; these researchers do not clarify what particular features of social constructivist theory explain connections between learning, practice development and specific aspects of LS processes and contexts. A related problem with LS research has been the tendency to use theory to assert the importance of social processes of learning (but again only in general, undefined ways) at the expense of attending properly to individual learning processes at the same time. For example, a number of researchers have adopted situated learning theory to explain learning in LS contexts. They have tended to highlight the role of teachers' communities of practice in shaping what teachers learn and do (Dotger 2011; Lieberman 2009; Oshima et al. 2006; Parks 2007; Pella 2011, Robinson and Leikin 2012; Sibbald 2009; Tusi and Law 2007). However, such research tends to underplay the role of the individual teacher in improving their own knowledge, understandings and practice.

Related to this under-theorisation, a more specific problem is that the notion of “collaboration”, rather than being understood as an important process of learning, has been frequently reported in the literature as an outcome of learning. This tendency in LS research appears to assume that collaboration leads automatically to learning. But in reality collaboration is messy, difficult to shape, and sometimes even harmful for learning. Several studies have already reported that collaboration in LS can be complex

and ‘messy’ (Adamson and White, 2010; Chassels and Melville, 2009; Lewis et al., 2009; Puchner and Taylor, 2006; Rock and Wilson, 2005). For example collaboration that is conducive to learning can be compromised when conflicts arise among teachers in a LS group (Puchner and Taylor, 2006), or when a group of teachers deliberately avoid conflict, leading to polite rather than critically constructive interaction (Lewis et al., 2009; Rock and Wilson, 2005). Collaboration can also take the form of “contrived collegiality” (Hargreaves 2000; Hargreaves and Dawe, 1990) where there is superficial unanimity in the group in place of meaningful, critically-constructive learning and discourse.

In almost all the studies reviewed, there was a lack of attention to important questions related to the micropolitical dimensions of teachers’ collaborative work in LS contexts, such as the building of trust, establishing norms of collegiality characterised by the sharing and exchange of resources and ideas, and the resolution of conflict. Very little research, apart from Adamson and White’s (2010) study, has investigated micropolitical dimensions of teachers’ collective learning and work in LS contexts. More studies are needed to help us further our understandings about the kinds of social or micropolitical factors that may have influence on the dynamics and outcomes of collaboration in LS contexts.

So in LS research there remains a scarcity of the kinds of theoretical work necessary for explaining how and why teachers learn both collectively and individually in LS contexts, and how different features of LS procedures and contexts support and contribute to teachers’ individual and collective learning. The significant gaps in understandings about learning in the LS research literature highlighted the importance in my own research about DRLS of developing a focused and theorised account of learning and practice development.

The second major area of neglect is methodological. My review of literature reveals that the majority of research studies on LS over the last decade are small-scale case studies that focus primarily on developing impact claims for LS, drawing predominantly upon testimonial and reflective accounts of teachers’ LS experiences elicited in interviews. The exploratory nature of these studies is understandable given our still limited understandings about LS. Indeed, detailed, contextualised teachers’ accounts are a vital

kind of data given the intrinsic concern of LS research with enhancing the quality of teachers' learning and practice development in ways that support improvements in pupils' learning; the perspectives that teachers bring to such learning and practice change are central to understanding the power and potential (and the limits to the power and potential) of LS for improving classroom teaching and learning practice. However, interview accounts can only help tell a partial story.

It is surprising that little research (with the exception of work by Dudley) has taken an interest in analysing in-depth teachers' discourse in LS collaboration given the discursive nature of LS activity and the teacher collaboration it fosters. Many LS research studies reviewed in the literature claim that their research draws upon such data but often the analytic focus is on the thematic content represented in the discourse rather than the patterns of talk and interaction that underscore such discourse and shape important features of collaboration, learning and decision-making in LS contexts. As Dudley's (2013) research shows, discourse analysis as a research and analytic method can help us explore how patterns of interaction in LS contexts relate to changes in practice and professional learning. Such research carries enormous potential not only for helping us theorise learning and practice change in LS settings but also, more practically, for identifying the dynamics of talk and collaboration that are conducive to professional learning and practice change. Nevertheless, it remains a markedly under-used method in LS research.

Engeström (2001:p133) proposes that any explanation of learning must address the following central questions: Who are the subjects of learning: how are they defined and located? Why do they learn and what makes them make the effort? What do they learn: what are the contents and outcomes of learning? How do they learn: what are the key actions or processes of learning? I have found it useful to organise my literature review around these four questions with the aim of developing a more focused theoretical framework for understanding why and how professional learning and practice development are achieved by teachers working in DRLS contexts. In the introduction chapter, I have already discussed China's broader context of educational reform and specifically the reform of the English language curriculum which has created a mandate and context for teachers' professional learning and classroom change through DRLS. In the rest of this chapter I focus on discussing theoretical perspectives that I have found

useful for understanding the other three questions, who, how, and what, in relation to the learning that is achieved in DRLS contexts.

2.2 Who are the subjects of learning in DRLS contexts?

Learning theories have traditionally placed emphasis on individuals as the subject of learning. The focus on the individual is evident in both the “acquisition” and “participation” learning metaphors (Edwards, 2005; Paavola *et al.*, 2004; Sfard, 1998). The former highlights the individual accumulating cognitive properties or capacities through different forms of learning activities. The latter focuses on the individual developing increasing proficiency in socially-defined roles, activities, and practices. This focus on individuals is also reflected in much of the LS research. For example a crucial aspect of LS impact or benefits have been described or understood as changes in the teachers who took part in LS activities, either as development in their cognitive capacities such as development of different facets of knowledge (Fernandez, 2005; Lawrence and Chong, 2010; Lee, 2008; Lewis, 2009; Lewis et al., 2009; Marble, 2007; Ono et al., 2011; Rock and Wilson, 2005; Sibbald, 2009), or as enhancement in their professional capacity and self-appraisal as a professional (Andrew, 2011; Chong and Kong, 2012; Cohan and Honigsfeld, 2006; Fernandez, 2005; Lewis et al., 2009; Meng and Sam, 2011; Pella 2011; Puchner and Taylor, 2006; Ricks, 2011; Rock and Wilson, 2005 ; Sibbald 2009; West-Olatunji et al. 2008).

But a focus on the individual reflected in both “acquisition” and “participation” metaphors is not sufficient for explaining facets of LS benefits that go beyond the individual teacher and reported in the literature, for example improvement in the quality of teaching of a group of teachers as observed in the iterative cycles of lesson change and refinement (Gao and Ko, 2009; Fernandez, 2005; Lawrence and Chong, 2010; Lewis, 2009; Marble, 2007; Matoba et al., 2007; Ono and Ferreira, 2010; Ono et al., 2011; Pang and Ling, 2011; Robinson and Leiken, 2012; Saito et al., 2006; Sims and Walsh, 2009; Yuk, 2011) or changes in the collaborative culture within teacher groups (Andrew, 2011; Cohan and Honigsfeld, 2006; Fernández and Robinson, 2006; Lawrence and Chong, 2010; Lieberman, 2009; Parks, 2009; Sims and Walsh, 2009; West-Olatunji, 2008).

It is clear from evidence reported in the LS research literature that just as some learning resides with individual teachers, other aspects of learning are realised collectively as distributed or shared among members of a group or teacher community. Hence the current research intends to include three main units of analysis when thinking about the subjects of learning in DRLS contexts: the subject teacher teams, the individual teachers in those teams, and the district teaching community as a whole. This multi-focal thinking about the subjects of learning, i.e. the individual, the group, and the community, is very helpfully articulated by Salomon and Perkins (1998) in their theorisation of different modes of social learning. They postulate that within the ubiquitous web of social interaction in which each of us is situated, different learning systems can form around the individual, a social team, and a larger social entity and therefore turn each of them into a legitimate unit of analysis for learning.

However, a possible contention might be that Salomon and Perkins are insufficiently clear about what may constitute a social entity. They mention a team or an organisation as examples of a social entity, indicating a theoretical inclination towards tightly-structured, well-formed groups and organisations. A DRLS-based teacher community, given its open and loosely-structured nature, may not fit the model of a social entity in the strict sense of Salomon and Perkins' original theorisation. Moving to other branches of socio-cultural theory (Bereiter, 2002; Engeström, 1999; Lave and Wenger, 1991; Rogoff, 2003; Wenger, 1998), a DRLS-based teacher community can be described as a cultural community. Rogoff (2003), for example, proposes that communities are "groups of people who have some common and continuing organisation, values, understanding, history and practices" (p.80). It is therefore reasonable to assume that a district subject teaching community, whose members engage in collaborative practical inquiry on a regular basis through activities such as the DRLS, can learn over time through developing new shared understandings about subject teaching and learning and evolving new practices.

Another tendency in the reviewed LS research literature was to establish impact claims of the benefits to a LS group's learning and practice by aggregating the learning benefits that accrued to individual members of that group. Instead, I want to construe each individual in a LS team as an active and independent learner with a distinctive background, experience, way of thinking, and social orientation. In other words I want

to focus on each individual as a unique social player who may learn differently and learn different things even though they participate collectively in the same cycle of LS activities. This close-up lens on individual learning experiences within different social settings or activity forms a key thesis in Salomon and Perkins' theory.

So in the current research I want to find out if and how different levels of subject - individual teachers, subject teacher teams, and the district subject teaching community - learn through DRLS and if so what kinds of learning and learning process take place at each of these levels. For this purpose I turn next to discuss a number of theoretical perspectives that I have found useful for thinking about learning processes and outcomes at the three levels in DRLS contexts.

2.3 How do individual teachers, subject teacher teams, and the district subject teaching community learn and develop in contexts of DRLS?

In this section I first discuss three metaphors of learning (Sfard, 1998 and Paavola and Hakkarainen, 2005) that I have found useful for thinking about the nature of learning in DRSL contexts at a general level. I then move on to discuss sociocultural perspectives that helped me to make sense of learning as cultural historical activity mediated by tools and developed through relationships. These theories helped me to clarify my interest in understanding what kinds of learning were mediated and accomplished in DRLS contexts and how mediation and forms of collaboration as shared activity were expressed and achieved as learning by individual teachers, subject teams, and the district subject teaching community as a whole.

A number of sociocultural perspectives have theorised learning and cognition as mediated activity. Cultural psychologists Vygotsky (1978), Leont'ev (1978), and Luria (1978) emphasize cognition as tool-mediated and object-oriented. Engeström (e.g., 1999) builds on and elaborates these theories in his model involving interplay among subjects, tools, objects, rules, community and division of labour in an activity system. Taken together, these theorists establish the importance of cultural and historical dimensions of individual and collective learning as mediated activity.

Influenced by these insights, Salomon and Perkins (1998), more specifically propose six modes of mediation which, they suggest, lead to different balances between individual

and collective learning, and I was open to the possibility that these distinctive modes of mediation might provide a useful conceptual basis for distinguishing between different processes of learning and collaboration, especially in different team contexts. In addition I found other theories of learning mediation useful in shaping my ideas, focus and research plans. Mercer's (1995) distinction between different categories of talk helped me to think in fairly concrete ways how I might operationalise the notion of learning mediation through talk in DRLS contexts, especially the learning of different teams and differences and similarities between them. I also found theories of knowledge use (Eraut, 1994) helpful in focusing my thoughts about what teachers and teams of teachers were learning and adapting for practice through participating in DRLS, what they might be bringing to the DRLS process that might afford their own learning and that of their colleagues, and more generally, how individual teachers and teams of teachers might problematise, make sense of, and engage with their culturally contextualised teaching practices.

Each of these different theoretical models and perspectives proved useful in helping me understand what might be involved in developing explanations and understandings of learning and development in DRLS contexts in the new curriculum framework. And in their different ways I considered these theoretical perspectives to configure potentially useful conceptual resources for helping me understand processes of mediation that underpin and shape learning in DRLS contexts. In the following subsections, I provide more detailed discussion of these theoretical perspectives and their relevance for understanding learning and development in DRLS contexts.

2.3.1 Three metaphors of learning

Learning is a complex social phenomenon. Sfard (1998) makes a useful attempt to help us understand the complex phenomenon of learning by evoking our intuitive capacities through the use of metaphors. More specifically she elucidates "acquisition" and "participation" as two organising metaphors to differentiate between two contrasting features of learning. The acquisition metaphor, for example, reflects interest in the development and change in a learner's mind when engaged in learning activity. Learning, through this metaphor, is typically characterised as a process of individuals gaining or accumulating knowledge, understandings and/or skills. From the perspective

of the acquisition metaphor, the outcomes of learning are often conceptualised as changes in individuals' mental states or capacities (Paavola *et al.*, 2004).

By contrast, the participation metaphor tends to amplify social aspects of learning. Under this metaphor, learning is often conceptualised as a process of enculturation into existing social roles or development of proficiency in specific domains of social practice. Lave and Wenger (1991), for example, conceptualise learning as “improved participation in a community of practice”; for them, knowledge is embedded in the flux of actions, hence ‘sticky’ and not amenable for transfer or adaptation to different contexts (Cobb and Bowers, 1999).

At first glance the acquisition and participation metaphors might be construed as representing a false dichotomy in our understanding of learning. However, there are grounds for both cognitive and social explanations for why and how learning occurs and such metaphors are one way of representing and thinking about both possibilities. An important criticism about the “acquisition” and “participation” metaphors is that, intentionally or not, they depict a hierarchical view of learning that positions individuals as passive recipients of what is already collectively known and culturally embedded, whether in the form of explicit or tacit cognition (Edwards, 2005). The metaphors are considered insufficient for explaining learning in new or emergent domains characterised by an ambiguously or loosely-framed problem space.

The “knowledge creation” metaphor was later suggested as a useful theoretical addition to account for the possibility or phenomenon of a community of people learning or developing something new (Paavola *et al.*, 2004; Paavola and Hakkarainen, 2005). Learning as “knowledge creation” is understood as a process of developing new ideas, practices, and cultural artefacts that are oriented towards the shared object of the community and for the advancement of the community as a whole (Bereiter, 2002; Engeström, 1999; Lave and Wenger, 1991; Paavola *et al.*, 2004). It therefore offers a theoretical perspective helpful in conceptualising the collective learning that takes place in practice communities such as the DRLS-based teacher community in the current research; I have found the learning as “knowledge creation” metaphor helpful in widening my conception of learning to include forms of activity such as the creation of new ideas (Bereiter, 2002; Popper, 1972); the evolution of cultural objects (Engeström,

1999), and the development of practical artifacts or repertoires (Lave and Wenger, 1991; Wenger, 1998).

I have found all three metaphors useful in providing a more encompassing theoretical framework for understanding the learning of individual teachers, the DRLS teams, and the district subject teaching community within DRLS contexts. The three learning metaphors can be inter-related and allow for different scenarios and modes of learning in the same context. For example in the context of DRLS, learning may take place as: changes in the conceptual domain of an individual or a group of individuals; changes in teaching practice, either immediately reflected in the research lessons or in teachers' conceptions of and expectations for practice; development of new pedagogical ideas, design and application of new lesson artefacts; or expanded practical repertoires developed for use by the district subject teaching community as a whole. The following figure aims to represent a range of combinations and possibilities for overlap and closer articulation among the three metaphors as a summary of authentic learning in different contexts.

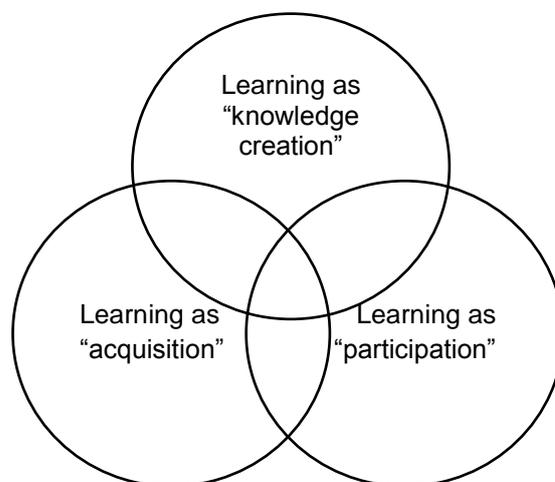


Fig 2.1 The three metaphors of learning

What the learning metaphors do not do is provide the basis for explicit explanation of the processes through which learning takes place. To understand more intricate processes through which learning is achieved, I turned to sociocultural theory and which I discuss in the next subsections.

2.3.2 Social mediation of learning - Salomon and Perkins' (1998) six modes of social learning

It is clear from the review of LS literature that the benefits of LS have been understood in relation to different facets of personal and professional learning and development. Therefore, it is likely that there are different modes of social learning at play when teachers collaborate in LS groups. Salomon and Perkins (1998) provide one useful framework for provisionally hypothesising different modes of social learning in collaborative contexts and processes such as DRLS. Their analysis provides a useful lens for understanding individual and collective facets of learning in DRLS contexts and how the two facets might interact to support and sustain learning.

Consistent with the sociocultural tradition, Salomon and Perkins (1998) hold that learning is first and foremost social. But in their theorisation of learning they sustain an explicit balance between individual and collective facets of learning, “While on the individual end, the social factors still matter; on the social end, in the case of active social mediation, the learner should also remain individual in significant ways” (Salomon & Perkins, 1998: p17). They go on to elaborate a framework of six modes of social learning which feature different forms of social configuration and mediation. The six modes of social learning are as follows:

1. *Active social mediation of individual learning.* This describes the kind of learning that takes place when a more experienced person or a team help an individual to learn. In this case, the person or team helps to create around the individual a learning system or “Zone of Proximal Development” within which the individual is supported to learn.
2. *Social mediation as participatory knowledge co-construction.* This describes the type of learning that takes place when a group of people work in collaboration to learn something new. In this case, the group forms a collective learning system where learning outcome is co-constructed by all the members together. Learning tends to be shared and distributed among the members of the group.
3. *Social mediation by cultural scaffolding.* This highlights the kind of learning mediated by cultural tools, including technical tools such as computers or symbolic tools such as language. It is social in the sense that tools are construed as social

inventions and both embody and are embedded in a set of collective practices and cultural knowledge or wisdom. In this case, an individual's learning, aimed at a particular object of learning, and mediated by her/his use of particular tools is what constitutes a learning system.

4. *The social entity as a learning system.* A team or an organisation as a social entity, such as a team of subject teachers, can learn collectively. They do so, for example, through critically evaluating and reflecting on current practices and procedures, develop new understandings, skills, practices, and hence learn how to function better as a social entity.
5. *Learning to be a social learner.* This describes an important aspect of learning how to learn. It includes development of the practical capacities that enable an individual to identify and draw on social resources that may prove useful for learning and apply them skillfully in appropriate contexts in order to take full advantage of a particular learning opportunity.
6. *Learning social content.* This mode of learning emphasises the importance of heightening awareness of the social processes which support learning and learning how to develop such skills as developing interpersonal relationships, cooperating in decision making, and establishing trust in groups. (Salomon & Perkins, 1998: p4-6)

Through their distinctions between different modes of learning, Salomon and Perkins establish relationships between individual and social aspects of learning. They perceive individual and social learning in dynamic interaction which they describe as a “reciprocal spiral relationship” (Salomon & Perkins, 1998: p18).

This interaction takes place within activities in which cognitions are shared. These activities provide the opportunity for individuals' skills to enter into distributed, intellectual partner-like situations, while also affording the opportunity for the practice of the skills. Specifically, the general hypothesis would be that the “components” interact with one another in a spiral-like fashion whereby individuals' inputs, through their collaborative activities, affect the nature of the joint-distributed system, which in turn affects their cognitions such that their subsequent participation is altered, resulting in subsequent altered joint performances and products. (Salomon, 1993:p122)

I found Salomon and Perkins' theoretical account of learning particularly useful for thinking through different facets of learning that might take place in collaborative settings such as DRLS. It is likely that in DRLS contexts there are also different modes of social learning and different learning systems at play. For example, there can be learning systems established around individual teachers that are mediated by other DRLS participants and/or artefacts such as curriculum materials and lesson plans. There can also be collective learning systems that are mediated by group interaction, outside experts and/or cultural artefacts. Salomon and Perkins (1998) also provide scope for hypothesising that, while some learning is shared, learning processes and outcomes from a DRLS cycle can be different for each individual teacher due to their diverse backgrounds of knowledge and experiences as well as their different ways of participating.

Salomon and Perkins' theory is useful for developing a balanced view between the individual and collective aspects of learning in collaborative contexts such as the DRLS. But to understand learning at the community level, I need to turn to theories that are more specifically developed around the notion of community such as Lave and Wenger's (1991) work on situated learning and communities of practice and Engeström's work on activity theory. Both these theoretical developments share common concerns about the kinds of learning and development that constitute a community of people working together to achieve a shared socio-cultural object or goal. The "community of practice" theory, from an anthropological perspective, is essentially concerned with how communities develop, function and evolve, and particularly how individuals enculturate into socially-defined roles within the community (Lave and Wenger, 1991; Wenger, 1998). The focus is on the community itself, role differentiation and identity development associated with community membership. Activity theory, on the other hand, goes more deeply into elucidating social and cultural activity itself as a dynamic unit of analysis by postulating how the structure of activity systems with their various components mediates and in some cases transforms individual minds and practices, leading to dialectic development between individuals and the collective. Thus, I found activity theory a promising framework for developing understandings about processes of learning mediation and development for different subjects in DRLS contexts. The following section is devoted to further elucidation of the utility of activity theory for understanding learning and development in the DRLS context.

2.3.3 Cultural and historical mediation of learning - Activity theory and activity systems

The central tenet of activity theory (Engeström, 1987; Leont'ev, 1978; Vygotsky, 1978) is that activity is the crucial locus for learning. This theoretical tradition finds its philosophical influence in German classics, more specifically dialectical materialism, which postulates a mutually influencing relationship between the development of the natural and material world and the emergence of new abilities especially among humans. Activity theorists have inherited this dialectical line to develop a theory of psychology that locates the human mind in intimate and moment-by-moment engagement and symbiotic relationship with its sociocultural context of development. These theorists construe activity as a material facet of social, historical and cultural life such as work, life, and profession; culture permeates through material and psychological artefacts and tools that individuals develop and use in specific contexts of object-oriented activity. The development of mind is therefore realised in actions and mediated by the tools or artefacts that at once originate in and embody social practices.

2.3.3.1 An overview of cultural mediation in activity theory

The first generation of activity theory (Vygotsky, 1978) focuses on the semiotic mediation of psychological development and learning represented in the famous triangle below.

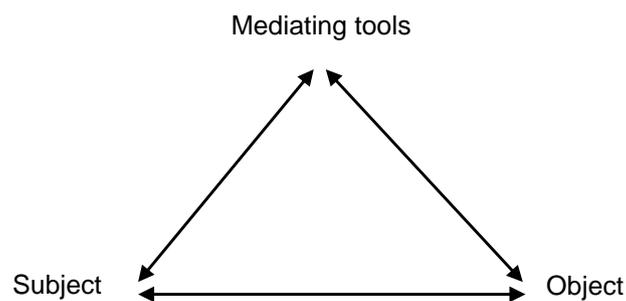


Figure 2.2 Vygotsky's mediational triangle

Vygotsky's central idea is that tool-mediated activity opens up what he calls the "Zone of Proximal Development" through which a subject reaches a level of activity performance that he is not capable of on his own. For Vygotsky, language, given its capacity for making different facets of social reality amenable to generalised reflection and abstraction through externalisation (e.g., dialogue with others) and internalisation

(e.g., inner dialogue and private speech), is the most important semiotic tool. Language allows for processes of cognition in external and internal planes as the foundation for development of higher-order thinking and self-regulation.

The first generation of activity theory was primarily interested in individuals and how they bridge internal mental states with external contexts through internalising cultural symbols and signs. Leont'ev (1978) extended this focus to studying how an external activity as a whole mediates the development of an individual's mental processes. His further laboratory studies found intrinsic links between the structure of an external activity and an individual's mental activity, thus making it possible to explain not only how internal minds relate to their external environment but also how an individual's mental activity relates to external activity. This development resulted in an expansion of Vygotsky's framework to include other activity components: community, rules, and division of labour, each of which interacts together and with subject and tools to constitute object-oriented activity. Engeström (1987) depicts this expanded activity system in the following representation.

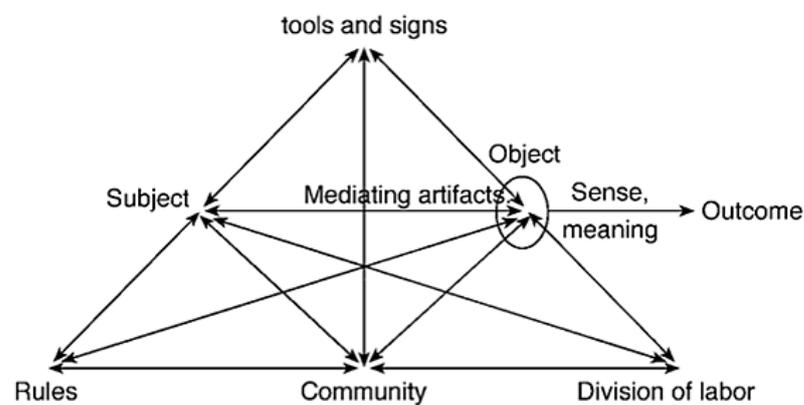


Fig. 2.3 The structure of a human activity system (Engeström, 1987: p.78)

This expanded activity system depicts a much more complex network of interactions and relations, reflecting Leont'ev's (1978) distinctions between different levels of analysis that comprise the social structure, dynamic and object orientation of an activity system. A key insight developed through theorising the expanded activity system is that mental processes are mediated not only by semiotic or material artefacts but also by the activity itself including a range of cultural entities or artefacts that make up the activity, the object or motive of activity, the guiding rules and norms in a community, and the

historical division of labour among community members. Each of the activity components is subject to change, and it is this propensity to change that lends activity systems their fluidity and dynamism. This expanded theoretical framework provides a framework for explaining how individual learning and development and that of the collective relate dialectically, for example, through developing awareness of contradictions between different elements of an activity system and bringing a resolution to these contradictions.

2.3.3.2 The DRLS as an object-oriented activity system

I have found the second generation activity theory particularly useful in helping me to construe the DRLS as an object-oriented activity system and theorise salient mediational factors and units of analysis that may be at play within the DRLS activity system. Roth and Lee (2007) argue that,

“The term activity is not to be equated with relatively brief events with definite beginning and end points (characteristics of school-based tasks) but an evolving, complex structure of mediated and collective human agency.” (Roth and Lee, 2007: p. 198)

Consistent with this definition, teaching in different cultural contexts and communities evolve over time through shifts in values, beliefs, and understandings about human development and the social needs intended to be served by teaching in particular educational contexts. Such evolution in teaching practices occurs as cultural values and needs change through different historical periods of social development and transformation.

Teaching in China is facing a significant historical period of change and transition as new educational values, beliefs, and pedagogical understandings are developed and written into the new national curriculum frameworks to make sure that the educational system cultivates human resources commensurate to 21st century needs. As discussed in the introduction chapter, changes in English language curriculum in China came as a formal address to public outcry for change from a range of educational stakeholders such as parents, teachers, and educational experts (Wang, 2006). Such a cultural

background for change fits Engeström's description of an expansive learning initiative which is "collective envisioning and deliberate collective change effort" (2001: p.137).

The curriculum change in China demands a redefinition of the 'object' of classroom teaching consistent with new curriculum ideas. This new object becomes the mandate for all EFL teachers in China and also the connecting tissue for multiple subordinate activity systems that are oriented to developing ways of realising shared curriculum goals in specific contexts of classroom practice and professional development. The DRLS activity system provides an interesting case for investigation because of its clear lesson-specific focus. A lesson can be understood as a cultural artefact of teaching (Vygotsky, 1978; Wenger, 1998). As the object of teaching changes, changes in classroom practices as realised through specific lessons are required.

Change, and its underpinning learning in contexts of DRLS, is developed through iterative cycles of planning, teaching, evaluation and refinement of public research lessons as a useful activity system. Through the discursive structures of the DRLS activity system (planning, evaluation and revision meetings), language use is central to an understanding of teachers' learning and practice change. This is why my particular focus in this research is on understanding how language mediates DRLS activity and the embedded learning and development it fosters. My argument is that, through its discursive 'fibre', important facets of a DRLS activity system may manifest such as: how members of a DRLS-based community construe and make sense of their shared object of teaching in new curriculum ways; what cultural tools they draw upon for research lesson development; how they participate in the shared task of developing research lessons i.e. both at the team and the community level; and what rules and norms seem to have impact on how members of a community go about their DRLS activity. In table 2.3 (below) I have summarised questions related to teachers' use of language in DRLS meetings and different mediational factors and relationships likely to be at play in individual and collective learning and development in DRLS contexts. In the next section, I elaborate in more depth the rationale for my focus on language mediation for understanding collaboration, learning, and practice development in the DRLS activity system.

Table 2.2: Salient mediational factors, implications for learning, and potential questions to ask of teachers' use of language

Mediational factors	Characteristics	Implications for learning	Questions to ask of teachers' use of language
Object	Shared object: teaching in new curriculum ways	Learning as bridging the gap between ideal and current practice	How is object understood and crystalised?
Object-oriented actions	Design and application of a lesson	<ul style="list-style-type: none"> • Evolution of research lesson • Expansion of action possibilities 	What novel practice is developed? What new action possibilities are developed?
Cultural tools	<ul style="list-style-type: none"> • Originate in social practices • Constitute activity 	<ul style="list-style-type: none"> • Learning as internalization of cultural means • From other-regulation to self-regulation 	What cultural tools do teachers draw upon? How are cultural tools interpreted and used? What new cultural tools are developed?
Language use	Intra-mental mediation of meaning and idea representation	Learning as internalizing core concepts in new curriculum. Concept development related to self-regulated actions and behaviors	What concepts do teachers draw upon in DRLS? To what extent do they draw upon new pedagogical concepts in new curriculum? What changes take place in teachers' pedagogical understandings?
	Inter-mental mediation of communication and interaction	Different kinds of talk give rise to different quality of learning, i.e. Mercer's tripartite talk theory	What are the characteristics of talk? How do characteristics of talk relate to collaboration and learning outcomes?
Division of labour	At public level At local team level	Change in division of labour may change action outcomes.	How is labour divided in teams, among the community? How does labour division influence action outcomes?
Rules or norms	<ul style="list-style-type: none"> • At public and local team level • Subjectivity 	<ul style="list-style-type: none"> • Resources for actions 	What rules and norms seem to be prevalent? How are they interpreted? How do they influence actions?

2.3.3.3 Language mediation of collaboration, professional learning, and practice development in DRLS activity system

A system of language and language use carries most comprehensively the meanings, experiences, and consciousness that are shared and yet unique to a cultural group. For Vygotsky (1986) this makes language the most important tool for mediating communication, development, and learning within communities and hence, for understanding learning among teachers in contexts of DRLS. In the sub sections below I consider more specific ways of understanding language mediation of learning in DRLS contexts.

(1) The importance of language mediation for understanding learning in contexts of DRLS

For Vygotsky (1978), a key affordance of language was as a symbolic tool that mediates development of learning as activity both internally within an individual's mind and discursively between the minds of a group of people. In the discursive contexts of DRLS, language therefore serves as the pivotal tool for building and materialising different forms of Zone of Proximal Development (ZPD) that is at the heart of Vygotsky's theorisation of learning. This may include hierarchical forms of ZPD in which a knowledgeable other scaffolds the development of understandings or practices of an individual teacher or a team. It may also include more symmetrical versions of ZPD or what Mercer later rephrases (2000) as "Intermental Development Zone" in which teachers co-construct meanings, understandings, and practices together in their DRLS meetings. From this theoretical standpoint, I want to argue that understanding language use in DRLS contexts is essential for understanding the individual and collective learning that takes place in DRLS contexts in relation to recent curriculum reform in China.

Learning in DRLS can be understood in terms of its discursive processes for developing and refining sequences of teaching actions so that a research lesson can be increasingly effective for achieving the new curriculum learning goals. Attending to teachers' individual and collective sense-making in relation to what might constitute a lesson as 'ideal' requires attendance to the language they use that expresses important facets of how they interpret, articulate, negotiate and develop the terms of the new curriculum

framework for specific contexts of teaching and learning in which they work. It can be supposed that it is within the individual and collective learning involved in bridging gaps between a lesson as currently realised and a lesson as 'ideal' for realising the new curriculum principles that lie ample opportunities for the professional and practice development of individuals, teams, and the community as a whole. Hence, finding out the differences in ways teachers talk within their DRLS meetings may reveal important understandings about norms and patterns of teacher collaboration and participation in DRLS contexts and how these may give rise to more or less effective professional learning and practice development.

A number of previous LS research studies have used teachers' talk as a data source to understand what teachers learn in LS contexts (Dudley, 2012; Fernandez, 2002; Oshima et al., 2006; Ricks, 2011). But few studies, with the exception of Dudley (2012, 2013), have looked at how different kinds of language use mediate teachers' learning processes more or less effectively in LS contexts.

(2) Mercer's framework of talk and learning

As a starting point for understanding teachers' talk and language use and their mediation of teachers' learning in LS contexts, I want to turn to Mercer's (1995) tripartite framework of talk that derives from Mercer and colleagues' study of pupils' talk in the setting of classroom group work (Mercer, 1995; Wegerif and Mercer, 1997; Wegerif and Mercer, 2000). Building upon Vygotsky's thesis of language as an intramental tool for representing ideas to oneself and an intermental tool for communicating ideas to one another, Mercer (1995) theorises three different kinds of talk including disputational, cumulative, and exploratory talk, each of which is associated with different characteristics and affordances for learning. Disputational talk is characterised linguistically as short assertions or disagreements (often without justification) and reflects an individualist and competitive stance. Hence it is considered to have none or very low efficacy for joint learning. Cumulative talk, by contrast, is characterised linguistically as echoes and agreements and a tendency to avoid critical input, which is motivated by a concern with building trust and solidarity as a group. But because this talk is considered to privilege group solidarity over critical engagement, it is also associated with low value for learning. Exploratory talk, on the other hand, is characterised as critical and constructive dialogic engagement through which

participants critique and build upon each other's ideas with the aim of arriving at joint decisions and shared understandings. Compared with the other two types of talk, exploratory talk is believed to have the most potential for fostering collaboration and learning in groups (Fernandez, Wegerif, Mercer, and Rojas-Drummond, 2001).

Mercer's framework has previously been applied to the study of teachers' talk in LS contexts by Dudley (2012, 2013) and his study reports positive association between exploratory talk and teachers' learning points in LS discourse, especially in relation to the exchange and development of "tacit knowledge" among teachers. In my study, I want to find out, through teachers' talk, not only salient characteristics of language practices that give rise to different patterns and modes of collaboration and learning in DRLS contexts but also conditions and norms that seem to underpin their joint work. Neither Mercer nor Dudley includes in their studies a focus on understanding the conditions and norms of group work. And yet a focus on the conditions and norms that shape teachers' collaboration in different group settings is likely to be important for understanding variations in processes through which individual and collective learning and practice change are fostered in different contexts of DRLS activity. Next I turn to consider what teachers learn and develop through DRLS contexts.

2.4 What do teachers learn and develop in DRLS contexts?

One of the key impacts of LS has been reported in the LS research literature as development of different aspects of teacher knowledge (Cajkler et al., 2013; Xu and Pedder, 2014). For example, Shulman's (1986, 1987) seven knowledge categories including subject content knowledge, general pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners, knowledge of educational contexts and knowledge of educational purposes and values, were most frequently cited in the reviewed LS research studies as a framework to understand the range of knowledge that teachers develop through LS. His notion of pedagogical content knowledge (PCK), which is the unique knowledge held by teaching professionals for making specific aspects of subject content accessible for pupils, is considered to be of particular relevance to the affordances of LS contexts. I have understood Shulman's categories as expressing useful analytic distinctions between different facets of knowledge on which teachers draw when teaching. The focus of my

research, however, is not on understanding the spectrum of teachers' knowledge *per se* but those particular aspects of their knowledge that both influence and are influenced by their participation and experience in DRLS. For this reason, I have found Freeman's (1993) term "conceptions of practice" (CCPs) useful for understanding important aspects of development and change in contexts of DRLS. According to Freeman, a teacher's *conceptions of practice* reflect the particular ways a teacher organises and relates his or her personal knowledge to practice and can be understood as a teacher's "mental orientations to actions" (1993: p. 487). Thus a teacher's CCPs are considered to play the important role of guiding teachers to formulate actions in specific contexts of practice. In addition, Freeman elaborates that teachers develop CCPs through processes of socialisation as well as individual sense making in both familiar and problematic practical situations. Hence in Freeman's notion of CCPs, a notion that bridges teachers' practical knowledge and actions, lies important opportunities to understand how teachers in contexts of DRLS express, negotiate, and develop their CCPs in ways that lead to both individual and collective learning and practice development. I discuss below in more detail four main facets of professional knowledge, learning and practice development in DRLS contexts.

2.4.1 Learning as internalisation of new pedagogic concepts

Freeman's notion of CCPs can also relate to Vygotsky's notion of "concept" as a cultural mediation for psychological development and learning. A concept, often expressed in words, is in Vygotsky's view both a linguistic and semantic unit that embodies a generalised reflection of a known class or group of social phenomenon. Thus concepts make up the common reference points or 'building blocks' of meaning when people try to convey experiences and thoughts to each other. Vygotsky highlights the important mediational role that concepts play for thoughts and communication when he proposes that "The higher, specifically human forms of psychological communication are possible because one's reflection of reality is carried out in generalised concepts" (Vygotsky, 1986: p.8). Naturally for Vygotsky, concept formation constitutes an important aspect of psychological development and learning. When members of a community develop the ability to communicate in a certain language, they assimilate the shared values, meanings, ideas, and wisdom that are

encapsulated in that language. This makes the internalisation of language itself an important aspect of learning.

This theoretical view is of particular interest to me for two reasons. First, when a team or a community of subject teachers gathers to examine, evaluate, and develop teaching practices on a regular basis, it is likely that they develop a shared language to refer to common practical experiences and ideas. The extent to which a teacher or a team adopts a shared language to express their respective CCPs might be indicative of their respective levels of socialisation into the common experiences and practices of a community. On the other hand, when a new curriculum framework is introduced to the community, it can also entail the introduction of new terms and ideas for teachers. The extent to which a teacher or a team adopts consistent use and interpretations of new terms in their articulation of CCPs is indicative of their developmental stages in relation to the overall goal of new curriculum implementation.

2.4.2 Learning as transformation of implicit or tacit conceptions of practice into explicit conceptions of practice

The notion of a concept as a higher form of cultural means also relates to a distinction made about teacher knowledge based on whether or not it is articulated in language – is teachers’ knowledge considered ‘tellable’ or not? The practical argument behind this distinction is that knowledge held individually and personally by teachers needs to be shared in order to facilitate learning and develop practice. This perspective on teacher knowledge resonates with a great deal of business and organisational learning literature, especially with the work of Nonaka & Takeuchi (1995). Under this distinction three categories of knowledge are identified, namely explicit knowledge, implicit knowledge, and tacit knowledge. Alternatively in classroom literature, the ‘tellability’ aspect of teacher’s knowledge is often described in terms of teachers’ knowledge structure which typically differentiates between more explicit forms of knowledge that teachers hold such as “practical principles”, “rules of practice”, and more implicit or tacit forms of knowledge such as “images” (Elbaz, 1983; Eraut, 1994). Such differentiation among different forms of teachers’ knowledge has practical implications for teacher learning. For example, one of the key characteristics of propositional knowledge is that it is explicit and as such can be articulated and shared more easily. One of the key

characteristics of tacit knowing is that much of it cannot be or has not been put into words, which is to say that teachers know more than they can tell (Nisbett and Wilson, 1977) or that such knowledge finds expression at the point of practice rather than at the point of articulation. Therefore, it is important to find ways of transforming the knowledge teachers normally hold implicitly and tacitly into more explicit forms so that it can be shared and critiqued by others (Freeman, 1991; Shulman, 1987).

Similarly, implicit or tacit knowing needs to be made explicit (where possible) so that teachers can use that knowledge to engage in “conscious, voluntary, and purposeful action” (Jones, 2008: p.78), and thus develop intentional and self-regulating control over their own actions and practices. An important aspect of understanding teachers’ learning processes and outcomes through DRLS will be to find out ways in which and the extent to which DRLS enables teachers to make explicit their otherwise implicitly or tacitly held practical understandings, publicly in collaborative settings of joint planning and evaluation and privately in reflection.

2.4.3 Learning as development of public and local conceptions of practice and practical artefacts

The view that teachers are capable of developing and codifying their own knowledge is consistent with recent views in classroom research that teachers should play a more active role in deciding what works for their classrooms since they have more intimate knowledge of their individual and local classroom contexts (Clarke and Erickson, 2003; Cochran-Smith and Lytle, 1990; Richardson, 1994). Research evidence has consistently pointed to the conclusion that teachers are capable of utilising critical means such as reflection (Parsons and Brown 2002; Schön, 1987), inquiry (Clarke and Erickson, 2003; Cochran-Smith and Lytle, 1990; Richardson, 1994), and action research (Mills 2000; Dadds 1995; Stringer 2004) to (a) not only scrutinise and refine their own practice in relation to its efficacy for addressing the teaching and learning needs reflected in their immediate classroom contexts, but also (b) create knowledge that is relevant first and foremost within those contexts. The effects of such critical endeavours can be even greater when teachers are supported in pooling their critical resources together. Teacher communities are reported to be fruitful contexts within which teachers with common practical concerns can engage in the kinds of collaborative inquiry and research that

lead to development of shared practice and more widely applicable knowledge for teaching (DuFour 2004; Grossman, Wineburg and Woolworth 2001; Hord 1997; Little 2003; Stoll and Louis 2007). An important aspect of developing such more widely applicable knowledge for teaching is in establishing the contextual scope and practical utility of knowledge developed by teachers in one context for teachers in another. These theoretical insights provide me with the lens for investigating the synergistic interplay between knowledge developed through participation in public research lesson processes and knowledge developed more locally in the school-based teaching teams. This aspect of learning and practice development constitutes an interpretive mode of knowledge use, which I discuss in the next subsection.

2.4.4 Learning as creative practice development through interpretive mode of knowledge use

Eraut (1994) addressed questions of how teachers develop, exchange and use new practice ideas, insights and knowledge (tacit and explicit) in contexts of joint work and learning. Elaborating the work of Broudy's typology (1964), Eraut (1994) elucidates the characteristics and efficacy of four different modes of knowledge use: replication, application, interpretation and association. Replication denotes repetitive use of knowledge in its original form, for example, the repetition of a routine or direct copy of an idea. Application refers to the mode of knowledge use that involves applying a set of rules and procedures in a straightforward manner, sometimes without due consideration to contextual complexities or nuances. Interpretation, on the other hand, is a mode of knowledge use that demands critical effort to not only develop a deep understanding about the knowledge under use but also identify any needs and (if so) ways of appropriating it for use in particular contexts. And lastly, association refers to the intuitive use of knowledge that often finds expression through metaphors and images.

Eraut (1994) argues that knowledge in teaching contexts is best understood as realised and applied through interpretative or associative modes of use. Both replicative and applicative modes of knowledge use, in Eraut's view, are insufficient for generating meaningful and sustainable teacher learning and practice development. He goes on to argue that this is because teaching is too complex an activity to allow for simple replication of ideas or the straightforward application of a set of pre-determined

procedures. New knowledge or ideas, when introduced to particular classroom contexts, almost always needs to be re-interpreted and adapted for use. Such reinterpretation and adaptation of knowledge for use in particular contexts, for Eraut, represents an actual act of knowledge creation and learning.

Eraut's theory is of particular relevance in the context of new curriculum reform because alongside the new curriculum framework teachers are often introduced to new pedagogic ideas and guidelines that they are expected to adopt for use in their particular classroom contexts. It is also relevant in the context of DRLS because teachers have access to public knowledge and practice that can shape their own conceptions of practice in significant ways. It is therefore important in my study to find out how teachers make sense of public or new curriculum knowledge both individually and as a team to formulate practice. Salient characteristics of modes of knowledge use in DRLS contexts, especially the extent to which teachers draw upon knowledge critically and flexibly to develop practice, can give significant indications about the nature and outcomes of individual and collective learning and practice development.

Recapitulation

In this chapter I have reported major research findings and research gaps in the international LS research literature. I have discussed three related gaps in research that have informed the focus of the current research, including (a) lack of learning theorisation in LS research, (b) lack of more explicit understandings about collaboration as a form of social configuration for learning, and (c) lack of sufficient understanding about how language use mediates LS activities. In order to address these research gaps, the thesis research aims to develop a more focused explanation for learning and development through DRLS contexts. The literature review has been organised around four essential aspects of explanation for learning: who the subjects are, why they learn, how they learn, and what they learn. The review has identified three potential levels of learning subjects, the individual teachers and the subject teams who take part in the DRLS activities and the district subject teaching community as a whole. The review has also elaborated a crucial context for their DRLS activities, the context of an ambitious and ongoing new national curriculum reform that has been launched since 2001. By integrating theoretical perspectives from social mediation of learning, i.e. Salomon and

Perkins's six modes of social learning, and from cultural and historical mediation of learning, i.e. Vygotsky's and Leont'ev's activity theories, the review has identified potential mediational factors and relations that may lead to learning and development within the DRLS activity system. Finally, the review also considers broader literature on teacher knowledge and knowledge use in relation to learning and development processes and outcomes in DRLS contexts. The challenges for the current research, however, lie in that although both activity theory and the theory of six modes of social learning are useful for identifying salient mediational factors and relations in an activity system, the exact processes through which those mediational relationships take place and give rise to learning are not yet well understood. Given the discursive nature of DRLS activity, the current research aims to develop more in-depth understandings about how language mediates collaboration and learning in DRLS contexts. I want to understand how language is used socially to mediate the processes and outcomes of collaboration, learning and practice development in DRLS contexts. As part of this, I want to understand how teachers use language commonly or idiosyncratically to convey their conceptions of practice and to develop practices and practical understandings together. In summary the research is guided by the following five research questions:

1. What do teachers learn in contexts of DRLS?
2. Through what processes do teachers learn in contexts of DRLS?
3. How is knowledge used, created and transformed within the contexts of DRLS to develop practice and learning?
4. How does language use mediate teachers' learning and practice development in contexts of DRLS?
5. What conditions seem to be influential on teachers' learning and practice development in contexts of DRLS?

In the next chapter I provide explanations about the design of the current research and the philosophical, methodological and ethical considerations that underpin the research design. I will also provide a detailed account of how I actually conducted the research including: (a) how I selected and recruited research participants to the study, (b) what kinds of data I collected, and (c) the particular dilemmas and decisions around the collection of data. I go on to explain in detail the different data sets that I collected through the research and how I analysed each data set to develop findings in relation to

the five focal questions. Then I discuss particular measures that I have taken in the research to maximise the quality of the research, for example in relation to the actual data I collected and the processes through which I analysed and interpreted the data. Finally, I consider scope for generalising and establishing the wider relevance of this research.

Chapter 3: Research design and methodology

3.1 Focus and aims of the study

In light of my review of the literature on LS research and theories of learning, and on the basis of my reflections on my own professional experiences, I formulated the following inter-related research questions to frame and shape the design of my research study.

1. What do teachers learn in contexts of district research lesson study (DRLS)?
2. Through what processes do teachers learn in contexts of DRLS?
3. How is knowledge used, created and transformed within the contexts of DRLS to develop practice and learning?
4. How does language use mediate teachers' learning and practice development in contexts of DRLS?
5. What conditions seem to be influential on teachers' learning and practice development in contexts of DRLS?

I want to elucidate the focus of my inquiry in relation to each of the five questions in turn. The first research question is about the content of teachers' learning through participation in DRLS. Here I wanted to find out what aspects of teachers' personal and professional knowledge develops through their collaboration and joint work. I also wanted to find out what teachers learned about themselves as social learners, both as individual participants of a DRLS group and collectively as a DRLS group. And in developing these different facets of knowledge I wanted to know more about the extent to which it can be claimed that teachers learn a common language for giving expression to different kinds of knowledge they are creating together in order to open it up for critique and refinement.

The second question is about the processes through which teachers learn and develop through collaborating in DRLS contexts. I wanted to develop detailed contextualised understandings about different modes of social learning that may be at play in DRLS

contexts and how they enable individual teachers, the groups, and the district subject teaching community as a whole to learn.

The third question stems from social constructivist assumptions about learning as mediated activity, developed by Vygotsky (1978) and applied in different contexts of educational research by Mercer (1995). The focus of attention is on teachers' collaborative learning processes that may be (a) supported and achieved through participation in joint lesson planning, reflection and evaluation meetings as part of the overall DRLS process and (b) undergirded by different kinds of talk and language use. Through this question, I wanted to find out more about patterns of teachers' talk and language use in different meetings and to investigate whether some kinds of talk and language use are more conducive to facilitating teachers' learning and practice development.

The fourth research question considers knowledge creation and use in contexts of DRLS and how they contribute to teachers' practice development. I wanted to develop contextualised understandings about how different modes of knowledge creation and use take place during collaborative work in DRLS contexts in ways that contribute to teachers' learning and development of classroom practice.

The last research question concerns the social conditions that may influence the dynamics of teachers' learning and practice development in DRLS contexts. Here I wanted to develop understandings of the social conditions that optimise collective and individual learning through, for example the building of norms of trust and reciprocation of ideas, resources and emotional support. I did not want to take for granted that such social conditions of solidarity and mutual endeavour are necessarily present among a group of teachers working together to learn and enhance their practice through DRLS. Nor did I carry assumptions into the research that all forms of collaboration are conducive to learning and practice development. Indeed, some social conditions may give rise to barriers to learning in the form of, for example, an unwillingness to share knowledge and support to colleagues in contexts of joint work. Thus, I wanted to find out more about the kinds of social conditions in DRLS contexts that influence the quality of learning opportunities for teachers in both negative and positive ways. One aspect of interest with regard to this relates to teachers' willingness

or unwillingness to share areas of ignorance as well as of knowledge and expertise as resources for the learning of self and colleagues.

In the rest of the chapter, I first articulate my philosophical thinking that guides the planning of the thesis research. I then provide a detailed discussion about my actual research design. Then I provide a detailed account of how I actually carried out the research, what data I collected and how I analysed the data. Finally, I discuss the measures I undertook to optimise the quality of data and analysis and consider ways of generalising from the thesis research.

3.2 Clarifying my philosophical stance in the planning and design of this research

My research interest in teachers' professional learning builds on a view of learning as socially constructed through processes of language mediation, promoted and supported through DRLS structures and modes of professional collaboration and development, and shaped by official national and regional frameworks of curriculum reform discussed in chapters 1 and 2. In the absence of very much previous research into how teachers learn and further develop their classroom practices in such DRLS contexts, I decided that an appropriate starting point for arriving at authentic and credible understandings of processes and outcomes of teachers' learning and practice development would be the perspectives of the teachers themselves and their modes of language use in DRLS contexts of collaboration and social construction.

Ontological and epistemological assumptions (Guba and Lincoln, 1982; Lincoln and Guba, 1985; Lincoln, Lynham, and Guba, 2011) that I have found consistent with this analysis emphasize the meanings and interpretations which teachers themselves bring to acts of social construction (for example in the collaborative development and refinement of lessons). Therefore the socio-cultural analysis of learning presented in the last chapter is consistent with assumptions about the social nature of the worlds that teachers construct individually and collectively through their work, practice, learning and development. As teachers actively construct their worlds this research is developed on assumptions of the centrality of their agency based on the meanings, interpretations and expertise which they bring to those worlds and to the construction of those worlds (Guba and Lincoln, 1982; von Glasersfeld, 1984; Watzlawick, 1984). In other words,

DRLS cannot be properly understood independently of the meanings, interpretations and expertise which teachers bring. As such, objectivist assumptions about teachers' worlds existing independently of teachers' cognition, interpretations and expertise have been rejected for this research. Instead, teachers' subjectivities – their individual and collective perspectives and language practices – have been embraced as the focus of this study and the foundations on which contributions to knowledge of teacher's learning and practice change will be made. In balance with this emphasis on the agency and subjectivity of teachers, I have found Giddens' (1984) theory of structuration useful for articulating the two-way influences of (a) the social and organisational structures on human agency and (b) human agency on those social and organisational structures.

3.3 Overview of the research design

Building on this analysis and with a commitment to an in-depth, detailed and highly contextualised account of professional learning and practice development in DRLS contexts, I decided to undertake a case study approach to guide the research. I combined discourse analysis, qualitative interviews, and a qualitative survey to investigate the five research questions that I formulated for my study. The design was informed by my reading of the methodological literature, my appraisal of the strengths and weaknesses of different methods and strategies for the research reported here, and by a pilot study I carried out in October 2012 with a group of teachers in England with a view to refining my interviewing strategies. In this section, I discuss more specifically my rationale for choosing each of these approaches and methods and articulate their appropriateness for use for my study. I also explain how findings from my pilot study informed any changes in my research strategies.

3.3.1 Case study approach: an embedded two-case design

I based my decision to adopt a case study approach to address my research questions on two main considerations. The first consideration was that the social phenomenon that I wanted to investigate, DRLS, is intrinsically 'situated' in nature. Contemporary understandings about how people learn acknowledge the importance of context (a) in shaping the processes and outcomes of learning and (b) as constituted in important ways through social interactions and relationships that not only give shape to learning but are

an integral component of it (Cobb, 1998; Putnam and Borko, 2000; Salomon and Perkins, 1998). Assumptions about teachers' learning in collaborative settings as situated align well with my decision to investigate learning in the naturalistic situations in which it occurs. Attempts to decontextualise that learning, or to study aspects of it in an isolated and controlled manner, risk significant loss of understandings about the role of context in the shaping of teachers' professional learning and practice improvement. Because DRLS is already an established and routine practice among teachers in China, my aim was to investigate teachers' experiences in DRLS activities initiated by themselves and carried out in their naturalistic contexts and set-ups.

The second consideration was about the complex and multifaceted nature of the social phenomenon that I was trying to investigate. DRLS is a teacher learning and practice development strategy that may consist of multiple mediating factors for learning and different forms of interaction that combine in different ways in different nested contexts to afford opportunities for learning. To understand what and how teachers learn through participation in different layers and contexts of DRLS activity, it is important to research how different factors and opportunities interact in different DRLS contexts to influence learning processes and outcomes. Research into this learning system can benefit from a case study approach that opens up scope for in-depth and sustained contact with the participants and research contexts and for the exploration of a variety of data sources, data types, and data collection tools.

It was important that the study was open-ended and exploratory in its mode of enquiry given that I am not confident in my theorising, and lack a sufficiently strong empirical justification, for adopting experimental design strategies for identifying and isolating particular factors or variables on an a priori basis in order to measure and compare their individual effects on teachers' learning and practice development. This would be to underplay the complexities and contextual specificities likely to be involved in the DRLS contexts of teachers' learning of interest to me. In my view it would have been premature, given our still limited knowledge of learning in LS contexts, to formulate hypotheses and subject them to experimental test. Instead I wanted to adopt a more variable inclusive research strategy aimed at the more exploratory, open-ended, inductive investigation of teachers' learning in LS contexts. A case study approach is consistent with this research stance and thus provides the opportunity for development

of more “in-depth” and “holistic” understandings (Denscombe, 2010: p.53). Such a holistic approach is necessary and appropriate to cope with the multifarious demands of the research questions as well as the multi-layered complexity of DRLS as a teacher learning and practice development strategy (Denscombe, 2010; Yin, 2003).

Because of my interest in understanding the learning of individuals, teams, and the district subject community as a whole through the DRLS, my study of the DRLS also entails an embedded design that includes multiple levels and units of analysis (Yin, 2009). At the community level, I intended to investigate DRLS activities in one district and understand the particular culture, norms, and processes that give rise to the collective learning of the district subject teaching community and how practical knowledge and understandings are shared and interpreted to inform the thinking and practice of members of the community. So the district subject teaching community including its members is an overarching unit of analysis in the study. At the team level, I decided to adopt a two-case design because I wanted to find out the extent of commonalities or differences that may exist in the conditions and processes of collective learning and practice development through the DRLS. A two-case design affords opportunities for cross-case comparison. But the comparison was not of an evaluative nature. Rather it was restricted to the patterns and characteristics of talk that give shape to collaboration and learning in DRLS contexts. My assumption was that study about the DRLS can benefit from in-depth understandings about how it supports subject teams, a basic unit of practice and research in the district, to develop learning and practice. So each DRLS team with its different member configuration, group dynamics and norms is an independent unit of analysis in the study. At the individual level, I wanted to see teachers in the DRLS teams as agential individuals who may learn differently or different things because of each of their own personal and professional backgrounds, beliefs, and dispositions. So each member of the DRLS teams in the study was also taken as an independent unit of analysis. Together the multiple level understandings about the learning of individuals and subject teams can provide a more holistic understanding about how DRLS promotes professional learning and practice development in the context of new curriculum reform and implementation.

3.3.2 Language-based methods for data collection

I considered the use of a language-based approach appropriate for gaining access to teachers' learning and practice development in contexts of DRLS. This was because of the central role that language plays in constructing social activities and practices (Gee and Green, 1999; Mercer, 1995; Nagel, 1974; Vygotsky, 1978). The first approach I considered for gaining access to teachers' experiences was by attending to teachers' talk during DRLS activities, especially the professional deliberations that take place during planning and evaluation meetings. The second approach I considered was through the use of a series of interviews with teachers at each stage of their DRLS activities to trace any development and change in teachers' thinking and learning. The third approach I planned was a qualitative survey to elicit comments and reflections from teachers of the wider district subject teaching community about the district public research lessons and their own learning through attending the DRLS public event. By utilising these three research methods, my aim was to arrive at understandings of teachers' articulated perspectives through interviews, patterns of language use and talk through transcriptions of meetings, and the analytic perspectives that I brought to the different data sets from my position as a non-participant researcher. In the subsections below, I explain in more detail about the research methods I adopted.

3.3.2.1 Discourse analysis

Discourse analysis takes on particular significance in this research in recognition of the important role that language plays in the mental and social life of people (Cameron, 2001; Freeman, 1994; Gee, 1999). Discourse in its spoken form, or talk, is considered to be "both a way of acting in the world and a means for making sense of it" (Cameron, 2001:p.47). It not only provides a window to gain insights about people's thoughts and ideas but also a window to gain insights about people's meaning-making processes and actions that create opportunities for learning (Gee and Green, 1998). Discourse analysis is therefore appropriate for realising the general aim of my current study which is to develop understandings about the content and talk-mediated processes of teachers' learning and practice development in DRLS contexts. As discourse or talk is considered to be shaped by the context in which it occurs (Gee and Green, 1998), analysis of teachers' talk in contexts of DRLS is also useful for identifying contextual factors or

social conditions that give rise to the particular ways in which groups of teachers talk to each other.

Discourse analysis in this study focused on teachers' collaborative meetings including their lesson planning and evaluation meetings. I considered these discursive sites the main locus of investigation because they were the main sites (i) where ideas and thoughts of teachers were made public for sharing, critique, and development; (ii) where decisions were jointly made and action plans formulated to guide teachers' actions and practices; and (iii) where teachers exchanged professional judgments and evidence of observation to establish effectiveness claims about their research lessons.

3.3.2.2 Qualitative interviewing

I planned a series of interviews with teachers to capture any development and change that may have occurred in their thoughts and ideas throughout different stages of their DRLS activities as well as in the processes that have supported their learning. This included a generalised interview before their DRLS to elicit detailed accounts about their professional history and backgrounds, interviews after each of their collaborative meetings to elicit development and change in their thinking, and a review interview at the end of their DRLS to elicit retrospective comments and reflections about their own learning through the DRLS.

Through my interviews with teachers I aimed to provide a supportive context to help them in the difficult task of giving expression to their reflections and reconstructions of their experiences, ideas and perspectives in relation to the meetings mentioned above (Bryman, 2008). On one hand, interviews are useful for gaining access to understandings about parts of individual and collective learning processes in DRLS contexts that may not have been manifest in the recorded discourse of collaborative meetings. On the other hand, interviews provided opportunities for gaining access to accounts of individual teachers' perspectives and thinking about their experiences and participation in the DRLS process that may not have found verbal expression in the analysis of their discourse during planning and evaluation meetings.

As a starting point, I found the distinction made by Powney and Watts (1987) between informant style and respondent style interviews useful for developing my interview strategies. According to them, the major distinction between an informant style interview and a respondent style interview lies in the ‘the locus of control’ throughout the interviewing process (Powney and Watts, 1987:p17). In respondent style interviews, the interviewer typically keeps control over the focus, pace and direction of the interviewing process. But in informant style interviews it is the interviewee who controls the focus, pace and direction through freedom to elaborate accounts of their experiences without being restrained by a pre-determined interview schedule prepared beforehand by the researcher (Powney and Watts, 1987). I felt that informant style interviews provided the kind of interview context and relationships for supporting teachers as informants to develop authentic accounts of their perspectives in their own terms rather than responses to issues raised by me and questions considered important by me as the researcher. For this research, I considered conducting both types of interviews with teachers after each of their collaborative meetings because informant style interviews would be useful for eliciting detailed contextualised accounts of the LS experiences from the perspectives of the teachers, and respondent style interviews would be useful for eliciting detailed contextualised accounts of teachers’ DRLS experiences in relation to issues and observations that occurred to me, the researcher, as salient and important.

3.3.2.3 Qualitative survey

Apart from the experiences of teachers who were involved in the development of the research lessons, I also wanted to understand the experiences of teachers of the wider district subject teaching community at the dissemination stage of the DRLS. For logistic considerations, I decided to use a qualitative survey to elicit teachers’ personal comments and reflections about the public research lessons and their own learning through attending the public DRLS event. I intended to include three main questions in the survey respectively aiming to elicit (i) their professional comments and evaluations about the design and effectiveness of the public research lessons that they observed, (ii) their nomination for any innovative practice that they identified in the public research lessons, and (iii) their reflections about their own learning through attending the DRLS public event.

The following two tables summarise the research methods and the general purposes of their use and the relevance of their use for addressing each research question.

Table 3.1 Overview of research methods: purposes of use

Research methods	Purposes of Use
Generalised interviews	To elicit general accounts from the teachers about their professional experiences, professional learning experiences, previous LS experiences, their attitudes towards LS as a way of professional learning.
Post planning meeting interviews	To elicit detailed contextualised in <i>situ</i> accounts from the teachers on two broad aspects of planning meetings, the context and the key decisions on one hand, and the content and learning processes on the other.
Post evaluation meeting interviews	To elicit detailed contextualised in <i>situ</i> accounts from the teachers on two broad aspects of evaluation meetings, the context and the key judgements made about the lesson on one hand, and the content and learning processes on the other.
Post teaching interviews	To elicit detailed contextualised accounts from the teachers who taught the trial lessons about their experiences through enacting the collective lesson plans in the classrooms.
Review interviews	To elicit teachers' final and retrospective comments and reflections about their learning experiences after the DRLS has been completed.
Analysis of meeting transcripts	To gain detailed contextualised accounts of the learning content and processes from teachers' talk and language use in action. To gain detailed contextualised accounts of knowledge use, creation and practice development from teachers' talk.
Qualitative survey	To elicit detailed contextualised accounts of teachers' comments about the public lessons and reflections of their own learning from attending the DRLS public event.

Table 3.2 Research methods and research questions

Research methods	Research questions
Discourse analysis Generalised interviews Post planning meeting interviews Post evaluation meeting interviews Post-teaching interviews Review interviews Qualitative survey	1. What do teachers learn in contexts of DRLS?
Discourse analysis Post planning meeting interviews Post evaluation meeting interviews Review interviews	2. Through what processes do teachers learn in contexts of DRLS?
Discourse analysis Post planning meeting interviews Post evaluation meeting interviews Post-teaching interviews Review interviews Qualitative survey	3. How is knowledge used, created and transformed within the contexts of DRLS to develop practice and learning?

Discourse analysis Post planning meeting interviews Post evaluation meeting interviews Review interviews	4. How does language use mediate teachers' learning and practice development in contexts of DRLS?
Discourse analysis Generalised interviews Review interviews	5. What conditions seem to be influential on teachers' learning and practice development in contexts of DRLS?

3.4 Selection of DRLS case, subject teams, and research participants

The identification of cases and the selection of key informants for each case in a study requires a clear rationale. Indeed, the choice of one case over another may lead to differences in our understandings about any given social issue. After all, a major strength of case study research is that it acknowledges the impact of context in the workings of everyday social life. Social researchers often use case study to achieve a variety of research aims such as to explore, describe, interpret, and explain social phenomena or issues (Merriam, 1988; Stake, 1995; Yin, 2009). A different research agenda can also place different demands on the criteria for case selection. But a key criterion Stake proposes is whether or not the selection of particular cases can maximise the opportunities to learn (1995: p.4), given constraints in the fieldwork circumstances such as time and access.

3.4.1 The DRLS case: focus and rationale

My selection of the DRLS case for the thesis research was to a large extent 'opportunistic'. I chose the target district because it was where I used to work as an EFL teacher and hence had the professional network to negotiate access and entry. I selected the particular DRLS case including its particular focus and teams of teachers because it was the DRLS activity that was taking place as part of the routine in this district at the time of my research. But nonetheless the particular case I selected was typical enough as an example of the naturalistically occurring social phenomena or routine DRLS practice in the district (Yin, 2009). Hence it meets the key criterion of offering opportunities to learn about teachers' professional learning and practice development through DRLS activities (Stake, 1995).

The DRLS case took place between March and April 2013, covering a time span of four weeks. The purpose of the particular DRLS case was to develop understandings about how to conduct a review lesson in ways consistent with the new curriculum vision. The district teaching researcher (DTR) Yumei identified *review lesson* as an important practical issue to address because according to her most LS activities in her district in the past had focused on new lessons, especially in relation to a wide range of language topics, and yet *review lesson* was largely neglected and treated lightly in classroom teaching. With over a decade of classroom experimentation with new curriculum ideas, she and her DTR colleagues considered that a large body of good practices had been developed through LS activities and that the majority of primary EFL teachers in the district seemed to be proficient in planning and teaching a new lesson in ways that reflect new curriculum ideas. They considered it time to expand and widen the research focus of DRLS activities. Yumei had identified review lessons as an area of common classroom neglect and wanted to encourage teachers to devote time to reflect on their review lesson practices and develop new understandings about the nature and goal of review lessons under the new curriculum framework and invent new review lesson practices. She chose to conduct this DRLS among sixth grade EFL teachers because the EFL course book that was widely used in the district consisted of only review units and lessons for that term. Yumei sent out invitations to four sixth grade EFL teachers from four different schools in her district to take part in the research lesson development. Two sixth grade EFL teachers, Ying and Malan, with support from their respective schools and EFL teams, agreed to take part in the case DRLS.

3.4.2 My embedded cases: two subject teams and nine EFL teachers

I first negotiated access for research with Malan and Ying. Then through them I was able to visit their schools and arrange meetings with their teams and teachers to negotiate access to their DRLS activities. All three members of the Fragrant Hill team agreed to take part in my study. Six of the eight members from the Cherry Vale team agreed to be participants in my study. One teacher declined to take part in the study due to time concern. She only took part in one planning meeting in the Cherry Vale DRLS. Another teacher did not take part in the DRLS activity. Hence the two subject teams and nine individual members of those teams became embedded cases in my study (Yin,

1994). I provide more details below about each of their team configurations, research lessons and DRLS procedures.

3.4.2.1 An overview of the Cherry Vale DRLS team, their research lesson, and the DRLS procedures

The Cherry Vale DRLS team consisted of seven EFL teachers, including Ying, Yulan, Anhua, Ting, Min, Wei, and Wenxin. But Min only took part in one meeting and did not take part in my study. Ying was the EFL team leader and also the research lesson teacher in this DRLS case. The team decided to develop a research lesson on *Eating in a Restaurant*. This is a lesson within the unit *Travelling around the World*. Their particular focus for this lesson was on Part A (listening) and Part B (speaking). The Cherry Vale team went through four cycles of teaching and revision and in total seven planning and evaluation/revision meetings took place. Figure 3.1 details the Cherry Vale DRLS procedures and dates.

Cherry Vale DRLS Cycles		
	<u>3.13</u>	1 st Team planning meeting
	<u>3.18</u>	2 st Team planning meeting
<u>Research Lesson 1</u>	<u>3.25</u>	1 st Evaluation meeting with Yumei
	<u>3.27</u>	3 rd Team planning meeting
<u>Research Lesson 2</u>	<u>3.29</u>	2 nd Evaluation meeting with Yumei
<u>Research Lesson 3</u>	<u>4.07</u>	3 rd Evaluation meeting between Ying and Yumei
<u>Research Lesson 4</u>	<u>4.09</u>	4 th Evaluation meeting with Yumei
	<u>4.16</u>	
Final District Research Lesson Event		

Figure 3.1: Cherry Vale DRLS procedures and timeline

Research Lesson 1 (RL1) was developed by members of the Cherry Vale EFL team without the involvement of Yumei. After that, Yumei was actively involved in post-RL1 evaluation and the development and evaluation of RL2, RL3, RL4, and the final

Cherry Vale public lesson. All the RLs were taught by Ying, the RL teacher. Three of the four RLs were taught and observed live in the classrooms. RL3 was video-recorded and shown to Yumei post-hoc at her office due to logistic difficulties. During these lesson cycles, Cherry Vale teachers had three planning meetings among themselves and four evaluation/revision meetings with Yumei. Some members of the Cherry Vale team attended more meetings than others due to various logistic and workload constraints. All four evaluation/revision meetings were held right after each lesson observation, with the exception of the third evaluation/revision meeting which took place between Yumei and Ying, the RL teacher, at Yumei's office.

3.4.2.2 An overview of the Fragrant Hill DRLS team, their research lesson, and the DRLS procedures

The Fragrant Hill DRLS team consisted of three member, Malan, Meiying, and Lili. Meiying was the subject team leader and Malan was the RL teacher for this DRLS. The team chose to develop a research lesson around *Famous People* which was the third lesson within the review unit *People around the World*. And they chose to focus on Part C (reading) and Part D (writing) in the lesson. The Fragrant Hill team went through eight meetings and four lesson trials during their DRLS. This included two pre-lesson planning meetings among the EFL team, one pre-lesson planning meeting between Malan and Yumei, one post-RL2 lesson revision meeting among the EFL team, and four evaluation and revision meetings led by Yumei and participated by various numbers of teachers each time. All the RLs were taught by Malan, the RL teacher in this team. Figure 3.2 illustrates the activities that the Fragrant Hill team undertook during their DRLS processes.

It is worth pointing out two major characteristics about this procedural account of DRLS that may differ from the typical account of LS procedures described in the international LS literature. First, in DRLS teachers develop and refine the same lesson, teaching it multiple times with different classes of pupils. The focus is on developing lesson design and pedagogic strategies that work effectively and maximally for supporting a wide range of pupils to achieve certain learning objectives. Second, in DRLS it is often the same teacher who teaches the iterative versions of the research lesson. The purpose is to control the teacher variable in establishing effectiveness

claims about a research lesson and also to provide a focused opportunity for an individual teacher to develop through DRLS.

Fragrant Hill DRLS Cycles		
	3.14	1 st Team planning meeting
	3.18	Malan planning meeting with Yumei
	3.21	2 nd Team planning meeting
Research Lesson 1	3.25	1 st Evaluation meeting with Yumei
Research Lesson 2	3.29	2 nd Evaluation meeting with Yumei
	4.01	3 rd Team planning meeting
Research Lesson 3	4.07	3 rd Evaluation meeting between Malan and Yumei
Research Lesson 4	4.09	4 th Evaluation meeting with Yumei
	4.16	
Final District Research Lesson Event		

Figure 3.2: Fragrant Hill DRLS procedures and timeline

3.4.3 Ethical considerations in the conduct of the research

I carried out the fieldwork in strict adherence to the Research Ethics Code of Practice set out by the University of Leicester (2006). The main measures I undertook to safeguard the research participants and their rights included (a) informing research participants in detail about the nature of the research and their potential involvement and their rights prior to the research (see Appendix 1:p.278), (b) maintaining strict confidentiality about the content of each private conversation between research participants and me throughout and after the research so that no harm could occur to their professional lives related to the accounts they disclosed to me during the research, and (c) ensuring anonymity of the identities of the schools and research participants both in the recording of the data and reporting of the research. Each of my nine research participants signed a consent form as proof of voluntary participation in the research (see Appendix 2: p. 280). Although pupils were involved in the DRLS case, I was

instructed by the two case schools that I did not have to seek informed consent from parents since the pupils were not directly involved in the research as data sources or research subjects.

The challenging ethical concern in the context of the thesis research was probably the issue of anonymity. Although I used pseudonyms for all those involved in the research, i.e. the schools and teachers, I was aware that there was still possibility (albeit how slight) of unintentionally leaving clues that could be traced back to their identities, i.e. through disclosing my professional ties with the case district and providing detailed and contextualised accounts of the DRLS, given the public nature of these research lessons. In this regard, I was confronted by a tension between my obligation towards my research participants to ensure their full anonymity and my obligation towards my readers and examiners to provide a sufficiently detailed and contextualised account of the research. When writing up this thesis, I chosen to prioritise a clear and convincing account of the research by including plenty of contextual information and details with the aim to more effectively address the research questions and the issues of learning. With this decision, I unavoidably put aside the ideal of watertight anonymity for my participants. My argument is, however, that my doctoral thesis is written for a small audience far-away from the context within which the original research was carried out and therefore the risk of identity exposure becomes negligible. But in future occasions when I report the research to a wider audience, I will need to be more cautious and selective about what contextual details to reveal based on my knowledge about the audience.

A final ethical issue that I gave particular thought to in this research was the demand of the research and the potential burden that the research could add to teachers' already busy school life. This required more careful thought and adjustment to my field strategies so that I could offset such impact to teachers. I will explain with more details how I addressed this issue in the next section where I explain my field strategies. In particular, I report the field strategies and methods that I adopted for the collection of discourse and interview data in the study. Some of the strategies were directly informed by a small scale pilot study that I conducted in the UK prior to the main study. Hence in the next section, I explain how my pilot study informed my field and data collection strategies when relevant.

3.5 Strategies and methods of data collection informed by my pilot study

Prior to conducting my main study back in China, I decided to conduct a small scale pilot study with a group of three teachers in the UK as it was difficult for practical reasons for me to go back and conduct a pilot study in China. The pilot case was ‘opportunistic’ as the particular group of teachers had plans at that time to engage in a LS activity as part of their school professional development initiative. I was aware of the stark differences between the context of the pilot study and the context of my intended main study, not only in relation to the cultural and educational settings but also the LS set-ups and procedures. Hence I was aware that I could only limit the main purposes of the pilot study to (i) testing the feasibility of building the research procedures that I had planned around teachers’ LS activities and more importantly (ii) testing the effectiveness of my interview strategies for eliciting detailed and contextualised accounts from teachers about their learning through LS. I explain below the lessons I learned from the pilot study and how those lessons led to changes or adaptations in my research strategies, including field strategies, strategies of collecting discourse data and interviewing strategies.

3.5.1 Managing field relations and eliciting teachers’ talk in *situ* during DRLS planning and evaluation meetings

Before I started my field work, I was aware that my identity and role as a researcher and outsider to the LS group would have an inevitable impact on the quality of data I was able to develop with my key informants. Ball (1993) argues that in qualitative research the quality of data is influenced in important ways by the quality of relationships that the researcher is able to develop with research participants. In this respect I found the Rogerian stance, reported by Brown and McIntyre (1993), of unconditional positive regard an important principle to realise in my relationships with informants.

In practice, I adopted a number of strategies to minimise the impact of my presence on the research situation and maximise opportunities for getting access to teachers’ authentic experiences and thoughts. First of all, I recognised the importance of a non-threatening and non-evaluative research environment. I acknowledged that the presence of an outsider in teachers’ LS activities would to some extent pose a threat to some

teachers who may then act and speak in a way that they would not in more natural circumstances. Therefore I made considerable efforts at the beginning of the research to talk to teachers and communicate with them my intention in this research which was not to make judgments about their teaching performances or the way they conducted LS, but to study LS itself and find out how effectively it supports teachers' learning. In that regard, I needed to emphasize my role as a learner looking to teachers as the experts and seeking their professional knowledge, perspectives and judgments about LS as a way of enhancing their own professional learning and practice development. I also made it clear to them that my focus would be more on explicating the processes of learning and practice development during LS rather than evaluating the outcomes. I expected that by communicating this goal with teachers they would feel more secure about verbalising what they really thought during collaborative LS meetings and during interviews with me.

On the other hand, I had to balance my past professional role as an EFL teacher who had a lot of personal experience of LS and my role as a researcher aiming to understand the LS experiences of others. I was very careful about being absolutely neutral and non-evaluative in my attitude towards my research participants' views and didn't allow myself to have any personal input in the research lessons. This was sometimes difficult to avoid as the teachers sometimes wanted to know my views in relation to a pedagogic issue after they had articulated their accounts in interviews or especially when there was a conflict of views among themselves in relation to a key issue. In such cases, I had to avoid either a direct answer or a direct rejection to the question and instead adopted a strategy of postponing the answer. That meant I would communicate with particular teachers that I would be very happy to return to conversations about those issues after the DRLS and the completion of the research. In this way I showed my sincerity towards the teachers but at the same time maintained the integrity of my impartiality as a researcher.

I also made efforts to maintain a balanced level of contact with teachers in order not to present an excessive imposition or intrusion into their LS context. In my pilot study, I chose not to attend and observe either teachers' planning or evaluation meetings, asking them to record the meetings and pass the recordings to me. I hoped that this would minimise any constraining effect of their participation in a research project on their

discourse and interactive processes. I thought that asking teachers to audio record their meetings would be less intrusive than my presence in the setting. But I did make the choice to attend the teaching and observing sessions of LS because it gave me opportunities to observe details about how a lesson was actually carried out in the classroom and how students participated in the lesson that a video camera might not be able to capture. Such contextualised understandings about the lessons would also provide me with necessary background information to inform my developing understandings of what teachers discussed in their evaluation meetings and said to me during interviews.

I found out through my pilot study that my field strategies were generally effective for negotiating access and developing the kind of trust and rapport that I needed with my research participants. However, one important lesson I learned through the pilot was that teachers had very busy lives. They were often multi-taskers who had to attend to a thousand responsibilities coming from their classrooms, school and other professional contexts while at the same time coping with their LS activities and their responsibilities to me as research participants. This tension between their busy work life and demands from the pilot study caused some disruptions to the planned research procedures. For example, it happened a few times that I had to wait for several days until I could receive the recordings of a particular meeting from teachers. Such delay then led to delay in arranging interviews or loss of opportunities to interview teachers before them moving on to the next LS meeting or procedure.

Confronted by this tension between demands of my research questions and teachers' busy lives, I decided that for my main study I would increase my visibility in the research contexts by spending more time in schools and with teachers in their offices. I hoped that by putting myself more out there in the research contexts it would enable me to be more flexible and adaptive to the timing of teachers for arranging research activities such as interviews (Ball, 1993). I also hoped that by prolonging my engagement in the field it could help me gain more in *situ* understandings about and sensitivity to the teachers, especially differences among them, their DRLS activities, and their school contexts (Cresswell and Miller, 2000).

One main change I made in my main study was that I asked permission to sit in teachers' planning and evaluation meetings while at the same time audio-recording the meetings. My rationale for making this change was that being physically present in the meetings would prepare me more timely for arranging subsequent interviews with teachers. It also gave me opportunities to take notice of incidents and phenomena during the meetings that may appear to me as salient and relevant to my research questions. I was aware of warnings from methodological texts about the effects of "reflexivity" (Guillemin and Gillam, 2004) caused by, for example, the researcher's proximity to the naturalistic phenomena under investigation. My argument was that teaching in China has always had a very public nature. Observing others and being observed are such a routine part of teachers' professional life that I considered the teachers less likely to be placed under anxiety or behave differently with my presence, especially when my presence was not of any evaluative or monitoring nature. Nevertheless, I still took deliberate measures to mitigate the impact of my presence by placing myself in a corner of the meeting venue and not intervening in any way.

A total of 15 planning and evaluation meetings were held during the course of the case DRLS. Eight meetings involved teachers from Fragrant Hill Team and seven meetings involved teachers from the Cherry Vale Team. I sat in and audio-recorded 12 of these meetings with the exception of three meetings. I sat in the first Cherry Vale planning meeting but it was not successfully recorded due to technical failure. The third evaluation meetings for both Cherry Vale and Fragrant Hill teams were held in the DTR's office and were audio-recorded respectively by Malan and Ying and sent to me afterwards. So in total I collected audio-recordings of 14 out of the 15 DRLS meetings.

3.5.2 Supporting teachers to develop detailed and contextualised accounts of their DRLS experiences through a series of interviews

For this research, I planned a series of interviews with teachers throughout the DRLS procedures. Because of the different purpose and nature of these interviews, I considered it important to differentiate my interview strategy for each of these interview types, reflecting the effective balance between informant and respondent styles of interviews that is needed to elicit detailed and contextualised accounts from my key informants about both experiences and issues salient to them and those aspects of their

experiences considered important by me the researcher (Powney and Watts, 1987). I elucidate below the purpose of each interview type, the strategies that I initially considered, and the changes that I later made after the pilot study.

Generalised interviews

The generalised interviews were to be conducted prior to the start of teachers' DRLS activities. Through these interviews, I hoped to get to know each of the participants in my study including their personal and professional experiences. I was interested in finding out the number of years they had been working as a teacher, different schools in which they had worked, and how they perceived teaching as a profession. I also wanted to find out about their professional learning experiences and needs, such as the types of professional learning they had experienced and their perceptions about what they found to be useful for their professional learning and about what they needed to learn and develop at their current professional stage. Because I was carrying out an investigation with a specific focus on LS, I also hoped to find out about their previous experiences of working in LS contexts and how effective they considered LS for developing their professional learning and practice.

Initially in my pilot study I planned to adopt a more respondent style interview strategy for these interviews. I prepared a list of questions and intended to use them to guide the flow of the interviews with teachers. But through my pilot study I quickly came to realise that the question-answer pattern of conversation at these first meetings with my research participants appeared to be too researcher-dominant and slightly too rigid for building the kind of trust and rapport that I wanted with my research participants. Realising that this interview was going to be my first opportunity to build a relationship with each of the participating teachers at a personal level, I decided to change my strategy for this interview into a more narrative 'life story' type interview (Atkinson, Kuroe, and Kitahara, 2006) in my main study. I decided that in these interviews I would first provide a brief introduction at the beginning to explain what I wished to learn about them and then allowed my informants to talk in a free and 'story telling' manner, recalling and reflecting upon memories and experiences that were most salient to them. I only intervened to probe for details and exemplification or when they needed my help to remind them about other areas of interest that I would like them to elaborate upon.

Post-meeting interviews

I initially planned to conduct both informant style and respondent style interviews with teachers after each of their DRLS meetings. Because through these interviews I wanted to gain access to teachers' detailed and contextualised accounts of their own learning experiences, I thought that an informant style interview would enable them to control the focus, pace and direction in developing their own accounts rather than being constrained by a fixed interview schedule devised by the researcher. So I limited my initial role in these interviews to the extent that I would only introduce broad themes of interest through the following broad questions.

1. *Can you start by telling me about the planning/evaluation meeting from your point of view?*
2. *Can you tell me about your learning experience in the planning meeting?*
3. *What was the process like in the meeting?*

Perhaps the most significant value of carrying out the pilot study was that it helped me identify issues and difficulties that teachers seemed to have in talking about their learning experiences through LS activities. This was reflected in participants' responses in relation to each of the three questions. The first question was intended to elicit teachers' personal perspectives and comments about their LS meetings. However, what I found from the pilot study was that with this question teachers often just gave me narrative accounts of what took place in a particular meeting including the kinds of topics they discussed and decisions they made. Although these accounts were often detailed and contextualised, they did not provide me with more information than I could get from listening to the meeting recordings.

I also found that teachers had difficulty responding to broad questions, especially those containing abstract and theoretical notions such as "learning experiences" and "processes". When such a broad question was asked, they tended to have a few typical reactions. Their first typical reaction was to ask the interviewer to be more specific and clarify the question for them. Or alternatively they talked about what happened procedurally in the meetings without direct references to the questions asked. After the pilot study, I sought for feedback from the two informants about the interviews. Both of them commented that they found some of the questions quite hard, particularly

questions such as “What was the process like in the planning/evaluation meeting?” or “What have you learned in the meeting?”

The difficulties that the participants reported in addressing the questions made me realise that talking about one’s own learning through the LS context is probably a task that requires a lot of conceptual and reflective efforts. Hence informant style interview alone was probably not adequate for providing teachers the support they needed to articulate their thoughts, experiences and perspectives regarding their learning in DRLS contexts in the limited time scope of an interview.

To develop a more conducive interview strategy, I decided to extend my reading of the interviewing literature as well as choices of interviewing strategies. For example, I considered insights from the work of Foddy (1993) with regards to the actual structuring and wording of questions, and Hayes and Delamothe (1997) and Calderhead (1981) with regards to effective strategies offered by cognitive interviewing and stimulated recall traditions for helping informants develop detailed and contextualised accounts about experiences and processes in particular past events. So in the end the interview strategy I developed and adopted for the current study can be best understood as a combination or tapestry of different influences. I explain in more detail how I used these different strategies below.

Firstly I avoided using words such as “learning” and “processes” that connote a high level of abstraction in the interview questions that I put forward to my research participants. Instead I opted for a wording of the questions that had much more relevance to the daily life of teachers. For example, the question about teacher’s learning was changed into questions such as “Do you find the meeting helpful for you in any way?” or “Have you gained anything from the meeting?” I also changed the wording in order to elicit their evaluative or reflective accounts of the meetings. For example the question about meeting processes was broken down into more specific questions such as “How do you think that the meeting just went?” and “What do you think about the atmosphere of the meeting?” Below was a list of common questions that I asked every participant during the post-meeting interviews.

1. *So how do you think the meeting just went?*
2. *What do you think about the atmosphere in the meeting?*
3. *What do you think about everybody's participation?*
4. *What do you think about the lesson you developed together?*
5. *Do you find the meeting useful for you in any way?*

While these questions were more specific than the broad questions asked in the pilot study, they were still deliberately open and exploratory in nature and aimed at eliciting what was salient and important in the minds of the teachers. But to play a more effective role in supporting teachers in the difficult task of talking about learning, I also allowed myself to take more active control of the agenda by introducing issues, observations and questions that struck me as important or interesting. This particularly related to the other two types of questions that I asked during the interviews.

The second type of questions I asked during the post-meeting interviews to use more contextualised information to help particular participants recall and reflect on their own experiences. This was to borrow ideas from cognitive interviewing and stimulated recall traditions that recognize the difficulties associated with talking about past events and the kind of support necessary for participants to explicate information, knowledge and processes (Calderhead, 1981; Hayes and Delamothe, 1997). My decision to sit in teachers' planning and evaluation meetings provided me first-hand opportunities to take note of salient incidents and occurrences in the meetings that I could use as contextual cues in subsequent interviews with individual participants. For example, if I observed noticeable periods of silence during a meeting I could elicit comments and perceptions from participants about the silences in subsequent interviews. While some of the questions were asked commonly to everyone, there were also questions that I directed to particular members of the team due to my observations. Examples of this type of questions were as follows.

1. *I noticed a few episodes of silence in the meeting that you just had. What do you think was the reason for the silence? What were you thinking then? (common question)*
2. *I could sense some tension in the meeting just now. Was that something you felt in the meeting too? (common question)*
3. *I got the feeling from the meeting that there might be more that you would like to say but you didn't. Was I correct in making the assumption? (individual question)*

The third type of questions I asked the participants related to the themes of the research lessons under development. The reason for bringing in this kind of questions was to find out whether teachers' attitudes and beliefs about a key pedagogical concept under discussion had changed over the course of the DRLS. It was also to reflect my interest as elaborated in the literature review chapter about development and changes in teachers' conceptual and pedagogic understandings as evidence of learning. For example, because both research lessons were around the theme of how to design a review lesson, I asked teachers about their views on review lessons and the pedagogical strategies they thought to be appropriate for carrying out review lessons. Sometimes I may also follow the lead of certain disagreements in the meetings and see whether or not it led to any resolution after some personal reflection outside the meetings. Examples of this type of questions included the following.

1. *I understood that your theme for this DRLS is review lesson. Can you tell me your personal views about the purpose of a research lesson? (common question)*
2. *Last time you told me that you believe a review lesson should aim to cover as much content as possible in relation to what pupils have previously learned? Has your view changed in any way since we last talked? (individual question)*
3. *Last time there were disagreements over the use of the poem activity in the lesson. Is your view on the poem issue still the same or has it changed in any way? (individual question)*

Post-teaching interviews

A similar interview strategy was adopted in the post-teaching interviews with Malan and Ying, the two teachers who taught all the lesson trials in their DRLS activities. The purpose was to understand whether the procedure of actually teaching the lessons had any impact on the teachers' learning and practice development. These interviews typically started with a set of broad questions that aimed to support teachers in developing their own contextualised accounts of their experiences of teaching the lessons.

1. *How do you feel about the lesson that you just taught?*
2. *What were you thinking about while you were teaching the lesson?*
3. *Were there any surprises in the lesson? What did you do?*

Then once these broad questions were explored, I introduced issues, observations, and problems that struck me as interesting, important or puzzling. Examples of questions included the following.

1. *I noticed that the lesson you taught today was quite different from the lesson the team planned together last week. How were the changes made since you last planned the lesson together?*
2. *Did you feel any difference teaching this lesson plan compared with teaching the last one?*
3. *Last time you told me that when you were teaching the lesson you were thinking about the powerpoints throughout the lesson. Was it still the case in this lesson?*

I initially planned to conduct these interviews with Malan and Ying right after they taught each lesson. But because the DRLS teams usually moved on immediately to lesson evaluation after teaching and observing a lesson, I was only able to conduct three short post-teaching interviews as planned. In other times I combined these interviews with Malan's and Ying's post-evaluation meeting interviews by allocating time at the beginning to explore their experiences of teaching the research lessons.

Probing strategy

For all these interviews, I employed a non-directive probing strategy to elicit plenty of contextual detail, and exemplification and congruence. I thought that adopting a non-directive probing strategy would optimise scope and confidence that the accounts that teachers articulated during these interviews were authentic reconstructions of their own thinking and perspectives. In all cases non-directive probes included the following:

1. *Could you give me a little more detail about that?*
2. *Could you give me an example of that?*
3. *I'm not sure I've completely understood what you mean? Could you say it again in a different way?*
4. *Could you help me to see how what you've just said relates to what you were saying earlier?*

Throughout the DRLS, I conducted and audio-recorded a total of 47 interviews as data for analysis.

3.5.3 Eliciting teachers' comments, evaluations, and reflections about the public research lessons through teacher survey

In the main study, I administered and conducted a qualitative survey with all the EFL teachers who attended the DRLS public event in order to elicit their personal views and comments about the public research lessons and their own reflections of learning through attending the DRLS public event. The survey included three questions respectively aiming to elicit from each participant (a) comments about the design and effectiveness of the two research lessons; (b) nomination of any innovative practice in each of the two research lessons; (c) reflections about whether or not they learned anything through attending the event. A translated version of the survey can be found in Appendix 5 (p.283). The actual formulations of questions on the survey are as below.

- 1. What are your views about the design and the effectiveness of the two research lessons?*
- 2. Were there any aspects of the two research lessons that you consider as "bright points"?*
- 3. Have you gained anything through attending the DRLS public event?*

The DTR provided me with logistic support on the DRLS public event day for the conduct of the surveys. First I was given permission to hand out the surveys to each participant at the registration desk alongside an event volunteer who was in charge of the distribution of resource package for that day. Then I was given five minutes during the event introduction to briefly explain my research, the purpose of the surveys, and instructions for survey completion. Teachers were promised anonymity of their responses and not asked to provide any personal information about themselves except for their years of teaching experience. Lastly and also very helpfully, the DTR allocated ten minutes towards the end of the event for those who were willing to share their thoughts and feedback to complete the surveys. These measures helped me get a fairly high response rate from the teachers. In total I handed out about 150 copies of survey and received 118 completed copies of survey from the teachers, reaching a response rate of about 79%. Table 3.3 summarises the different data sets collected in the reported research, the total number of items for each data set, and the time and people context of collection.

Table 3.3 Summary of data sets, number of items, and contextual information of the data

Data collection methods	Participants	Total no. of items	Length of each item	Time (Year 2013)
Audio recordings of DRLS meetings	Members of Fragrant Hill team and Cherry Vale team and the DTR. (Actual number of participants varies in each meeting)	14	33 - 90 mins	March 14 - April 9
Generalised interviews	Members of Fragrant Hill team: Malan, Meiyang, Lili Members of Cherry Vale team: Ying, Anhua, Yulan, Wenxin, Ting, Wei The DTR	10	25 - 107 mins	March 12 - 14
Post-teaching interviews	Malan and Ying	3	10 - 20mins	March 25 th - April 18
Post-meeting interviews	Members of the two subject teams who attended any particular DRLS meeting	24	15 - 65 mins	March 18 - April 10
Final interviews	Members of Fragrant Hill team: Malan, Meiyang, Lili Members of Cherry Vale team: Ying, Anhua, Yulan, Wenxin, Ting, Wei The DTR	10	41 -105 mins	April 18 - 27
Post-DRLS teacher survey	EFL teachers who attended the DRLS public event	118	N/A	April 18

Throughout the fieldwork, I also collected lesson materials and artefacts from both teams such as lesson plans, teaching PowerPoints, other lesson resources, and video recordings of most lesson trials. But I did not include them as data *per se*. Rather I collected them in order to provide contextual background for understanding the verbalisations of teachers either in contexts of their DRLS meetings or in contexts of interviews with me and for making my own interpretations about their accounts. In the next section, I provide a detailed account about how I analysed and interpreted the data to answer my research questions.

3.6 Processes and procedures of data analysis

In this section I report in detail about the processes and procedures through which I analysed the data sets summarized in Table 3.3. I first provide an overview of the data sets and explain my general analytic rationale and strategies in relation to the different data sets. I then provide more detailed explanations about the rationale, strategy, and procedures that guided each aspect of my data analysis with the aim to address a

particular research focus, i.e. in relation to different units of analysis identified in my case design, and particular research questions.

3.6.1 Overview of the data sets and general analytic considerations and procedures

My first data set included audio recordings of 14 planning and evaluation meetings which were transcribed verbatim. The transcripts added up to a total of 161,343 words for analysis. My second data set included audio recordings of 47 interviews which I also transcribed verbatim. These meeting transcripts added up to a total of 238,921 words. My third data set included 118 copies of teacher survey which were completed in handwriting by teacher attendants in the DRLS public event. Word count was not conducted for this data set. Because of the volume of the data, I found it necessary to differentiate analytic strategies for different data sets with the aim of more effectively addressing the different research questions.

My overall analytic strategies were guided by my research questions and informed by the theoretical perspectives that I brought into the research. Hence when I conducted multiple sweeps of my data to allow patterns and themes to emerge inductively, I also had in the back of my mind the different theoretical perspectives discussed in chapter 2 such as theories of social learning (Salomon and Perkins, 1998), theories of activity mediation (Engeström, 2001; Leont'ev, 1981; Vygotsky, 1978), theories of talk (Mercer, 1995), and theories of knowledge use (Eraut, 1994) to guide my thinking about professional learning and practice development in DRLS contexts. But during repeated sweeps through the data, I only allowed my theoretical interest to influence me to the extent that it provided me with a direction to look and a framework to make links between findings from this research and the broader research literature reviewed in chapter 2. Throughout the process of analysing the data, I was guided by my epistemological belief about the local and highly subjective nature of knowledge and hence I was prepared to let my data challenge, stretch, adapt or extend my assumptions and expectations at any time. From this perspective, my overall analytic strategy could be best described as “abductive” (Coffey and Atkinson, 1996; Martin, 2003; Yin, 2009), reflecting both my theoretical interests and a determined commitment to encode the salient meanings expressed in the data.

Because of my focal research interest in understanding the language mediation of learning through the DRLS, I placed primary analytic focus on teachers' talk during their DRLS meetings, especially the meetings that were conducted within the two subject teams without participation from the DTR. I felt that analysis of teachers' talk in their naturalistic contexts of collaboration would enable more valid understandings about patterns and characteristics of cognitive and social engagement that are particular to each team. Hence for this aspect of analysis I chose to focus on the five team meetings that were conducted within the subject teams without participation of the DTR. I conducted in-depth analysis of teachers' talk in these five meetings, focusing on understanding the mechanics and dynamics of talk on one hand, and the range of ideas expressed and the patterns of idea interaction on the other, the combination of which helped me develop understandings about the conditions, processes, and outcomes of collaboration and learning for each team.

My analyses of the other data sets were shaped by my interest in developing understandings about the conditions, processes, and outcomes of individual learning and the learning of the district teaching community as a whole through the DRLS. To understand teachers' individual learning, I developed individual learning profiles for each teacher based on each of their different interviews and the meeting discourse data. These individual learning profiles provided the basis for recording and summarising the characteristics of each teacher's participation in the DRLS, the trajectories of development and change in each of their conceptions of practice (CCPs), and their personal reflections about their learning processes and outcomes. For understanding collective learning, the focus of analysis was on the meeting discourse and what could be learned from these data about the evolution of specific research lessons, development of new collectively held pedagogic understandings that derived through shared participation in the DRLS, the impact of the case DRLS on wider members of the district community, and the conditions and norms that underpinned collective practice development and learning through DRLS.

The data analysis was a complicated and iterative process due to the multiple levels and units of analysis in my research. Table 3.4 summarises the different analytic strategies that I adopted for each data set and the multiple analytic foci that I applied in the analysis of particular data sets and their relevance to particular research questions.

Table 3.4 Summary of analytic strategies and focus for each data set and relevance of analytic focus to particular research questions

Data sets	Analytic strategies and focus	Research questions
Team Discourse (5 team meetings)	Thematic analysis of cognitive engagement: <ul style="list-style-type: none"> • conception of practice (CCP) • patterns of cognitive engagement • characteristics of knowledge use • evolution of the research lessons • common language use • conditions and norms 	RQ1, RQ2, RQ3, RQ5
	Quantitative analysis of interaction functions: <ul style="list-style-type: none"> • patterns and characteristics of social engagement 	RQ2, RQ4, RQ5
9 other DRLS meetings	Thematic analysis: <ul style="list-style-type: none"> • evolution of the research lessons • development and change of CCPs • common language use • role of the DTR • conditions and norms 	RQ1, RQ2, RQ3, RQ5
10 generalised interviews	Thematic analysis: <ul style="list-style-type: none"> • professional profile • professional learning and LS experiences • perceptions about effectiveness of learning through LS 	RQ1, RQ5
37 successive interviews	Thematic analysis: <ul style="list-style-type: none"> • development and change of CCPs • characteristics of knowledge use • comments about processes and effectiveness of collaboration • comments about the ways they talk • comments about conditions of collaboration 	RQ1, RQ2, RQ3, RQ4, RQ5
118 surveys	Thematic analysis: <ul style="list-style-type: none"> • public validation of practice developed through DRLS • development and change in CCPs 	RQ1, RQ2

The data analysis included both qualitative and quantitative elements. The qualitative element was reflected in most of the thematic analysis that involved the identification of common categories and themes, i.e. in relation to teachers' CCPs, and the explication of development and change, i.e. in relation to the research lessons, and particular aspects of teachers' CCPs. The quantitative element was mostly reflected in the analysis and calculation of interaction functions in the talk of teams and the cross-team comparison of the frequency of specific interaction functions. In the subsections below I explain in detail how I conducted analysis of the data sets in relation to particular research focus and questions.

3.6.2 Gaining access to patterns and processes of social engagement of each team: mixed-method discourse analysis of teachers' talk

Discourse analysis starts with transcription, for when developing the transcription the researcher is already making conscious decisions about what to include in the analysis based on the researcher's particular research interest (Hutchby and Woffitt, 1998; Psathas, 1995; Seedhouse, 2004). For the transcription of the team discourse data I followed aspects of conventions described in conversational analysis (CA) (Psathas, 1995). This was because talk in the DRLS planning and evaluation meetings shares characteristics with the kind of talk-in-interaction that is often described and studied by CA researchers. Hence I considered it necessary to record and reflect in the transcription the main features of such interaction, such as its turn taking and distribution among different interlocutors, latching of turns, back channeling of talk, frequency of echoing, and the amount of silence and pauses in the talk. I held the initial assumptions that these features of talk-in-interaction may give rise to important understandings about the dynamics and patterns of collaboration within groups. I applied CA conventions to record these aspects of my interest in the transcription of five team meetings including two Cherry Vale team meetings and three Fragrant Hill team meetings. I also decided to transcribe and analyse the discourse data in the original language of my research participants because I wanted to prevent distortion of meanings or discursive features due to differences between the Chinese and English languages. These meeting transcripts added up to 64,515 Chinese characters in total.

When considering my discourse analysis strategies, I considered a range of analytic approaches from conversation analysis (CA) traditions (Hutchby and Woffitt, 1998; Seedhouse, 2004), critical discourse analysis traditions (CDA) (Chouliaraki and Fairclough, 1999; Gee, 1999), and Mercer's framework of talk. I decided to focus primarily on Mercer's talk framework because it articulates most directly with the characteristics of talk and efficacy for learning, while the CA tradition is more concerned with the discursive features and structures of everyday conversations, and while the CDA tradition is primarily concerned with explicating how particular language choices and use are associated with social identities and enable transaction of social goods (Gee, 1999).

Dudley (2012, 2013) was the first person to apply Mercer's framework of talk in the study of teacher learning in contexts of LS. Hence my analysis of the talk borrowed ideas from the analytic approach developed by him. More specifically, his approach was to identify and assign codes to the range of "functions" (Halliday, 1973; Halliday and Hasan, 1976 as cited in Dudley, 2012) or "actions" (Gee and Green, 1998) that specific utterances perform in the conversation and then group the interaction function (IF) codes into categories that mostly closely reflect Mercer's three talk types. The main purpose of his research was to find out the extent to which the distribution of exploratory IF codes in the talk of teams was associated with teachers' learning points. Similarly to Dudley, I was also interested in finding out the range and distribution of interaction functions in the talk of my case teams. However, my interest focused more on understanding how particular configurations of different categories of IF codes in teachers' talk gave rise to particular modes of team collaboration and learning.

Because of the stark differences between the contexts of Dudley's research and mine, I could not apply his coding framework straightforwardly in my analysis. Instead I needed to develop my own IF codes inductively from the data. The development of the coding framework was a slow and iterative process, involving detailed and multiple sweeps of the data. At first I read the transcripts several times to get a feel for the range and kinds of interactions and ideas expressed through them. These initial sweeps through the data were best understood as a process of familiarising myself with my discourse data. Subsequent readings provided me with successive opportunities to develop codes and categories, each time with a particular focus on interaction functions. As I moved through successive transcripts, I continued to develop provisional codes and categories. This was a slow and time consuming process because as new codes were provisionally identified, previously developed codes would often need changing in the light of the new codes and categories. This process involved repeated readings of previously analysed transcripts to check that all the codes under development 'fitted' the data. Codes and categories were rejected or refined on the basis of decisions about how closely and usefully they reflected different ways teachers were talking together, and different ideas being expressed. I went back several times to the beginning of my transcript data not only to check the fitness between the data and my emergent framework of codes and categories, but also to clarify and sharpen my definitions and understandings of my codes and categories in relation to all my data. In the following

sub-sessions, I explain in more detail the iterative process of IF code development and refinement.

3.6.2.1 Adaptations to Mercer’s talk framework for developing the coding strategy

My first round of identification of interaction functions in the talk was guided by key distinctions that Mercer (1995) made through his definitions of the three talk categories: cumulative, disputational, and exploratory. That is to say when I read through the transcripts, I was initially consciously looking whether or not there were discursive representations of interaction functions that Mercer describes in his talk categories such as agreeing without critique, short disagreements without justification, short assertions without justification, critique, reasoning, and providing constructive feedback. However I soon found this way of coding to be problematic. This was because Mercer’s framework differentiates between different talk categories mainly through contrast rather than through detailed and exhaustive descriptions about the discourse features and interaction functions of each category of talk. For example, Mercer’s framework elaborates or implies distinctions between i.e. justified and unjustified agreements or disagreements, justified and unjustified assertions, and critique with a constructive or unconstructive intention as key descriptors for different talk categories. Straightforward application of his talk categories would require not only the development of a series of generic codes to differentiate between interaction functions of a different nature such as agreements, disagreements and assertions but also series of multiple sub-codes to reflect different variations of those generic interaction functions such as different kinds of disagreements qualified with different levels of justification. I decided that this approach would further complicate the already complex coding process.

So I chose to simplify the coding by removing the sub-codes and replacing them with combinations of generic codes to differentiate between IF variations. For example, I used only “dsgr” to code an instance of disagreement without justification but used both ‘dsgr’ and ‘just’ to code an instance of disagreement that was substantiated with justifications. I applied the same rule with codes such as different kinds of agreements, assertions, and critique. A typical example was “miti” or mitigation. I initially coded an instance of mitigation when a teacher made efforts to foreground a critique with some positive comments in order to make the critique sound less direct. I later removed this

code and coded such instance with two codes instead, i.e. “support” and “critique”. By adopting this revised strategy, I deviated from straightforward application of Mercer’s talk types in the discourse analysis and moved towards identifying the distribution and density of IF codes that reflect closest orientations towards Mercer’s talk types.

Another problem that came up in the process of applying Mercer’s broad talk types was that they did not take into explicit account a range of other discursive acts and functions that were associated with the spontaneous and messy nature of talk-in-interaction such as that in contexts of DRLS. For example there were distinctive discursive acts in the data such as using either pronoun “we” or “you” to refer to each other, telling jokes, laughing or expressing frustrations, offering encouragement and support to each other or expressing straightforward criticism. There were also distinctive discursive features such as latching and overlapping of talk, competing for turns, avoiding turns to speak, and occasional episodes of silence in the talk of teachers. Many of these discursive acts or interactions may not seemingly contain explicit cognitive content or add direct cognitive value to the construction of ideas, which is at the heart of Mercer’s framework of talk, but they may nonetheless reflect the dynamics and particular ways that teachers collaborate and work together as groups. Because these discursive acts and features were largely not taken into account in Mercer’s definitions of talk categories, I considered it necessary to open myself up to influences from other discourse theories such as CA and CDA. I explain in the next subsection how I borrowed perspectives from CA and CDA traditions to widen the scope of my analysis.

3.6.2.2 Incorporating other discourse perspectives for the development and refinement of IF codes

I found the three analytic perspectives proposed by Chouliaraki and Fairclough (1999: p.63), namely *discourse*, *genre* and *voice*, useful for understanding the entangled relationships between ideas, discursive acts, and individual characteristics of language use in goal-oriented talk such as that in contexts of DRLS. Chouliaraki and Fairclough’s notion of “discourse” refers to the core themes and ideas that are being developed in the talk. This analytic perspective relates to the key pedagogic focus and ideas that are discussed and developed in order to formulate a lesson plan in contexts of DRLS. Their notion of “genre” refers to social activities or discursive acts that are performed for the

development of key themes and ideas, hence relating closely to the notion of interaction functions in my analysis. Their notion of “voice” refers to individual characteristics of language use that are tied to particular roles and identities in social groups, for example “teacherly moves” (Chouliaraki and Fairclough, 1999) that are conducted by more knowledgeable members of a group to support the thinking and learning of others. This analytic perspective relates to my interest in finding out how individual teachers may participate and learn differently in contexts of DRLS collaboration due to differences in their professional backgrounds, experiences, and understandings. Chouliaraki and Fairclough’s (1999) analytical perspectives helped me to widen my analytic scope to take into account interaction functions in the data that reflect roles and relationships such as highlighting key pedagogical issues, asking key questions to scaffold others’ learning, using pronoun “we” to build the group, or providing support or encouragement to others. Their perspectives also widened my analytic lens to identify not only patterns of IF codes related to particular groups but also particular interaction functions performed by individual teachers. Understandings about individual and collective ways of talk may give rise to important understandings about conditions of collaboration and learning such as member configuration and team culture.

I also found ideas from the CA tradition about the structure of conversations or talk-in-interaction useful for understanding the group dynamics and patterns of collaboration in groups. Understandings about key analytic units in CA such as turn taking, i.e. in terms of the distribution of speech turns and the competition for or avoidance of speech turns among the interlocutors, and discursive features such as “overlapping”, “latching”, “back channeling”, “echoing”, and frequency of “silence” in the talk may reveal the level of symmetry or asymmetry in members’ participation and the level of their engagement in the DRLS collaboration (Seedhouse, 2004).

To summarise, Mercer’s talk categories are useful for differentiating interaction functions that have a clear cognitive focus. Chouliaraki and Fairclough’s three analytic perspectives of *discourse*, *genre*, and *voice* are useful for differentiating interaction functions that are related to individual roles in groups and those related more closely to the social aspects of interactions such as building relationships and teams. Perspectives from CA are useful for including consideration about the structural aspects of talk that are useful for understanding the dynamics and patterns of collaboration. By integrating

these different analytic lenses, I identified the final list of 35 IF codes and 4 discursive feature (DF) codes through my data. Through grouping the IF codes under Mercer’s broad talk categories, I also expanded Mercer’s original definitions of cumulative, disputational, and exploratory kinds of talk to include other discursive acts and features that were initially not taken into explicit account but nevertheless in my view reflect broadly consistent orientations to those talk categories. Hence the actual grouping of IF codes in Table 3.5 below was based not on whether or not it fits Mercer’s talk type descriptions, but instead on the judgment about the closest Mercer talk orientation that an IF code reflects, i.e. (a) developing consensus, solidarity, and a positive discursive environment, or (b) disagreement, competition of ideas, or a culture of blame, or (c) contributing to the exploration of ideas and the development of practical solutions.

Table 3.5: Interaction function (IF) and discursive feature (DF) codes and closest Mercer talk type orientations

Interaction Functions	IF Code	Explanation of the Interaction Function and examples from the transcripts	Closest Mercer talk orientation
1. Agreeing or accepting	Agr	A participant agrees or accepts something someone has said.	Cumulation
2. Rephrasing or repeating words, echoing	Echo	Repeats or rephrases another’s comment, usually to mark agreement or saying “hmm”, “yeah” when someone is sharing an idea.	Cumulation
3. Adding/ supplying	Add	Adding information to one just expressed or by extending or finishing a colleague’s sentence.	Cumulation
4. Supporting/ valuing another person	Supp	A gesture of providing emotional support to someone, such as showing confidence or directing encouragement towards someone; or an act of positively underlining another’s point, e.g. ‘That’s a brilliant idea’.	Cumulation
5. Expressing surprise/ excitement/ appreciation	Exci	An instance of expressing positive emotions developed during discussion such as surprise, excitement or appreciation triggered by e.g. a good idea, or pupils’ unexpected performance in the lesson.	Cumulation
6. Joking/ laughing	Joki	An instance of using humor, or when someone or the group laughs about something.	Cumulation
7. Grouping	Grp	Using pronouns “we” or “us” to indicate or build sense of group.	Cumulation
8. Conjecturing	Conj	Trying to guess each other’s mind as colleagues based on mutual understanding	Cumulation
9. Asserting	Asst	States with assurance and confidence about an idea or a fact, e.g. (A: I would be pleased if the pupils could use the main sentence patterns fluently. That is to say they can use it without referring to textbooks. B: <i>Well, I’m sure grade six pupils can do this.</i>)	Disputation

Interaction Functions	IF Code	Explanation of the Interaction Function and examples from the transcripts	Closest Mercer talk orientation
10. Disagreeing	Dsgr	Doesn't accept or disagrees with another's idea or suggestion with explicit rejection such as "No no, I don't think so."	Disputation
11. Avoiding/ delaying answers	Avd	Avoids an invitation to speak, or delays a turn to respond	Disputation
12. Cutting someone short	Cut	Not allowing someone to finish by either cutting short his/her turn or talking in overlap to make a different point or start a new topic.	Disputation
13. Blocking an idea	Blok	Brushes off an idea from consideration without deliberating about it. e.g. (A. I see three different contexts, a Chinese restaurant, a Western restaurant and a cafe. B. <i>Let's leave the cafes aside and just focus on restaurants.</i>)	Disputation
14. Criticising	Crit	Using negative words in a straightforward way to evaluate an idea, i.e. "It sounds very messy to me."	Disputation
15. Asking rhetorical questions	RQ	A statement that is formulated as a question without the expectation of an answer. It is often used to mark the extent of disagreement or blame for being oblivious to an obvious point.	Disputation
16. Expressing frustration	Frus	This happens when someone is frustrated about where the discussion is going or frustrated about the task, e.g. "Aiyou.." (with a long breathe-out of air)"	Disputation
17. Initiating topics for discussion	Init	Initiating topics for discussion, indicating interest or areas of concern in conversation.	Exploration
18. Asking for information or ideas	Ask	Asking for information, comments, clarification or soliciting ideas.	Exploration
19. Sharing information/ knowledge/ experiences	Shr	Sharing information, knowledge, or experiences in order to help solve the issue or problem at discussion. Share observation evidence to help solve problems at discussion.	Exploration
20. Expressing or articulating practical theories and beliefs	Expr	Explicitly elaborating personal propositional knowledge, theories and beliefs about a certain issue, often with sentences starting with "I think .." or "I feel .."	Exploration
21. Conveying ideas from external sources such as knowledgeable others	Conv	Making explicit references to advice or opinions about the lesson from the DTR, or about any teaching or learning issue from external experts such as the DTR or anybody else regarded as knowledgeable.	Exploration
22. Explaining/ clarifying	Expl	Explaining or clarifying pre-conceived teaching plans or procedures.	Exploration
23. Reasoning/ explaining rationale	Rsn	To volunteer or initiate a rationale for an idea or a decision that one proposes.	
24. Suggesting an idea/ supposing	Sugg	To put forward (an idea, proposition, plan) for a problem raised or issue at discussion.	Exploration
25. Elaborating an idea	Elab	To give more details about an idea or a point previously mentioned or give concrete examples to make a point clearer.	Exploration
26. Critiquing	Crtq	To point out problematic aspects of an idea, a suggestion, belief or the actual teaching of the lesson	Exploration

Interaction Functions	IF Code	Explanation of the Interaction Function and examples from the transcripts	Closest Mercer talk orientation
27. Justifying an idea	Just	This is similar to reason. But it is to provide a rationale or justification in response to a question or challenge. Eg. (A: You'll have to use different language if you are ordering food in a KFC rather than a formal restaurant. B: <i>But not all fast food restaurant are like KFCs. There are also ones that you can sit down and order at your table.</i>)	Exploration
28. Developing an idea	Deve	To build on a previously mentioned idea in order to improve it.	Exploration
29. Highlighting critical features/ asking key questions	High	To point out the key features underlying a focal issue, or ask questions that tackle on the key aspects of a pedagogical issue or thinking Eg. (Lan: <i>The key sentence patterns in this lesson are two questions: "What would you like to eat?" and "What would you like to drink?"</i> .)	Exploration
30. Disclosing ignorance, problems and difficulties	Disc	Willing to disclose areas of ignorance, puzzles, difficulties, uncertainties or weaknesses.	Exploration
31. Checking understanding	Chec	Trying to check each other's understandings about a certain issue to avoid misunderstanding.	Exploration
32. Resourcing	Res	Referring to resources during discussions, such as text book, teacher's guide, or the internet, usually for the purpose of finding evidence to support one's claims	Exploration
33. Seeking agreement	Skgr	Making sure that agreement is established among colleagues about a point under discussion.	Exploration
34. Structuring conversation or interaction	Stru	To move on the conversation, refocus the group, speed things up, summarise and make the group take stock, or invite someone to speak.	Exploration
35. Making decision	Deci	To make a decision after reasoning or discussion.	Exploration
Discursive Features (DF)	DF Code	Explanation of the DF codes	Other discourse features
Silence	Sil	A period of 3 or more seconds when nobody is speaking	This could be a domain of thinking space or an instance of avoiding speaking.
Unfinished sentences	Unfi	When someone takes a turn to speak but fails to articulate a complete idea or thought, or only produces incomplete sentences.	This often reflects the spontaneous nature of discussion.
Overlap	Ovlp	When utterances by different people are made concurrently.	It indicates level of engagement in the discussion.
Latching	Lach	When one person immediately follows another person's turn to talk.	Indicating level of engagement.

3.6.2.3 Reliability tests of the coding framework and code application

In developing the coding framework, I faced the tension that Croll (1986) discussed between the level of inference needed to apply a set of codes and the authenticity or validity of representation shaped by the codes. The risk with setting too low a level of inference in developing codes is that important facets of social behaviours are missed, particularly those facets that relate to internal states such as intention or which relates to affect. The risk with setting too high a level of inference is that social behaviours are misrepresented through inaccurate imputation of internal states such as motive, feeling, intention and so on. I did not want to sacrifice opportunities to learn in this research in a pursuit of high code reliability *per se*. Instead I wanted to apply a level of inference that relied on my common sense and best judgment based on my knowledge about the people and the contexts in which those interactions took place.

My confidence in the level of inference I applied grew when I could apply the codes consistently by myself in the data. I conducted an informal reliability test on the consistence of my own rating. This involved coding a whole meeting transcript separately on three occasions, each time comparing the codes I applied with previous times and identifying any ambiguities and inconsistencies in code application. The ambiguities and inconsistencies that emerged through this lengthy and time-consuming process provided useful opportunities for me to further clarify and sharpen the meanings of each of my codes and the rules of code application. For example I came to realise through this process that a particular chunk of talk may be used by an interlocutor to perform multiple interaction functions at the same time. For example, when a teacher was communicating to the group a particular aspect of personal pedagogic theory, s/he might also be simultaneously highlighting the critical pedagogic issue judging by the particular context. Hence it was important in the coding process to take detailed and careful account of the possibility of multiple interaction functions performed through a single chunk of talk. Through this test, I built further clarity and confidence in my codes and code application.

My confidence also grew when the codes could be applied fairly consistently by other raters. In order to test the reliability of my code categories, I recruited two Chinese speaking postgraduate students to conduct a reliability test of the code categories. Being

aware of the complexity of the codes and also of the fact that neither of my raters had prior experiences in this kind of discourse analysis, I decided that I needed to give my raters sufficient induction to help them develop clear knowledge about my codes and the process before conducting the final test. For time and logistic reasons, I met my raters three times over a three-week span, each time for an hour and for different tasks. The first meeting involved them reading through the list of codes and explanations carefully and asking for additional explanation or clarification that they needed for developing a clear understanding about the meaning of each code. The second meeting involved going over codes and having me and my raters code some excerpts of the talk together. During this meeting, some issues emerged in relation to reaching agreements about the codes, especially when the application of certain codes required some knowledge about the people and contexts of those interactions and some insider knowledge about EFL teaching and learning. For example, because neither of my raters had professional experience in education or EFL teaching, they had difficulty identifying interaction functions such as highlighting a critical issue/asking key questions or expressing personal practical theory or beliefs. However, the agreement rates considerably grew once I supplied my raters with contextual details and explanations about the people and their contexts of discussions. The mediated coding meeting provided useful opportunities for my raters to develop background knowledge about the data and further clarify the meanings of codes in context of the interactions. For the final reliability test I chose six short excerpts of talk, with three each from the Cherry Vale and the Fragrant Hill team discourse. I chose these excerpts carefully so that all the codes could be reflected in the sample data. I asked my raters to code these excerpts of talk independently this time and I only provided explanations or clarification upon request. The comparison of the final results for the sample excerpts showed an overall reliability score of 75 % between my two raters. Details of reliability score for each excerpt of discourse is provided in Table 3.6.

Table 3.6 Inter-rater agreement scores for the reliability test

Code Cal Excerpts	Number of codes applied by Rater 1	Number of codes applied by Rater 2	Ratio of code agreement	Overall reliability score
Excerpt 1	65	71	96/136	71%
Excerpt 2	33	36	52/69	75%
Excerpt 3	10	11	18/21	86%
Excerpt 4	37	41	58/78	74%
Excerpt 5	19	21	32/40	80%
Excerpt 6	18	15	26/33	79%
Total	182	195	282/377	75%

Given the complexity of the codes and the coding process, I consider the agreement rates a satisfactory indication of confidence in the reliability of my coding categories. I report in the next subsection how I allocated codes to the data and conducted calculation and comparison of IF codes both within and across teams.

3.6.2.4 Assigning codes to the data and calculating codes

In the actual process of coding my data, I divided each meeting transcript into segments according to ideas and themes of discussion. Table 3.7 provides a full list of idea segments in the talk of both teams. I considered coding by unit of an idea segment appropriate for reflecting the focus on idea development in talk and making context-informed inferences about the interaction functions that each interlocutor performed around the development of particular ideas.

Table 3.7 List of idea segments in each of the five meetings

<p>Cherry Vale planning meeting 2:</p> <p>Segment 1: Explaining initial plan Segment 2: Song or video Segment 3: Words or sentences Segment 4: What is real context? Segment 5: Part A and Part B Segment 6: The gourmet map Segment 7: Lesson focus Segment 8: Lesson procedures Segment 9: The writing activity Segment 10: The poem activity Segment 11: The sublimation activity</p>	<p>Fragrant Hill planning meeting 1:</p> <p>Segment 1: Lesson planning strategy Segment 2: Deciding the topic Segment 3: Pre-survey Segment 4: The nature of review lesson Segment 5: Vocabulary Segment 6: Integrating reading and writing Segment 7: Lesson procedures Segment 8: Ability levels and differentiation Segment 9: Logistic coordination for pre-survey Segment 10: Reconsidering lesson topic Segment 11: Aim of review lesson Segment 12: Lead in activity and closing</p>
<p>Cherry Vale planning meeting 3:</p> <p>Segment 1: Explain revised plan Segment 2: Same menus or differentiated menus Segment 3: The dialogue framework Segment 4: Vague pictures and new menus Segment 5: Use of course book Segment 6: Original dialogues in listening or make-up dialogue</p>	<p>Fragrant Hill planning meeting 2:</p> <p>Segment 1: Conveying suggestions from the DTR Segment 2: Deciding the lead in activity Segment 3: How to present reading materials Segment 4: Deciding the themes for reading 1 Segment 5: Deciding the themes for reading 2 Segment 6: Difficulties with reading activity Segment 7: Designing the writing activity Segment 8: Deciding reading materials Segment 9: Logistics and closing</p>
	<p>Fragrant Hill planning meeting 3:</p> <p>Segment 1: Rehearsing the plan Segment 2: Post-reading teacher activity Segment 3: Posting-reading pupil sharing Segment 4: Activity structure for reading Segment 5: How to enhance pupil engagement Segment 6: How to conduct writing activity Segment 7: How to present reading materials and closing</p>

When calculating the codes, I was interested in recording not only the total instances of each code's occurrences in the particular segment but also the instances of each code's occurrences associated with an individual interlocutor. I chose to record and calculate the codes in this way because I wanted to develop overall pictures of the talk characteristics of teams as well as close-up understandings about characteristics of language use associated with individual teachers in those teams. My intention was that understandings about interaction functions that individual teachers played in the discourse would help me understand their roles and ways of participation in their DRLS activity. Table 3.8 is an example of such code recording and calculation.

Table 3.8 Sample excerpt of code recording and calculation

Segments IF Codes	SEGMENT 1: How to develop a lesson			SEGMENT 2: Deciding the lesson topic			SEGMENT 3: Pre-lesson pupil survey		
	Malan	Meiying	Lili	Malan	Meiying	Lili	Malan	Meiying	Lili
1. Agr		2		3			3	6	1
2. Echo	3	2	2		2		9	14	3
3. Add		1			1		2	5	
4. Conj									
5. Supp		2			1				
6. Grp								1	1
7. Joki	1	1						1	
8. Exci							1		

After I completed coding of all the data, I then calculated the sums of codes in a few different ways, including adding up the total instances of each code (a) in each meeting for a team, (b) in all the meetings for a team, and (c) for each individual in all their meetings. The purpose was to enable comparison of consistency of talk characteristics for teams and individuals across different meetings. To render the code calculations comparable across meetings and teams, I applied a 40-minute weighting to each of the calculations mentioned above to make up for variations in the lengths of meetings and the number of meetings individuals participated. The weighted results were rounded up to whole numbers for convenience of comparison. But results that were less than a value of one after the weightings were rounded up to a value of one to avoid arbitrary removal of certain IF codes from the data. Tables 3.9 – 3.11 show the detailed pre- and post-weighting code calculations for the two teams and the post-weighting code calculations for individual teachers in both teams.

Table 3.9 Pre- and post- weighting code calculation for each of the Fragrant Hill meetings

IF/DF Code	FH PreM1 (33 min)	FH PostM1 (40 min)	FH PreM2 (47 min)	FH PostM2 (40 min)	FH PreM3 (25 min)	FH PostM3 (40 min)
Agr	101	122	107	91	43	69
Echo	146	177	119	101	111	178
Add	32	39	31	26	17	27
Conj	3	4	4	3	1	2
Supp	9	11	22	19	14	22
Grp	34	41	27	23	18	29
Joki	20	24	58	49	11	18
Exci	4	5	11	9	2	3
Asst	2	2	0	0	0	0
Dsgr	0	0	1	1	1	2
Cut	0	0	0	0	1	2
Bloc	0	0	0	0	0	0
Crit	0	0	0	0	0	0
RQ	1	1	0	0	0	0
Avd	0	0	0	0	0	0
Frus	0	0	0	0	0	0
Init	9	11	9	8	6	10
Ask	7	8	32	27	11	18
Shr	35	42	44	37	18	29
Conv	8	10	14	12	13	21
Expl	7	8	24	20	7	11
Expr	24	29	4	3	8	13
Rsn	41	50	33	28	14	22
Sugg	31	38	52	44	20	32
Elab	25	30	24	20	13	21
Crtq	6	7	18	15	18	29
Just	2	2	0	0	6	10
Deve	6	7	8	7	3	5
High	26	32	12	10	18	29
Disc	10	12	9	8	4	6
Chec	11	13	8	7	6	10
Res	0	0	4	3	0	0
Stru	1	1	8	7	3	5
Skgr	15	18	20	17	7	11
Deci	6	7	10	9	4	6
Sil	2	2	5	4	2	3
Unfi	12	15	8	7	4	6
Ovlp	86	104	73	62	37	59
Lach	34	41	28	24	11	17

Table 3.10 Pre- and post- weighting code calculation for each of the Cherry Vale meetings

IF/DF Code	CV PreM1 (54 min)	CV PostM1 (40 min)	CV PreM2 (38 min)	CV PostM2 (40 min)
Agr	42	31	15	16
Echo	27	20	7	7
Add	12	9	2	2
Conj	2	1	0	0
Supp	5	4	2	2
Grp	11	8	1	1
Joki	19	14	2	2
Exci	0	0	0	0
Asst	15	11	19	20
Dsgr	15	11	3	3
Cut	9	7	4	4
Bloc	5	4	0	0
Crit	24	18	5	5

IF/DF Code	CV PreM1	CV PostM1	CV PreM2	CV PostM2
RQ	25	19	21	22
Avd	3	2	8	8
Frus	5	4	10	10
Init	12	9	4	4
Ask	21	16	14	15
Shr	21	16	7	7
Conv	4	3	4	4
Expl	22	16	12	13
Expr	31	23	5	5
Rsn	26	19	12	13
Sugg	55	41	12	13
Elab	18	13	13	14
Crtq	39	29	32	34
Just	39	29	27	28
Deve	12	9	4	4
High	30	22	9	9
Disc	4	3	3	3
Chec	1	1	8	8
Res	4	3	0	0
Stru	8	6	8	8
Skgr	11	8	4	4
Deci	3	2	1	1
Sil	13	10	20	21
Unfi	19	14	4	4
Ovlp	82	61	16	17
Lach	29	21	8	8

Table 3.11 Post-weighting code calculation (average per 40 minutes) for individuals in the Fragrant Hill team and the Cherry Vale team

The Fragrant Hill Team				The Cherry Vale team						
IF/DF Code	Meiying	Malan	Lili	IF/DF Code	Ying	Yulan	Anhua	Ting	Wenxin	Wei
Agr	35	42	19	Agr	3	3	16	4	7	1
Echo	69	58	16	Echo	3	1	6	4	5	1
Add	14	11	5	Add	1	1	2	3	0	0
Conj	3	0	0	Conj	0	0	0	0	0	1
Supp	13	1	3	Supp	0	0	0	1	0	1
Grp	16	6	8	Grp	5	0	0	0	0	0
Joki	14	11	9	Joki	2	1	6	0	1	1
Exci	3	4	0	Exci	0	0	0	0	0	0
Asst	1	0	0	Asst	8	4	1	0	3	0
Dsgr	0	1	0	Dsgr	2	1	7	0	0	0
Cut	1	0	0	Cut	2	1	2	0	0	0
Bloc	0	0	0	Bloc	2	5	8	1	0	0
Crit	0	0	0	Crit	1	0	1	1	0	0
RQ	1	0	0	RQ	10	7	1	1	1	0
Avd	0	0	0	Avd	2	1	1	0	0	1
Frus	0	0	0	Frus	3	3	0	0	0	0
Init	3	5	1	Init	5	1	0	0	2	0
Ask	11	5	3	Ask	9	2	1	1	4	0
Shr	12	13	12	Shr	5	1	4	1	1	1
Conv	3	7	1	Conv	2	1	1	0	0	0
Expl	1	14	1	Expl	14	1	0	0	0	0
Expr	9	2	6	Expr	6	1	7	1	0	0
Rsn	15	12	6	Rsn	7	2	4	1	2	0
Sugg	24	6	9	Sugg	2	7	17	7	4	1
Elab	8	10	6	Elab	4	3	5	1	3	0

The Fragrant Hill Team				The Cherry Vale team						
IF/DF	Meiying	Malan	Lili	IF/DF	Ying	Yulan	Anhua	Ting	Wenxin	Wei
Crtq	8	5	3	Crtq	11	7	6	5	5	0
Deve	3	2	2	Deve	2	1	1	2	3	0
High	14	3	5	High	2	7	6	4	0	0
Disc	1	8	1	Disc	2	1	0	0	0	0
Chec	6	1	2	Chec	2	1	1	0	0	0
Res	1	1	0	Res	0	1	1	1	0	0
Stru	3	1	0	Stru	5	1	0	0	0	0
Skgr	8	3	5	Skgr	4	1	1	0	1	0
Deci	3	5	0	Deci	2	0	0	0	0	0

These code calculations were recorded into Microsoft Excel and I used the bar chart function in Excel to visualise the configurations and distributions of IF codes within teams and compare across teams to identify similarities or differences in the make-up of IF codes in the talk of each team. I report findings based on these comparisons in the next chapter. In the next section, I report how I adopted a focus of analysis on the content of teachers' talk to develop understandings about patterns and processes of cognitive engagement of each team.

3.6.3 Gaining access to patterns and processes of cognitive engagement of each team: content-focused analysis of teachers' talk

My content-focused analysis of teachers' talk focused on developing understandings about the range of ideas that were expressed, developed, and used by teachers to develop practice. For my discourse analysis, I had already divided the meeting transcripts into idea segments according to the main idea or theme of discussion reflected in a particular episode of talk. I conducted my thematic analysis using these same idea segments as analytic units, considering the theme of each segment as a focal practice area. I then summarised each teacher's conceptions in relation to each of these practice areas based on their verbalisations during these meetings to develop CCP tables for each team. While doing so, I differentiated between whether a particular conception of practice (CCP) was expressed by a teacher as a general practical principle, or a practical rule of thumb, or a lesson-specific idea for a particular practice area. The purpose of doing so was to understand the extent to which teachers made explicit their CCPs in their pedagogic deliberations. I also made efforts to adopt teachers' own language as much as possible when summarising their CCPs. The purpose was to maximally retain the authenticity of teachers' own verbalisations of their CCPs.

One of my key interests in developing the CCP tables was to understand the range of CCPs that teachers expressed in their team talk. More particularly, through the tables, I wanted to develop a clear visualisation of the extent of similarities or differences in teachers' CCPs. Hence in the tables I used a different colour to represent a different member of the team and the designated colour for each member remained consistent throughout the thesis. Table 3.12 explains the colour code for each EFL teacher in the two teams.

Table 3.12 Color codes for individual EFL teachers in each team

The Cherry Vale team color codes		The Fragrant Hill team color codes	
Team members	Assigned color	Team members	Assigned color
Ying		Malan	
Yulan		Meiying	
Anhua		Lili	
Ting			
Min			
Wei			
Wenxin			

The CCP tables for each team can be found in Chapter 4 (i.e. Tables 4.3, 4.4, 4.6, 4.7). Blank cells on the CCP tables indicate an absence of views from a member about a particular practice area. In cases when one colour spreads to other columns in a practice area, it means that the view initiated and expressed by a particular member received agreement from those other teachers.

The first column of each table lists all practice areas that were deliberated upon during the meetings of each team. For example the Cherry Vale team deliberated upon a total of nineteen practice areas during their meetings (Tables 4.3 and 4.4: p.142-146) and the Fragrant Hill team discussed around a total of eighteen practice areas (Tables 4.6 and 4.7: p.149-153). Each practice area is referred to in this chapter as PA plus a number. The second left column of each table colour codes specific CCPs that teachers verbalised about each practice area in order to reflect further differentiation at three different levels as follows: light green indicates pedagogic views that a teacher

expressed as *lesson-specific ideas*; medium green indicates pedagogic views as *practical rules of thumb* that they associated with particular *practical contexts*; and dark green indicates pedagogic views as *general practical theories or principles* that went beyond specific practical contexts. The third left column provides a number (i.e. 1, 2, 3) to order more specific practical aspects (S-PAs), i.e. either as a practical principle, or rule of thumb, or lesson-specific idea. For example Cherry Vale teachers discussed around a total of 38 more specific practice aspects related to the 19 main practical areas and Fragrant Hill teachers discussed around a total of 52 specific practice aspects related to the 18 main practice areas. The order of numbers on the third column is arbitrary so that reference to each specific CCP aspect is differentiated and clear. Each more specific practice area is referred to in this chapter as S-PA plus a number.

The CCP tables developed from the content of each team's talk provided the basis for further analysis about a few other aspects of cognitive patterns and engagement including (a) the structure of CCPs (Elbaz, 1983) of a team as reflected in the proportion of practical principles, practical rules of thumb, and lesson-specific ideas; and (b) modes of knowledge use (Eraut, 1994) as reflected in each of the practice areas. I report findings about these latter aspects of analysis in the next chapter.

3.6.4 Gaining access to processes and outcomes of collective practice development and learning through the DRLS: thematic analysis of all the meeting transcripts and teacher surveys

In section 3.6.3 I reported how I adopted the analytic focus on team collaboration and learning in the analysis of team level discourse data. In this section I report how I applied the analytic focus on community level collaboration and learning in the data. This aspect of analysis included all the DRLS meeting transcripts and the teacher surveys.

3.6.4.1 Tracing the evolution of research lessons through successive DRLS meetings

The evolution of research lessons through iterative cycles of lesson planning, evaluation, and revision is at the heart of practice development in contexts of DRLS. To develop understandings about this aspect of practice development through the particular DRLS, I could develop detailed narratives about aspects of development and change in

the design and teaching of the research lessons and consequential changes in their effectiveness for supporting pupils' learning. However such detailed narratives would require a substantial amount of word space in the thesis. In order to reflect practice development through the DRLS in more succinct ways, I decided to adopt the structure of “*lesson links*”, “*activities*” and “*teaching steps*” to which the teachers in the thesis research referred commonly as a design framework in their DRLS discussions to develop visual representations of each version of the research lessons. Figure 3.3 is an example of such visual representations of a lesson.

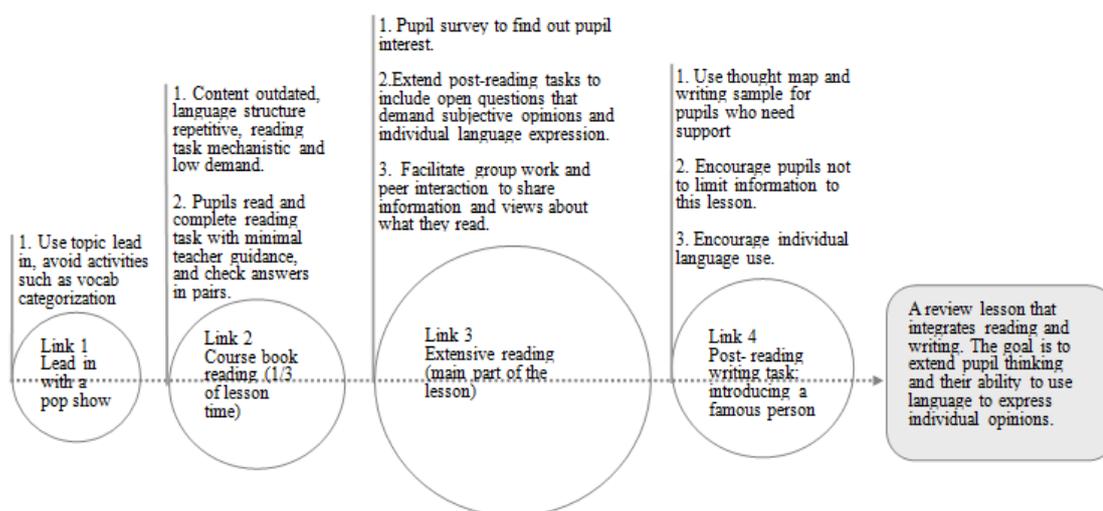


Figure 3.3 An example of visual representation of a research lesson

I read through all the DRLS meeting transcripts of both teams and summarised development and change of the research lessons through a series of such figures. In the next chapter, I develop discussions about practice development through the DRLS around these visual representations of research lessons.

3.6.4.2 Identifying common language use across different DRLS meetings

The Vygotskian (1978) assumption about the role of language in our cognitive and social life indicates that our publicly shared knowledge about the world and the most salient part of our personal experiences and understandings is often linguistically organised and codified. This gives epistemological grounds for assuming that the basis for sharing and communicating knowledge in a DRLS-based professional learning community supported is the existence of a shared language that gives common expressions to knowledge otherwise held personally and individually (Freeman, 1994).

Through the course of time-consuming, iterative and recursive processes of reading and repeatedly re-reading the transcripts, it became clear to me that there were certain patterns of common language use that characterised parts of the discourse from different meetings. I therefore decided to read all the transcripts from the start again to identify the key concepts that were discussed in each meeting and then find out the extent to which these concepts were used commonly in the DRLS meetings across teams. The first step involved reading through each meeting transcript carefully to develop and aggregate a list of key concepts that were discussed in each meeting. The second step involved using the “find” function in Microsoft Word to identify the instances of use for each of the key concepts. The purpose of carrying out cross-meeting searches was to find out whether the patterns of language and language use can be best understood (a) as participation in a public discourse influenced by national policy and curriculum terms or (b) as a kind of private language practice involving terms and forms of language use and meanings developed locally by the teachers working together. Through analysis of common language use across teams, I also wanted to find out the extent to which the teachers across teams developed and applied common orientations to practice development through DRLS activities.

3.6.4.3 Understanding public validation of the research lessons and the impact of the DRLS on wider members of the district EFL community

In the post-DRLS teacher surveys I used three questions with teachers to elicit their views and reflections about the public lessons and their own learning through attending the DRLS public event. For the analysis of the teacher surveys, I focused on identifying common themes and percentages in relation to teachers’ comments about the design and effectiveness of the two public research lessons, their nominations of pedagogic “bright points” in the two lessons, and their reflections about their own gains through attending the DRLS event. The purpose was to understand the extent to which the design and effectiveness of the research lessons developed through the collaboration of the two subject teams and the DTR was validated publicly by wider members of the EFL teaching community. More specifically I wanted to find out from teachers’ responses to the first question the percentages of teachers who commented either positively, neutrally, or negatively about the two lessons. I also wanted to find out from teachers’ response to the second question the range of specific ideas that teachers nominated as

innovative practice and the actual percentage in relation to each nomination. The last question of the teacher survey focused on the impact of public practice, as presented in the DRLS public event, on the development and change of teachers' CCPs. Because the DRLS event had a particular focus on review lessons I wanted to find out the extent to which it had impact on teachers' conceptions of review lessons. So in the analysis, I particularly focused on finding out the percentage of teachers who reported change of conceptions about review lessons in their responses for the final question on the survey.

3.6.5 Gaining access to teachers' conceptual development and change through the DRLS: thematic analysis of the meeting and interview transcripts and teacher surveys

A key focus of this research is to develop understandings about the processes and outcomes of teachers' development and change in their conceptions of practice (CCPs) through taking part in the DRLS. Because CCP describes particular aspects of teachers' mental states in relation to their teaching practice, I had to rely on their verbalisations during the DRLS. Hence the analysis included (i) the DRLS meetings in which they made public and exchanged CCPs with each other, and (ii) the interviews in which I placed a particular focus on eliciting their views and opinions in relation to the focal practice areas.

For analysis of the meeting and interview transcripts, I used a similar analytic approach to Section 3.6.3 to map out teachers' verbalisations of their CCPs through successive meetings and interviews. But in Section 3.6.3 my focus was on each meeting, aiming to map out the range of practice areas that teachers discussed in each meeting and each teacher's verbalisations of their conceptions in relation to those practice areas. The purpose was to develop visual representations of the diversity, structure, and engagement of ideas in each meeting. For the analysis in this section, however, my focus was on the individual teachers and their verbalisations of conceptions in relation to the range of practice areas that each of them deliberated upon throughout the different stages of their DRLS.

Methodically my first step was to focus on a particular teacher each time and then read through the meeting and interview transcripts to identify the specific CCPs that the particular teacher had verbalised and then re-organise them by practice area. This

involved copying and pasting chunks of a teacher's verbalisations from the transcripts and arranging them chronically in tabular forms by each practice area for each teacher. An example of this analysis is provided in Appendix 6 (p.284-285). After I had done the ground work of developing CCP tables for each teacher, my second step was to read through the CCP tables of each teacher to identify any development and change in their verbalisations. In the actual analysis of teachers' verbalisations, I was interested in finding out not only change in the content of particular aspects of their CCPs, but also change in their actual verbal formulations, i.e. either explicitly as a practical principle, or straightforwardly as a practical rule of thumb, or implicitly as a concrete idea for the specific lesson they were developing. This relates to my theoretical assumptions informed by Vygotsky (1978), Elbaz (1983), and Eraut (1994) that the linguistic representations or verbal formulations of practice that teachers develop in their mind have regulating effects on their practice.

To summarise, I have reported in Section 3.6 the general analytic rationale and approaches that I considered for the analysis of my data and the more specific strategies and procedures that I adopted for the analysis of different data sets in order to address different research questions and focuses. I have chosen in this section to organise and report my analytic procedures in relation to the three levels of research interest, i.e. the learning of the team, the community, and the individuals. However, this does not mean that in practice my analysis was actually conducted in the same linear process and order as reported in this section, as if I knew from the very start exactly what I was looking for in the data. Quite on the contrary, the actual task of data analysis was a slow, exploratory, iterative, and time-consuming process, taking me a total of around 18 months. The process involved deep immersion into the data, iterative processes of making, confirming or remaking sense of the data, many times of false starts, and multiple attempts of breaking the data into pieces and then trying to put everything back together again. On one hand, this was due to the volume of the data and the multiple levels and units of analysis that I developed and applied in the research. On the other hand, it also reflects the difficulty of piecing through the tacit veils of professional engagement to identify and pinpoint learning. But the painfully slow process is significant in the sense that it was through this intimate interaction with my data that I further clarified and deepened my understandings of learning of teachers in contexts of professional collaboration such as the DRLS. In the next chapter I report findings that I

develop from this research in relation to the learning of individual teachers, of teams, and of the district subject community as a whole through the DRLS case. In the last two sections of the methodology chapter, I summarise the ethical precautions that I undertook in the conduct of the research and the criteria and range of strategies that I adopted in this research to optimise the quality of research.

3.7 Criteria and strategies adopted for optimising the quality of research

I adopted a range of strategies to optimise the credibility and trustworthiness of the research throughout the whole process of the research, from the initial conception and design of research, to the adopted procedures for carrying out the research and analysing the data, to the final writing up of this thesis (Cho and Trent, 2006; Cresswell and Miller, 2000). My quality criteria were related to the epistemological assumptions that underpinned the design and realisation of the research.

3.7.1 Strategies for optimising the relevance of the research and an appropriate design

My research design was underpinned by my philosophical belief of both global and local realities and my epistemological belief in the efficacy of an abductive process for developing analytic understandings. Therefore from early on, I considered my own research both an exploratory and open-ended research to develop knowledge about the particular DRLS cases that I was to investigate and also part of the research efforts to build on knowledge about DRLS as an alternative approach for professional learning and practice development and knowledge about teacher learning in general. Hence I adopted several strategies at the conception and design stage of the research to optimise the relevance of the research and the appropriateness of its design. First of all, I conducted an international review of the LS research studies at the initial stage of my doctoral study to identify findings and gaps in LS research to inform the formulation of my research questions. This helped establish the relevance of the thesis research in relation to the shared knowledge pursuit in LS research as a field of inquiry. My second strategy was to triangulate a range of theoretical perspectives (Cho and Trent, 2006) in order to develop an appropriate conceptual framework for understanding professional learning and practice development through DRLS, drawing on both general theories of

learning and also applied theories of learning in contexts of educational and teacher research. My methodological design, reflected in my opting for a qualitative case study design and a language-focused approach to data collection, was informed by both my review of the literature on theories of learning and my methodological critique of the LS research literature. These strategies helped establish my confidence in the relevance and design of the research.

3.7.2 Strategies for optimising the quality of data and data analysis

In the actual conduct of the research, I adopted a range of strategies to develop and maintain the kinds of relationships, trust, and rapport that I needed with my research participants at a personal level in order to elicit their authentic accounts of their DRLS participation and experiences. One strategy I adopted was to increase my visibility in the two case schools and prolong my engagement with my research participants in their work contexts. I hoped to mix in their office life so that they would see me less as a stranger and an outside researcher but more as a colleague and a learner who had a genuine interest in education and in their DRLS experiences. It also gave me opportunities to gain ethnographic sensitivities to ways these teachers engaged with each other informally. During my time in the field, I offered to take on classroom tasks, supervise pupils, and cover for lessons in any case of emergent needs as a small gesture from me to reciprocate teachers for their generous devotion of time to my research out of their already busy school life. In all communications with my research participants, either in interviews or informal contexts, I adopted and consistently applied a strategy of “positive regard” to teachers (Brown and McIntyre, 1993). This was to further highlight my role as a learner and to develop rapport with my research participants. With these strategies, I was able to develop the kinds of fruitful relationships with my research participants during the four weeks of fieldwork in both schools so that they were willing to engage in candid conversations with me about their DRLS experiences.

In addition to eliciting authentic accounts from research participants, another important aspect of authenticity of research lies in the interpretation of the data by the researcher (Cresswell and Miller, 2000). In the process of analysing the data, I had to make sure that my sense-making of the data was consistent and faithful to the data. This was first and foremost carried out through multiple sweeps of the data and repeatedly checking

the fit between the categories, themes and patterns that I developed and the data itself to ensure the clarity and consistency of distinctions that I made about the data. It was also partially realised through involving external raters to check the reliability of code categories, such as the IF codes in the analysis of the discourse. Another strategy I initially considered was to conduct “member checks” (Cho and Trent, 2006) with my research participants in order to get their views about the representations I developed about their experiences. However this was not realised due to the long elapse of time (18 months) between the time of my data collection and the time by which I completed my analysis of the data. I cannot claim that I have been able to rule out completely any subjective sense making in the process of interpreting the data. I could only try to minimise it by making the process of interpretation as transparent as possible and through providing “thick descriptions” in the report of the research (Cresswell and Miller, 2000; Lincoln and Guba, 1985), not only about the contexts of the research but also about the ways through which I arrived at certain conclusions through developing vivid portrayal of the data.

3.7.3 Strategies for optimising wider relevance of the research

In my discussion of the aim of the thesis research, I have already made it explicit that I aimed to make a useful contribution to the fields of LS research and teacher research. Hence something needs to be generalised from the reported case to provide insights for future research in these areas and inform LS practices and policies (Brown and McIntyre, 1993; Simons, 1996; Yin, 2009). One kind of generalisation that I sought through this research was “analytic generalisation” (Yin, 1994: p10). Here the aim is to develop theoretical models that can conceptualise the processes and outcomes of professional learning and practice development at the levels of individuals, teams, and community in contexts of DRLS that I studied. With these models, I hope to generalise to existing ideas about teacher learning and practice development in contexts of professional collaboration such as LS as part of the abductive efforts to pursue knowledge.

I also found the distinction made by Stake (1995) between “propositional generalisation” and “naturalistic generalisation” useful for forming my own generalisation strategies. On one hand, I hoped to generate propositional knowledge and

theories through my research about professional learning and practice development through the contexts of DRLS. On the other hand, I aimed to develop highly contextualised accounts of teachers' experiences through the DRLS in the next chapter and to report my data and findings in vivid and richly contextualised detail which allows readers to identify resonance with the contexts, practices and experiences of the teachers in my particular study and hence come to each of their own generalisations that may inform their future practices, policies, or research.

Chapter 4: Findings and discussions

4.1 Introduction

I carried out this research to understand the processes and outcomes of teachers' learning through a routine LS activity in China called District Research Lesson Study (DRLS). In particular I wanted to understand (i) whether or not there are different modes of social learning at play in the DRLS context, and (ii) what mediational processes seem to give rise to learning in DRLS contexts. I adopted a language-based approach to collect data, focusing on teachers' talk during their DRLS meetings, interviews with focal EFL teachers throughout their DRLS activities, and open questionnaires with teachers who attended the DRLS public event. This was because of the discursive nature of DRLS in which participants have to use language to verbalise and communicate their thoughts in order to collectively develop and refine a research lesson. Through in-depth analysis of the language data in this case study, three different levels of learning and learning systems emerge, involving the individual teachers, the two subject teams, and the district subject teaching community all as subjects of learning. In this chapter, I report findings about the conditions, processes, and outcomes of learning in relation to each of these subjects.

Section 4.2 brings a telescopic lens to the analysis to develop findings about the *individual* learning of teachers in each EFL team through participation in the DRLS. It draws primarily upon the meeting discourse data and the interview data with each participant throughout the DRLS processes. In this section I aim to reveal how differences in each participant's professional experience, conceptions of practices, and ways of participating in the DRLS influenced their learning outcomes.

Section 4.3 focuses on *team* as opposed to individual processes of learning and collaboration. Findings about the learning of the two EFL teacher teams are summarised, drawing predominantly upon the discourse data collected from the DRLS meetings held among the two teams of EFL teachers themselves. This section addresses the *collective* cognitive, social, and affective conditions and processes that seem to underpin the collaboration and learning at the school-based team level and how these

relate to teachers' *collective* learning and practice development outcomes. Through comparing the similarities and differences in the conditions, processes, and outcomes of learning of the two EFL teams, I aim to develop theoretical explanations about the school-based subject *teams* as a learning system.

Section 4.4 widens the analytic lens to report findings about the conditions, processes and characteristics of learning of the *district subject community as a whole* that combine insights about the knowledge and practice development stage of the DRLS as well as the dissemination stage of the DRLS. Insights about the development stage of the DRLS draw primarily on the discourse data collected from the DRLS meetings including those with the district teaching researcher. I discuss how differences in the two EFL teams led to different patterns and kinds of collaboration between each team and the DTR, and how this has different implications for the learning of the teams. But because claims about the knowledge and practice development outcomes through the DRLS need to be substantiated with testimony from the district EFL teacher community, Section 4.4 also draws upon evidence from the teacher survey that was administered at the end of the DRLS public event to gauge patterns of participants' perceptions and reflections through attending the event.

4.2 The learning of individual EFL teachers through the DRLS: Conditions, processes, and outcomes

EFL teachers in both Cherry Vale and the Fragrant Hill teams came into the DRLS collaboration with different professional experiences and backgrounds. They also participated in the DRLS in different ways by taking different responsibilities. The two research lesson teachers, Ying for Cherry Vale and Malan for Fragrant Hill, were responsible for teaching all the research lessons including the final public lessons on the DRLS public event day. They took part in all the DRLS activities. Other teachers in the two EFL teams took part in the lesson planning, observation, evaluation and revision activities for different numbers of times due to their different availability during the DRLS.

In this section I report findings about the learning of individual EFL teachers through the DRLS activities. I focus in particular on development and changes that took place in teachers' conceptions of practice (CCPs) as the result of attending the DRLS. This is to follow the Vygotskian (1978) belief that linguistically-mediated development in the mental states represents a form of learning that is more likely to have self-regulating effect on individuals' actions or practices. In order to understand their conception change, I first illustrate what their CCPs were like at the beginning stage of their DRLS. I then draw on their verbalisation of CCPs in later stage of the DRLS, either in their DRLS meetings or in interviews with me at different stages of the DRLS activities, to make explicit any changes or new development in their CCPs. I also draw on their personal accounts to discuss the mediational factors and processes that give rise to their CCP change.

4.2.1 Conditions, processes, and outcomes of learning for individual teachers in the Cherry Vale team

The majority of Cherry Vale teachers either revealed or reported changes in their conceptions of practice (CCPs) as a result of taking part in the DRLS, particularly changes that indicated a shift from traditional perspectives towards new perspectives of language teaching and learning. To make visible these changes and to understand how the team's CCP repertoires afforded such changes in the individuals, I summarise in Table 4.1 the range of CCPs that were verbalised during the Cherry Vale DRLS meetings and compare how each individual teacher positioned within that range at the initial stage of the DRLS. I then report findings about their conception change towards the end of the DRLS.

4.2.1.1 Comparing Cherry Vale teachers' conceptions of practice (CCPs)

Comparisons of Cherry Vale teachers' CCPs were based on thematic analysis of the discourse data from all the DRLS meetings. A total of eight focal aspects were identified in the discourse around the planning and teaching of the Cherry Vale research lessons. CCPs around each key aspect were then further categorized into three kinds, reflecting whether or not a particular CCP was consistent with the new curriculum perspectives. Inconsistent categories were labelled as 'traditional conceptions',

consistent categories labelled as ‘new conceptions’, and categories that reflected mixed characteristics labelled as ‘in-transition conceptions’. The Cherry Vale CCP grid (Table 4.1) summarises the focal practical aspects that were deliberated upon during Cherry Vale DRLS meetings and the range of CCPs verbalised in those meetings.

Each Cherry Vale member’s CCPs verbalised during the DRLS were then compared against the CCP grid (Table 4.1). For purpose of presentation convenience, each member of the Cherry Vale team was assigned a colour code (see Table 3.12: p.88). The colour codes for these teachers are consistent throughout the chapter. Figure 4.1 maps out where each member positions in the different stages of conceptual development. Because not every teacher revealed or articulated conceptions in relation to each of the eight practice areas, some teachers have a larger representation on the map than others.

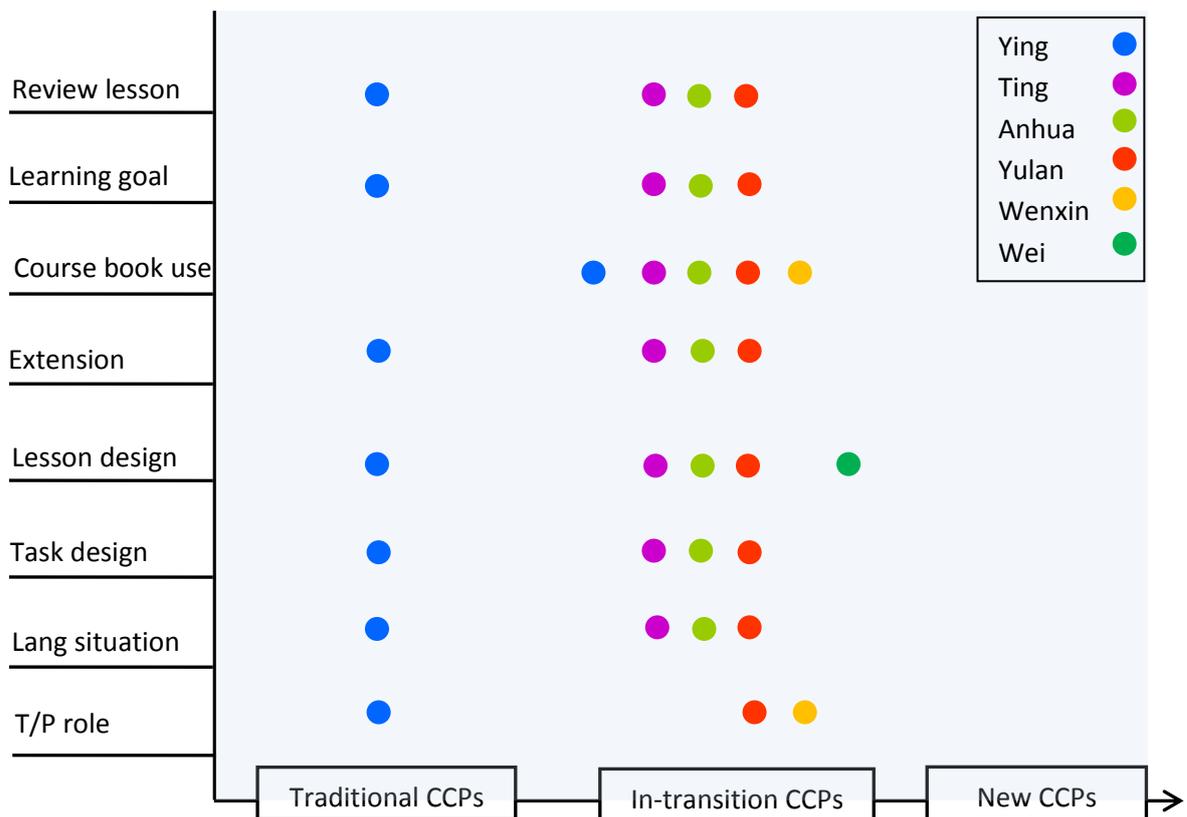


Figure 4.1: Mapping Cherry Vale teachers' CCPs in relation to the CCP grid (Table 4.1)

Figure (4.1) indicates that the majority of Cherry Vale members held in-transition CCPs at the beginning stage of the DRLS. Such a CCP orientation typically constitutes an awareness of the limitations associated with traditional language teaching approaches that tend to focus exclusively on acquisition of language knowledge and on language

forms; while at the same time it constitutes an aspiration towards embracing new pedagogic approaches that are aimed more closely towards developing pupils' language use abilities. However, it was transitional in the sense that traditional practice seemed to persist to a significant extent before new practice could be fully adopted. Ying, the EFL team leader, appeared to hold CCPs that were largely associated with the traditional view of EFL teaching and learning. Figure 4.1 also suggests that teachers did not necessarily make transitions in every aspect of their practice at the same rate. It seemed possible that they could adapt some aspects of practice more quickly than they did with others. For example Ying seemed to hold an in-transition conception about the use of curriculum materials and resources such as the course books while in other areas of practice she still appeared to retain the characteristics of traditional practice.

Table 4.1: Cherry Vale CCP grid: Summary of focal practical aspects (FPA) and the range of CCPs deliberated in Cherry Vale DRLS meetings

CCPs FPA	Traditional conceptions	In-transition conceptions	New conceptions consistent with new curriculum perspectives
Review lesson	Content-oriented view of review lesson. Review focuses on going over previously learned language content such as vocabulary and sentence patterns.	Review focuses on vocabulary and sentence patterns that are useful for a particular language context.	Ability-oriented view of review lesson. Review focuses on creating opportunities to elicit and enable pupils' language integration and use.
Language learning goal	Imitation, reproduction of language forms	Goals are often defined in terms of specific aspects of language content, i.e. using and reproducing correct language forms in target language contexts.	Goals are often defined in terms of abilities and competences. i.e. the ability to use language for communication and interaction in real-world contexts.
Course book use	Teaching as delivering course book content and materials	Teaching as first and foremost delivering course book content. In addition to that, adaptation or extension is useful.	Course books as a means to an end. Teaching involves flexible adaptation, supplementation and extension of course book content according to pupil needs
Extension	Extension as addition of language content such as new vocabulary, new sentence patterns.	Extension not limited to addition of language content. It can include other aspects of knowledge such as knowledge about cultural practices.	Extension as part of whole-person development of pupil's competence and abilities, including but not limited to competence of language use.
Lesson design rationale	Form-focused design rationale: using complexity of language forms as a guiding logic to organize progression of language learning tasks i.e. word practice – sentence practice – dialogue practice.	Context-focused content selection but form-focused organization of learning tasks. Selecting content focus of a lesson according to particular real-world situations but organizing learning tasks according to complexity level of language content and forms.	Context-focused design rationale. Integrating both language complexity and activity flow in real-world contexts as guiding logic to organise learning tasks – i.e. restaurant experience often starts from reading a menu and considering food choices and these can be opportunities to review food vocabulary and use previously learned language.
Task design	Mechanistic tasks to practise language forms – i.e. drilling, word substitution exercises. Language teaching focuses on forms.	Mechanistic tasks for practicing language forms and meaningful tasks for practicing language use. Language practice and use are seen as separate processes.	Meaningful tasks both for practicing language forms and simulating language use in real-world tasks – i.e. reading a menu and considering food choices as a way to embed vocabulary and language review. Language practice and use are increasingly seen as mutually embedded processes.
Language context	Little consideration for language context and its role in language teaching and learning.	Language context useful in the sense that it helps content selection. Pedagogically language context should be foregrounded in the lesson so that pupils can share the purpose of learning specific aspects of content.	Language context as an integral part of language ability. Ideally pedagogic use of language context should be considered consistently throughout the lesson so that language can be understood, practised and used in context.
Teacher/pupil role	Teacher taking responsibility of regulating all aspects of pupils' learning, including processes and outcomes. Pupils as passive receivers of knowledge.	Teacher taking main responsibilities for regulating pupils' learning processes but leaving room for pupil consultation and differentiation.	Teacher and pupil sharing responsibilities in learning. Teacher attending to pupil needs and maximising opportunities to facilitate pupil active learning.

4.2.1.2 Processes and outcomes of conception change for members of the Cherry Vale team

Figure 4.1 maps out the states of Cherry Vale teachers' CCPs in the early stage of the DRLS. In this section I explain each member's participation in the DRLS and report findings about their conception change as the DRLS progressed.

(1) Deep learning of Ying mediated by a wide range of social and cultural factors and artefacts: Conception change and development in relation to focal practical issues

Ying's participation in the DRLS

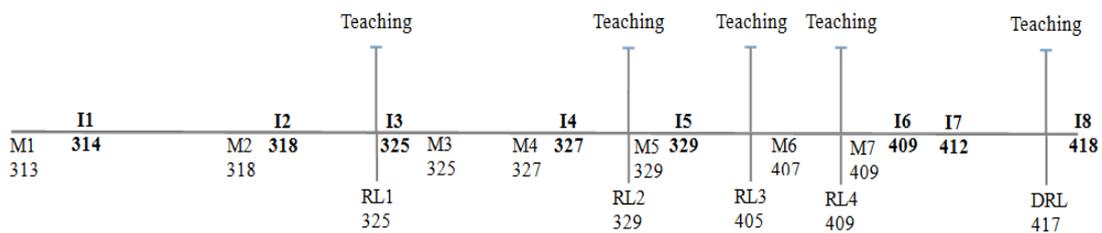


Fig 4.2: DRLS activities that Ying took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

As the research lesson teacher, Ying took part in all the seven lesson planning and evaluation meetings (marked from M1 to M7) and taught all five versions of the RL (marked from RL1 to DRL) including the final public lesson. During the DRLS, she had eight interviews (marked from I1 to I8) with the researcher including a general interview about her professional background, post-planning, post-evaluation, and post-teaching interviews and a final interview at the end of the DRLS to review her experiences throughout the DRLS.

The way Cherry Vale teachers conducted their DRLS meant that Ying's CCPs were made most visible throughout the DRLS process. It was essentially Ying's CCPs that went into the formation of the initial lesson plan. Furthermore, any subsequent suggestions and changes made to the research lesson had to be filtered through Ying's existing conceptions which seemed to fall largely to the traditional category as indicated by the Cherry Vale CCP map (Fig. 4.1). The marked differences between Ying's CCPs and those held by the majority of the team were the causes of uncomfortable critiques about Ying's conceptions but at the same time also the source of deep learning for Ying.

Data from the discourse as well as a series of interviews indicates that Ying changed her CCPs in a number of key practical areas as the result of taking the research lesson teacher role in this DRLS. To make clear the trajectories of her conception change, I use the DRSL timeline to mark any development or change that took place in her CCPs. Specific examples are drawn upon from the transcriptions of either the meetings or interviews to further illustrate her CCP changes.

(a) Learning mediated by her colleagues, the DTR and actually teaching the research lessons: Changing conceptions about the nature of a review lesson – from a content focus to a task focus

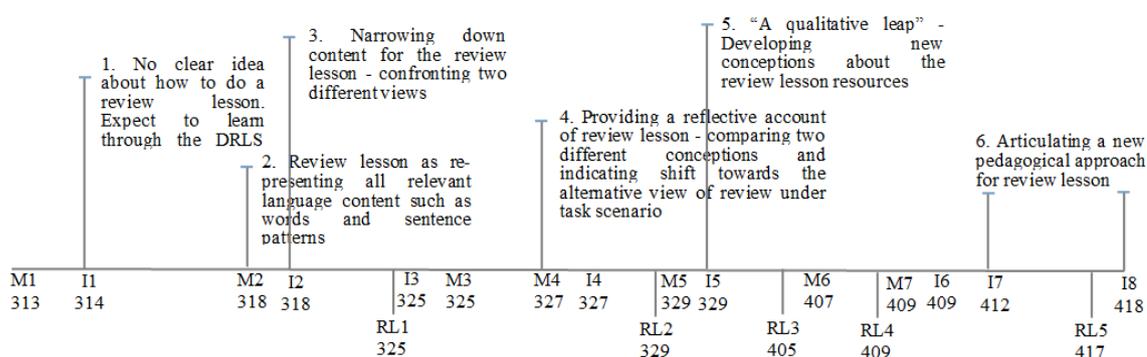


Fig 4.3 The trajectory of Ying's conception shift about the nature and pedagogy of a review lesson (*M* stands for meetings; *RL* for research lesson; *I* for interviews. Numbers below indicate dates.)

During the first (general) interview, Ying expressed anxiety over this DRLS. This was caused by an uncomfortable tension between her expectation to develop and communicate “bright points” or innovative pedagogic ideas through the development of this public research lesson and her own lack of previous experiences in either observing or teaching a public lesson on review lesson (Ying Interview 1: line 219). Hence she felt that she did not have the necessary reference point for gauging what an innovative review lesson would look like. Regardless of the initial anxiety though, she foresaw that this DRLS process would take her on a personal “learning journey”, starting from knowing very little about a review lesson but ending up with knowing a lot (Ying Interview 1: line 221).

Ying articulated an exclusive focus on content in her initial conception about a review lesson. For her, the purpose of a review lesson was to maximally re-present and help pupils re-familiarise themselves with different aspects of language content in relation to a general topic. Guided by this conception, a key aspect of her preparation for the RL1

was to go through the whole course book set used across different year groups to develop a comprehensive list of food-related vocabulary and sentences. In terms of lesson design, her guiding logic was to use different activities to re-introduce different aspects of food-related language and get pupils to practise. This rationale was typically reflected in her explanations and feedback to the team during M2.

“Er, because this is a review lesson, it involves a lot of words about food, and some main sentence patterns. All the food words, I’ve listed them together. It includes ... And the sentences include...” (Cherry Vale M2 line 2-17) “Because these are all language content that pupils have learned before so my main approach is to use different activities to bring out those previously learned language content.” (Cherry Vale M2: line 51-52)

Ying’s content-oriented conception of review lesson was confronted with an eclectic view from the majority of her colleagues during M2 and a more ability-oriented view from Yumei during the post-RL1 evaluation meeting M3. This prompted Ying to self-reflect and modify her own conceptions. During M4 (the RL2 planning meeting), Ying gave a reflective account of the two different orientations and indicated shift towards a more task-oriented view of review lesson.

“Er, after I taught the first lesson, we had an evaluation meeting between Yumei and three teachers from our TRG. This helped me to compare my initial thought with their views. So my initial thought was to review all language under the general topic of food. I tried to include everything related to the topic of food. So it was to maximize language input under the topic of food. But Yumei’s view was to focus on language under the topic of ordering food during traveling. That means you need to first introduce the topic of traveling. And then because this lesson is about ordering food, the language focus should be around the topic of ordering food. The lesson goal is to help pupils learn the language for each step of ordering food. So the whole framework [of the lesson] needs to change.” (Cherry Vale M4: line 2-12)

The new view of review lesson was then taken up to formulate RL2 lesson plan. But up to this point, Ying’s conception shift could be described as neither complete nor entirely voluntary. She reported in interview 2 that she adapted her views about review lesson largely out of the assurance of Yumei’s authority. Personally though she was still grappling with these two different views:

“I’m not sure if this is right or not. One was my initial thought. The other was what they raised in the meeting. I think I need to listen to the authority and make changes accordingly.” (Ying Interview 2: line 240 - 241)

It was not until seeing real changes in pupils' learning in RL2 that Ying started to more willingly embrace the new view. Even Ying herself reported a much more enjoyable experience teaching the lesson. The immediate classroom effects brought about by the changes helped solidify Ying's change of conceptions. During Interview 5, a post-RL2 interview, she described this shift of conception as "a qualitative leap" in her understanding about a review lesson, which was more specifically reflected in her changed views about the course book content.

"I think from the beginning up to the current stage there has been a qualitative leap [in my understanding]. At the beginning I didn't really appreciate the extensive treatment of Part A and Part B. Because I only saw them as two exercises, exercises to review food, I didn't consider them very important. I didn't try to break them down, nor think about preparing pupils with the background. I thought an exercise is just an exercise. My focus was to review everything about food. So I was only using the topic of ordering food as a point of departure or a prelude for reviewing everything else about food. And because of this I treated Part A and Part B as two exercises to quickly go through. Now I know the focus is on language for a particular context, the context of ordering food in a restaurant during travel. So I need to re-assess the aims of Part A and Part B and treat them as focal resources for the lesson. I've tried both ways. Now I know the difference." (Ying Interview 5: line 157 - 166)

The adoption of a context focus in selecting and treating language content went on to guide Ying's thinking about review lesson. During post-RL4 and post-RL5 interviews (Ying I7 and I8), Ying was able to explicitly articulate this new understanding and reflect on her own learning on this practical aspect.

"The biggest gain of this whole process is that I now know the general approach to design and teach a review lesson. I was really just trying out my own ideas... I thought a review lesson should cover everything, like categorising the food words, talking about healthy diet and etc. But through this DRLS I now know that it needs to have a context focus, focusing on language related to a situational topic." (Ying Interview 8: line 159 - 168)

The articulation and reflection above indicates that Ying's conceptions about a review lesson have shifted from a traditional state which expresses an exclusive content focus to a more eclectic state which includes consideration for context in addition to content through participation in the DRLS.

b) Learning mediated by her colleagues and the DTR: Internalising the concept of language context and its value in language teaching and learning

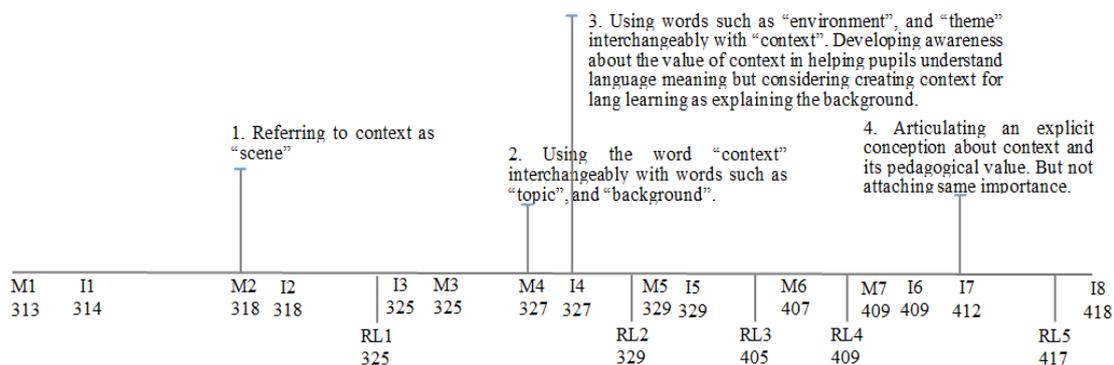


Fig 4.4 The trajectory of Ying's conception shift about language context
(M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Ying's second conception change relates to her understandings about the notion of language context and its value for language teaching and learning. Language context was attached with little importance in Ying's initial thinking about review lesson. When she went through her initial plan with the team during RL1 planning, she only referred to the notion of context once and did so vaguely through the mentioning of the restaurant scene. The critiques from her colleagues during that meeting, however, centered upon the necessity to set up a language context around the lesson. This view was reinforced and further highlighted by Yumei during RL1 evaluation meeting. During the planning meeting for RL2 (M4), Ying made noticeably more references to context indicating her increased awareness about the role of context in a review lesson. But the interview with Ying after M4 indicated that at this stage she seemed to use the term "context" interchangeably with other words such as "topic", "background", "environment" and "theme", suggesting ambiguity in her understandings about the notion itself and its pedagogic importance.

"So I want to begin with a food song. Now my question is whether this song is necessary or not. I want to use this song to take the pupils into the context. After that I then introduce the background of traveling." (Cherry Vale M4: line 22-23)
"What left me strong impression from yesterday's meeting was the idea that teaching [of a specific lesson] should start from the big environment. First of all you need to find out what is the theme of the whole unit and that often reflects the overall context. This is her [DTR's] view." (Ying Interview 4: line 38-39)
"She also said that it was not appropriate to get pupils straight into practising the chant without first helping them understand in what environment the sentences can be used. So it's important to help them understand that before getting them to practise. If they start with practice they still need to think about when to use. She mentioned this point. So in the next lesson I probably need to take them [pupils]

into the context first and introduce the sentences for that context before getting them to practise. So this step needs to be re-adjusted.” (Ying Interview 4: line 106-109)

At the later stage of the DRLS process, she was able to articulate a view about context with much more clarity. This development in her understanding helped her to start thinking about the pedagogic value of language context.

“She [Yumei] wanted everybody to pay attention to context. The context runs through the entire lesson, from the beginning to the end. It’s very obvious.” (Ying Interview 7, 20130412: line 62-64) “Context [in language teaching] is important because it helps language use in real-world. When pupils come across such a context in their real-world they would be able to recall that they have learned [language for] this context before.” (Ying Interview 7: line 66-67)

However, she did not seem to attach the same level of importance to language context compared to others. This view was expressed in Interview 4 and persisted towards the end of the DRLS process.

“I feel that moderate reference to context is appropriate. For example now I’m going to talk about restaurant so I tell you that this is a restaurant. That would be enough. Perhaps I will also show an image of restaurant and [get pupils to] imagine as if we’re in it. Then we go straight into learning the language.” (Ying Interview 4: line 281-282)
“To some extent she [Yumei] has convinced me. But I just don’t think it’s that important. Or maybe in my conception I haven’t developed sufficient understanding about its importance yet.” (Ying Interview 7: line 59-60)

This change trajectory indicates that through participation in the DRLS Ying developed a clearer and more explicit view about “context” as a pedagogic notion and its pedagogic value which was previously vague to her. But because she didn’t seem to attach as high an importance to the context approach as expected by the new curriculum, this conception change is better characterised as eclectic.

c) Learning mediated by her colleagues and the DTR: Changing conceptions about task design and language practice/use

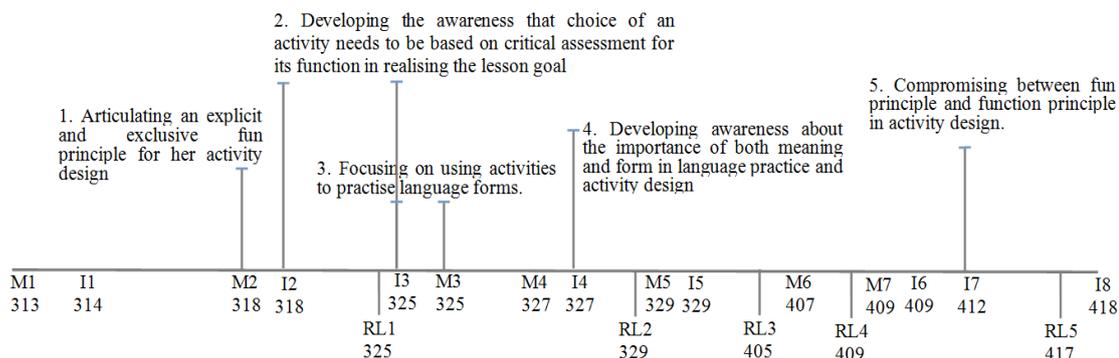


Fig 4.5: The trajectory of Ying's conception change about task design and language practice/use (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Ying also changed her conceptions about approaches to task design and language practice. During RL1 planning M2, she made explicit an exclusive “fun principle” to design activities for the review lesson. This was due to her experience that pupils generally found review lessons to be boring. So for this lesson she devoted a lot of efforts thinking about activities that could make the lesson more fun for pupils. In her own words:

“So all my initial thoughts and the activities I have designed focus on how to make the lesson more fun”. (Cherry Vale M2: line 42-50)

However, during M2, four of the nine activities that she planned were considered not appropriate for helping pupils meet the lesson’s learning goal. Critiques about these four activities included, for example, that no careful thought had been given to what specific language pupils would need to use during an activity or that the language pupils would be using during an activity bore little relation to the target language for ordering food. This discussion helped Ying to think beyond activity forms to include a cognitive focus in designing learning tasks, thinking about questions such as (a) what an activity actually helps pupils learn and (b) whether that learning contributes directly to the overall lesson goal. This was reflected in her own reflections during the interviews:

“The gourmet map activity will probably be removed. They asked what sentence patterns pupils would be using in this activity. I wasn’t able to come up with some suitable sentences... I thought about changing it into a gourmet review. But it went back to the discussion between two sentences ‘I like to eat’, and ‘I’d like to eat’. These two sentences may indeed have subtle differences between them. One is asking what you want to eat now and the other is asking your

general preference. So if I change this activity into a gourmet review I definitely can't use the sentence 'I would like to eat'. So this activity seems quite remote from the lesson topic." (Ying Interview 2: line 128 - 145)

"Some activities were removed or adapted, for example the poem making activity. Although it covers food words it doesn't involve the sentence patterns for this lesson. So it is not closely related to the lesson topic and not an ideal activity for this lesson. I've changed it into a chant to include the [food ordering] sentences, as suggested by them". (Ying Interview 4: line 6-8)

However, although at this stage Ying had developed a more explicit cognitive focus in activity design, her idea of language practice still focused more on language forms rather than meaning. This was reflected in the chant activity that she used in the teaching of RL1 and her own view about this activity. For her, this activity was directly relevant to the lesson goal because it involved direct practice of the sentences for ordering food. But however, during RL1 evaluation meeting, Yumei commented that the activity might be useful for getting pupils to become familiar with the sentence forms but not so helpful for helping their understanding of the meaning. And since the sentence forms were not particularly difficult for pupils, she suggested replacing this activity with a more challenging activity that would involve more pupil thinking. Ying was keen to keep the chant:

"But if I don't include the chant, they have little chance to practise the sentences for ordering food... I mean, this chant very straightforwardly reflects the focus of the lesson. If they know how to make up a chant, then it will be great help for their acting in the end. ...And I think the chants they did in this lesson were quite good." (Cherry Vale M3: line 636-643)

In order to convince Ying, Yumei used a long chunk of talk during the RL1 evaluation to compare and contrast between mechanistic language practice and meaningful language practice and explain how the latter could be more effective for cultivating pupils' ability of language use. This seemed to have left a strong impression on Ying and prompted her to make a compromise between her own fun principle and the principle of meaningful practice. During the post-RL1 evaluation interview, she made the following comment:

"She also said that it was not appropriate to get pupils straight into practising the chant without first understanding in what environment the sentences can be used. So it's important to help them understand that first before practice. If you start with practice you still have to think about when to use. She mentioned this point. So in the next lesson I probably need to take them into the [restaurant]

context and introduce the sentences first before getting them to practise. So this step needs to be re-adjusted.” (Ying Interview 4: line 106-109)

While the above comment indicates that Ying had partially accepted the importance of meaningful language practice and use in context, it does not mean that she had abandoned her own fun principle. Instead what she articulated towards the end of the DRLS can be better described as an eclectic combination of both the fun principle and the meaningful practice principle:

“Yumei was right to emphasize context. But at the same time you also need to make sure that the lesson is fun. For me, I would start the lesson with something fun. Then in such a happy atmosphere, I would lead them into the restaurant scene. Then I would start to do all the activities around ordering food in a restaurant. But I would make sure that I use the chant. It gets pupils to make up something new and have fun through chanting. After this activity, they would be happy and would be very familiar with the sentence patterns. And they would be able to use the sentence patterns when they make up a new dialogue”. (Ying Interview 7: line 44-48)

d) Learning mediated by her colleagues and the DTR: Changing conceptions about teacher/pupil role

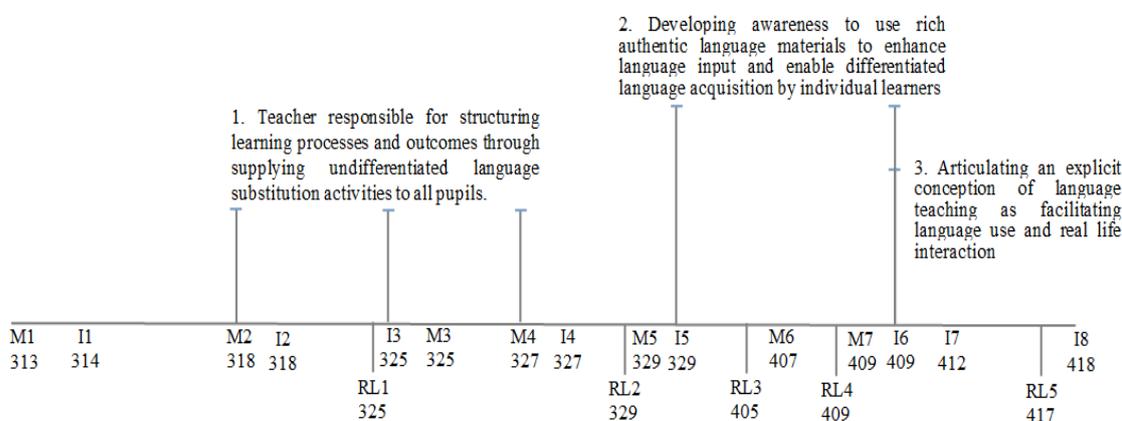


Figure 4.6: The trajectory of Ying's conception change about teacher/pupil role (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

The DRLS also helped Ying to change her conceptions about the teaching and learning relationships in her classrooms. Her initial ideas and thoughts about the review lesson reflected a view of learners as passive learners who were largely incapable of complicated learning and relatedly a view of teachers as responsible for structuring both pupils' learning processes and outcomes. This was reflected in her initial lesson design which included a lot of substitution activities such as substituting words to make poems,

filling in forms to write restaurant reviews, and making a dialogue according to a framework. Some of Ying's colleagues, however, held a view of pupils as being capable of active and independent learning. So for them, while the formats and frameworks might be useful for supporting low ability pupils, they may significantly incur constraints on pupils who were capable of more independent learning and more personal style of language use. Ying's reflection showed that these discussions helped her to change conceptions and to embrace a more differentiated view about pupils and their learning abilities.

“The discussions have helped me get to know everybody else's views on these issues, for example whether or not the dialogue in the listening activity should be further used as a reading material. I have strong impression about this because I took the advice. I remember my initial design was to use a dialogue framework that I wrote myself. And it was critiqued that it might be a constraint for pupils and that we should try our best to use original text. So I accepted this suggestion because the listening text could provide pupils with richer language input”. (Interview 5, 20130329: line 5-8)

“I was convinced because I realise that the dialogue I wrote for them might be too easy and therefore have no challenge for them.” (Ying Interview 5: line 40-41)

In a later interview, she expressed more clearly a view of pupils as being able to learn actively and independently:

“ I get them to read the dialogue and do role play in groups. This is to enrich their language input. Then when they try to act out ordering food they won't just confine themselves to one or two main sentences. They may use richer language, language that they acquire on their own through reading the dialogue.” (Ying Interview 6: line 110-113)

Relatedly she also articulated a view of language teaching as facilitating language learning and use:

“The purpose of this activity is to facilitate them to use language to engage in meaningful and real-world interaction. It is to realise the goal of learning language and using language. I mean you can use the language you've learned in expressing your real thoughts. It is to use language to express your knowledge and experiences in order to engage in real-world interaction.” (Ying Interview 6: line 67-69)

This trajectory of conception change indicates that Ying has shifted away from a passive transmission model of teaching and learning relationship towards one that acknowledges the possibility of more active involvement from pupils in learning.

e) Learning scaffolded by the lesson plans: Internalising the collectively developed lesson design and taking personal ownership of the lesson

Ying also reported learning that was mediated by their team's collectively developed RL plans, or more specifically in their case the practical reification of RL plans in the forms of teaching powerpoints (PPTs). Ying reported that she had to rely on the PPTs to some extent during the teaching of all four RLs. Such dependence on PPTs caused a lot of difficulties for Ying to teach the RLs effectively according to the plans. A constant difficulty she had was that she was not able to teach all the activities in the right order. For example it happened that she forgot or skipped some activities. It also happened that she taught the activities in different orders from the original plans. But the extent of her dependence on the PPTs reduced gradually as she developed deeper understandings about the pedagogic rationale behind the lesson design. And during the teaching of the final DRL she was able to free herself from the PPTs and engage more personally and spontaneously in the teaching. Ying's own reflections on this aspect can shed some light on this process of learning.

After the teaching of RL1, Ying reflected on her entire dependence on the PPTs during the lesson. She reckoned that because she relied entirely on the PPTs to remind her of the lesson flow, she was not able to flexibly deal with unexpected situations during the lesson. This led to her skipping main activities during the lesson.

“I felt that my mind was almost blank at that time. I was basically following whatever was on the slides. I completely let the slides determine [the flow of the lesson]... After all it was a freshly designed lesson and it was the first time I taught it.” (Ying Interview 4: line 43-46)

“I knew that after we talked about choosing seats we should go to practising the dialogue. But for some reason that slide didn't come up. Instead a blank slide came up. I knew that the blank slide was to remind me at that point to ask pupils questions about western culture. So I did that. As a result I jumped through three slides and missed out the acting out activity.” (Ying Interview 4: line 56-61)

After the teaching of the RL2, Ying reckoned that she still had to rely on the PPTs to some extent but because she had developed clearer senses of the main lesson links hence she could rely less on the PPTs.

“I was still following the PPT, because this revised lesson was still new to me. The first lesson had more of my own style. The second lesson was a revised framework with everybody's efforts... After today I will have to revise the

framework again. So for me it will continue to be new. But overall it was better this time. I was clear about the major sections of the lesson although I still needed to look at the PPT to know the specific step for next.” (Ying Interview 5: line 88-92)

During RL4, Ying was able to teach the lesson generally as planned in its entirety and order, except a few minor omissions. At this stage she was still not entirely free from the PPTs but she had assimilated not only the main lesson links but also more specific teaching steps.

“This time I still forgot a few small steps. For example after we talked about ‘Chinese cabbage’ on the slide, I was supposed to take them through the rest of the dishes on the menu. But I went straight into the next slide. As a result we didn’t go through the whole menu. So I was still relying on the PPT.” (Ying Interview 7: line 24-25)

“But overall I feel clearer about the teaching steps. So now what I need to do is to finalise the lesson plan, detailing each step including the language for each step.” (Ying Interview 7: line 149-150)

After the teaching of the final DRL, Ying reported that she was by then very clear about the lesson design and teaching steps that she didn’t need to think about the PPTs anymore during teaching. As a result she felt that the lesson went very smooth and that pupil participation and response were more satisfactory during the lesson.

“This time I was fairly clear about all the lesson sections and teaching steps. It was different from the past where I sometimes didn’t know what the next step was. This time I was fairly clear about what each next step was.” (Ying Interview 8: line 23-24)

“I enjoyed this final lesson the most. It went very smooth. Also pupil participation was much better. Their responses were prompt all the time.” (Ying Interview 8: line 55-56)

To summarise, this DRLS process helped Ying to make significant conception shift from traditional views of language teaching and learning towards new perspectives promoted by the new EFL curriculum. Both her colleagues at Cherry Vale and Yumei helped critique her conceptions and introduce her to different views. Yumei played a critical role helping her to deepen and solidify her understandings through multiple cycles of lesson evaluation, change, and refinement. The opportunities of being able to actually try out different approaches in the classrooms also helped her develop experiential understandings about the effectiveness of new pedagogic ideas. However, the learning process was not without tension or stress. And most times it led to an eclectic negotiation between old and new conceptions. But nevertheless, it helped Ying

move a significant step forward towards embracing the new curriculum perspectives in her thinking about EFL teaching and learning.

(2) Learning of Yulan mediated by the DTR: Conception expansion about a review lesson

Yulan's participation in the DRLS

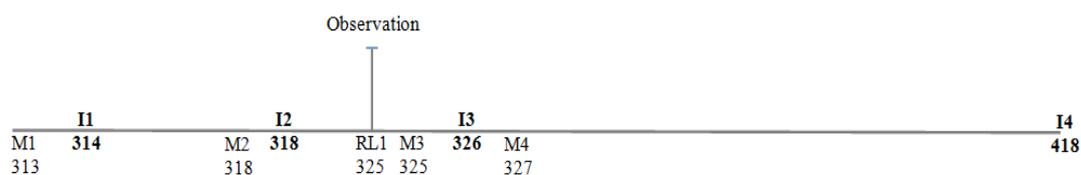


Fig 4.7: DRLS activities that Yulan took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Yulan was deeply committed during the initial stage of the DRLS. She attended the three planning meetings M1, M2 and M4, RL1 observation, and RL1 evaluation meeting M3. At this stage, she played a key role in team meetings highlighting key pedagogic issues and making pertinent suggestions. However, she had to commit more time to preparation for a district teaching competition that she entered herself for.

Yulan reported conception change in relation to the nature and purpose of a review lesson as a result of taking part in the DRLS. She previously held a conception of review lessons as returning to language content that pupils had previously learned, such as vocabulary and sentence patterns. But after attending the post RL1 evaluation meeting and hearing Yumei's view, she started to embrace the idea that a review lesson should build new dimensions upon pupils' existing knowledge or abilities. She reported such conception change during the post-RL1 evaluation meeting interview:

“About the review lesson, it is important to know that it's not just revision. There also needs to be new things. It should be an integration of old and new. Initially I thought review lesson was just to review, like the vocabulary and sentence patterns. But now I realise that review lesson needs to have new dimensions. The teacher needs to keep a searching eye for the new”. (Yulan interview 3, 20130326: line 7-9)

She also expanded her view about language contexts in a review unit. Although previously she already considered language context to be an important aspect in designing this research lesson, she limited her thinking about context within the scope

of a lesson and not its contextual links to the unit as a whole. She developed a more differentiated understanding about unit context and lesson specific context and the pedagogic idea to contextualize the learning of the current lesson within the context of the whole unit.

“I think Yumei is right. When you teach a review lesson, you really need to think about the language context, the umbrella language context of the whole unit and the specific language context of the lesson. Starting from the umbrella context and then linking to the lesson specific context, I think this is very useful.” (Yulan interview 3, 20130326: line 4-7)

Yulan reiterated these new understandings about a review lesson and review unit during the final review interview:

“What has stayed with me after this DRLS is this new view about a review lesson. I now realise, ahh, this is the make-up of a review unit. A review lesson should follow this logic. Now every time when I teach a review lesson I always try to identify what is new and then focus on the new. Not like before when a review lesson was often treated lightly, like going through workbook exercises. But now I know in every review lesson there lies potential for new. So it’s necessary to look for the new. Through this research lesson I realise this.” (Yulan interview 4, 20130418: line 81-85)

In Yulan’s case, Yumei’s views helped her reflect and expand her existing conceptions about review lesson/unit to include new ideas. These new ideas did not necessarily contradict with her existing conceptions but were helpful for opening up new practical possibilities for her. Hence it is characterised as a case of expansive conception change.

(3) Learning of Anhua mediated by the research lesson: Conception expansion about classroom level curriculum

Anhua’s participation in the DRLS

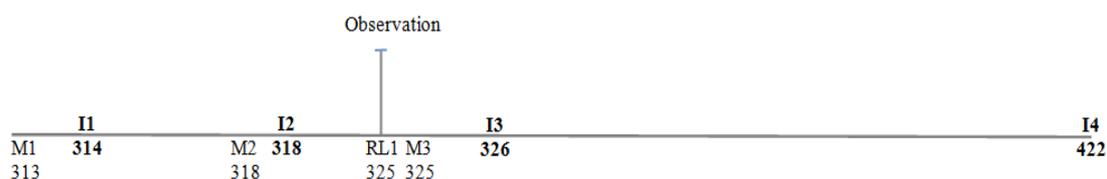


Figure 4.8: DRLS activities that Anhua took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Anhua participated in the first two planning meetings and RL1 evaluation meeting. In those meetings she was one of the most active contributors of ideas and views. After the

initial stage of the DRLS, however, she had to focus attention on preparing for a district teaching competition.

Anhua reported conception change after the observation of the first research lesson over the importance of attending to pupil interest when selecting language resources.

“What I can take away from yesterday is really the reflection that our teaching needs to focus on pupils. We should try to depart from pupils’ points of interest. Then they will be interested and motivated to learn. Like in the other lesson yesterday, pupils clearly had no resonance about who the General Secretary of the United Nation was. But when they were reading about the strange people who ate iron or wore clothes made of grass, they seemed to be really interested and engaged. Even I was very interested. So I realise that in our language teaching, we really need to try to find out what pupils like.” (Anhua interview 3: line 93 -96)

In later interviews, however, Anhua did not report any new aspect of conception change. Neither did she report conception change around review lesson which was the theme of the DRLS. This may be due to the fact that she only attended the early stage of the DRLS.

(4) Learning of Ting mediated by the research lessons: Emergent conception development in relation to the nature and design of a review lesson

Ting’s participation in the DRLS



Fig 4.9: DRLS activities that Ting took part in and the interviews she had with the researcher. (*M* stands for meetings; *RL* for research lesson; *I* for interviews. Numbers below indicate dates.)

Ting attended the first and second team planning meetings and observed RL1 and RL4. Her participation in the DRLS was sporadic because her role as a class coordinator required a lot of contact time with her pupils. Also the fact that she was located in a different building made it logistically more difficult for her to attend team activities.

Ting reported learning through the DRLS in the final review interview. According to her, her learning came from observing and reflecting upon both RL4s developed by the

Cherry Vale team and the Fragrant Hill team when they were taught on the same day in Cherry Vale School for logistical conveniences. She made the following comments and reflections about the two RL4s. About Cherry Vale RL4, she said the following:

“What I really liked about the review lesson taught by Ying was that she included a lot of new things in the lesson rather than just following what was in the course book. For example she included additional language such as for choosing seats and for giving food comments. These are not entirely new language as they also relate to what pupils have learned previously. And they fit well here because the context of the lesson makes it easy for the pupils to understand and use those aspects of language. I think review lessons should be like this.” (Ting interview 3: line 39-42)

About Fragrant Hill RL4, she said the following:

“I think the other lesson was really good. If you compare, Ying apparently has richer experiences in class management than the other young teacher. But the design of the other lesson was really novel. I remember she set up an overall context around the book magazine and used it as a thread to link all the activities in the lesson. I found that quite illuminating.” (Ting interview 3: line 42-45)

These comments reflect Ting’s newly developed attention towards the new dimensions of a review lesson as well as a creative and whole-lesson approach to using context in a review lesson, neither of which was evident in her verbalisation during the planning meetings. However, Ting’s conception change around the review lesson is better characterised as emergent because her new conceptions were still implicit in the sense that they were contextulised in her thinking about the particular lessons rather than being explicitly formalised in more general propositions about the nature and design of review lessons.

(5) Learning of Wei mediated by her colleagues in the EFL team: Emergent conception development in relation to the design of a lesson

Wei's participation in the DRLS

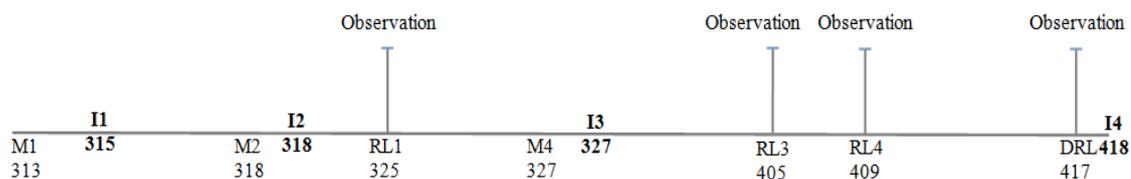


Fig 4.10: DRLS activities that Ying took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Wei participated in as many DRLS activities as she could, including all team planning meetings, observation of RL1, RL3 and RL4, and the final district public lesson event. Informally, she also provided a lot of logistical assistance during the development of the research lesson such as helping prepare lesson resources and preparing pupils and classrooms as she shared the sixth grade EFL teaching with Ying. But during team meetings, Wei was more an attentive listener than an active contributor. Her explanation was that she still saw herself as a very young teacher and as such she did not feel it appropriate to critique her more senior colleagues. She described her main motive in these meetings as absorbing what everybody said.

The post-M4 interview and the final interview with Wei indicated two aspects of conception change for her, both related to the design of a lesson. The first aspect related to the relationship between lesson activities and lesson goal which she talked about during post-M4 interview:

“What I learn from the meeting is that a lesson should be down to earth. It should aim to contribute to the lesson objectives. Every lesson activity or lesson link you design has to be meaningful. If it doesn't serve the lesson objective effectively then it's not necessary. For example like the song activity, if the song is really fast and the content of the song is not closely related to what pupils have learned before, then it isn't very useful as a lead in activity. Sometimes I also tend to come up with a lot of activities, but these activities may not serve a common lesson goal. Sometimes I make such mistakes”. (Wei interview 2: line 46-49)

The second aspect was about the progression of activities which she talked about during the review interview:

“Another point that I now think more about is the order of activities when designing a lesson. During the development of this particular RL, one main challenge Ying had was to get the order of activities right. Sometimes I make similar mistakes. But now I realise that activities should gradually improve their levels of difficulty”. (Wei interview 4: line 18-20)

These reflections indicate that Wei was beginning to develop awareness and understandings about the appropriate structure of a lesson. However, similar to the case of Ting, such conception change is only evolving in the sense that Wei has yet to combine these understandings in order to form a more coherent integrated lesson design rationale.

(6) Learning of Wenxin mediated by the new practical principle generalised through the current DRLS: Making implicit conception explicit in relation to the nature and design of a review lesson

Wenxin’s participation in the DRLS

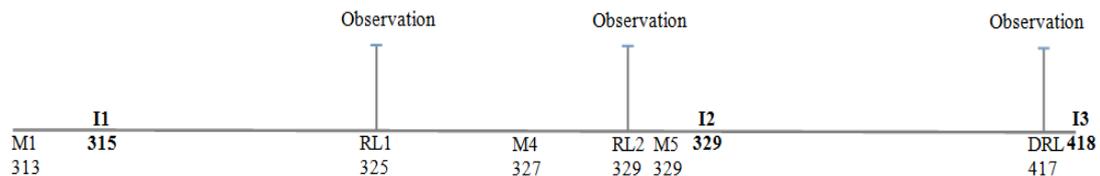


Fig 4.11: DRLS activities that Ying took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Wenxin’s participation during the DRLS was also sporadic. It was interrupted by family illness and hospital visits during the time when the DRLS was taking place. She had three interviews with the researcher during the DRLS.

Wenxin reported that participation in the DRLS did not help her learn anything entirely new. But she reckoned that it helped her confirm her own personal hunch about what an effective review lesson should look like and furthermore helped her make that implicit understanding more explicit. This was evident in her reflections during the final interview.

“The purpose of developing a research lesson is not so that it can be replicated in everybody’s classrooms. A particular lesson may not suit everyone. So the purpose is to find out what the general structure of a lesson should be. For this research lesson, or lessons of this type, it makes sense to use a context-

approach, and to follow the structure of reviewing, consolidating, integrating, and extending. This is a structure that can be agreed upon.” (Wenxin final interview: 16-19)

“But for me this is not entirely new. It has been more or less what I follow in my own review lessons anyway. I suppose what I’ve benefited from this DRLS is that it helps me to clarify and formalize this understanding”. (Wenxin final interview: 23-25)

These reflections indicate that Wenxin was able to summarise two key pedagogic messages through taking part in the DRLS. The first related to a context-approach to review lesson design. And the other related to adopting the new language of “review, consolidate, integrate, and extend”, a practical principle summarised by the DTR on the DRLS public event day, to make explicit her personal hunch about a review lesson.

4.2.2 Conditions, processes, and outcomes of learning for individual teachers in the Fragrant Hill team

Fragrant Hill teachers also reported different aspects of conception change and development through taking part in the DRLS. To make explicit the conceptual change, I first illustrate the states of Fragrant Hill teachers’ conceptions of practice (CCPs) at the early stage of the DRLS. I then draw on their verbalisation of CCPs in later stages of the DRLS, either in their DRLS meetings or in interviews with me, to make explicit any change or new development that took place. I also draw on their personal accounts to discuss the mediational factors and processes that gave rise to their CCP change during the DRLS.

4.2.2.1 Comparing Fragrant Hill teachers’ conceptions of practice (CCPs)

Thematic analysis of all the Fragrant Hill DRLS meeting transcripts identified eight aspects of focal issues around the development of their research lesson. The CCP grid (Table 4.2) summarises the range of conceptions that were verbalised around the eight key aspects during their DRLS. It is necessary to point out that not all these verbalised conceptions were what the Fragrant Hill team held to be true. Some of the conceptions were mentioned by them during the meetings for purposes of comparison and contrast. Nonetheless the CCP grid (Table 4.2) represents the overall cognitive repertoires that were available to Fragrant Hill teachers during their DRLS.

To understand where Fragrant Hill teachers positioned on this grid at the beginning stage of their DRLS, their individual conceptions regarding the eight key aspects verbalised during the planning meetings were compared against the grid and subsequently used to plot each teacher on the Fragrant Hill CCP map (Fig. 4.12) below. Fig 4.12 below provides a visual representation of Fragrant Hill teachers' CCP states in relation to the new curriculum expectations at the initial stage of their DRLS.

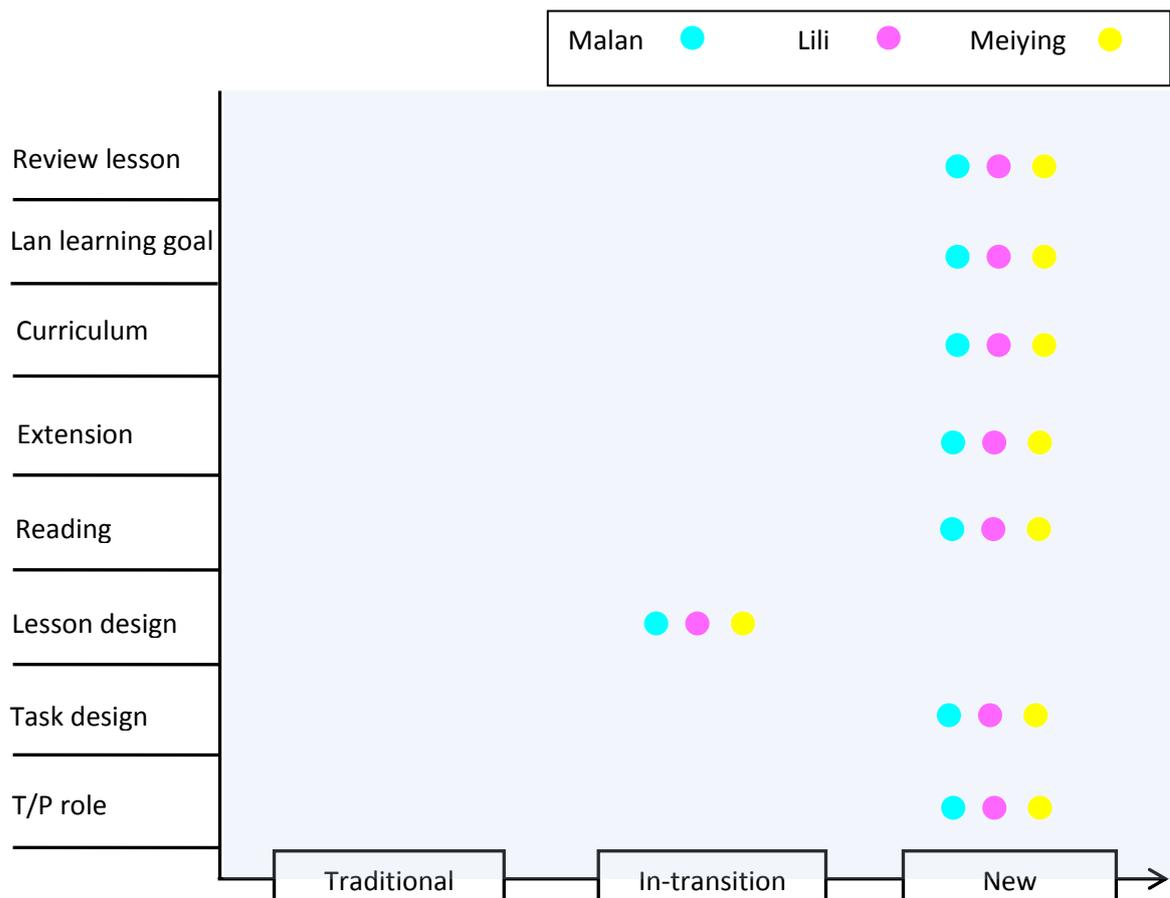


Fig 4.12: Mapping Fragrant Hill teachers' CCPs in relation to the CCP grid (Table 4.2)

Figure 4.12 shows that Fragrant Hill teachers already held conceptions largely consistent with new curriculum perspectives in most of the focal issues at the beginning stage of their DRLS collaboration with the DTR. These shared CCPs enabled them to establish a set of common grounds regarding the pedagogic design for their research lesson during those initial planning meetings.

Table 4.2 Fragrant Hill CCP Grid: Summary of focal practical aspects (FPA) and range of CCPs deliberated in Fragrant Hill DRLS meetings

CCPs FPA	Traditional conceptions	In-transition conceptions	New conceptions consistent with new curriculum perspectives
Review lesson	Content-oriented view of review lesson. Review focuses on going over previously learned vocabulary and sentence patterns.	Review focuses on vocabulary and sentence patterns around a particular language situation.	Ability-oriented view of review lesson. Review focuses on creating opportunities for language integration and use.
General language learning goal	Correct imitation and reproduction of language forms	Using language in correct forms in target language situations.	Language learning as developing individual competence. The goal is to use language for communication and interaction in real life situations. Language accuracy not the only concern.
Curriculum orientations	Teaching as delivering curriculum content and materials	Teaching should first and foremost deliver curriculum content. In addition to that, extension is useful.	Encouraging flexible classroom adaptation, supplementation and extension of curriculum according to pupil needs
Extension	Extension as addition of language content such as new vocabulary, new sentence patterns.	Extension not limited to addition of language knowledge. It can include other aspects of knowledge such as knowledge about cultural practices.	Extension as further development of competence and abilities, often reflecting change in quality rather than quantity.
Reading instruction	Teacher-centred RI. Reading text as the focus of a lesson. RI focuses on accuracy of comprehension and information processing. The language focus is on new vocabulary, sentence structures, and grammatical points.	Mainly teacher-centred RI. While still placing emphasis on accuracy of comprehension, also seeing reading as an important skill. Hence attending to developing in learners effective reading skills and strategies.	Learner-centred RI. RI focuses on using reading materials to develop integrated language abilities and abilities of language use. The aim is to facilitate critical thinking and self-expression in target language, and foster long-term interest in reading.
Lesson design rationale (with a focus on reading)	Designing and structuring learning tasks around processing of the reading text, i.e. comprehension, new language points.	Designing and mix-matching learning tasks that attend to comprehension, reading strategies, and integrated language skills.	Designing and structuring learning tasks to simulate participation in real life situations.
Task design (with a focus on reading)	Objective, and low cognitive demand comprehension tasks – i.e. information finding	Mainly objective tasks, but supplementing with subjective tasks	Focus on subjective tasks – i.e. tasks that prompt critical thinking and elicit individual expressions.
Teacher/pupil role	Teacher taking responsibility for regulating all aspects of pupils' learning, including processes and outcomes. Pupils as passive receivers of knowledge.	Teacher taking main responsibilities for regulating pupils' learning processes but leaving room for pupil consultation and differentiation.	Teacher and pupil sharing responsibilities in learning. Teacher attending to pupil needs and differences, and maximising opportunities to facilitate pupil active learning.

One common ground they established for the lesson was a pupil-oriented curriculum perspective, the ideas that the learning goals for the pupils in this review lesson should be set a level higher than the curriculum requirements in order to meet their pupils' needs and that the learning materials should be extended and resourced to cater to pupils' life experiences and interests. The second common ground was an explicit articulation about the nature and goal of a review lesson. In contrast to their Cherry Vale colleagues, this team of teachers defined a review lesson to be an opportunity for pupils to develop integrated language competence and language use from the very early stage of the DRLS. Driven by this understanding of a review lesson, they opted for pedagogic approaches that were more efficacious for enabling more active pupil learning, more meaningful learning that integrated language practice with language use, and also differentiated learning so that the learning needs of higher abilities, middle abilities, and lower abilities could be each appropriately addressed. So at the beginning stage of the DRLS, they expressed CCPs that were fairly consistent with the new curriculum perspectives.

4.2.2.2 Processes and outcomes of conception change for members of Fragrant Hill team

Figure 4.12 maps out the states of Fragrant Hill teachers' CCPs in the early stage of the DRLS. In this section I explain each member's participation in the DRLS and report findings about their conception change as the DRLS progressed.

(1) Multifaceted learning of Malan mediated by a wide range of social and cultural factors and artefacts: Conception extension and new conception development in relation to focal practical issues

Malan's participation in the DRLS

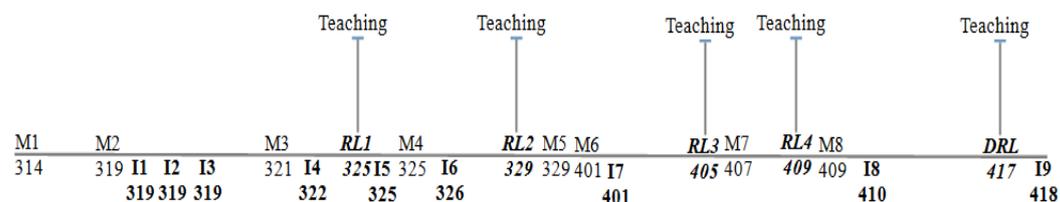


Figure 4.13: DRLS activities that Malan took part in and the interviews she had with the researcher. (*M* stands for meetings; *RL* for research lesson; *I* for interviews. Numbers below indicate dates.)

As the research lesson teacher, Malan took part in all the DRLS activities that took place over the course of five weeks. This included all the planning meetings with colleagues in her EFL team, planning and evaluation meetings between her and Yumei and the opportunities to teach each version of the research lesson. During the district public research lesson conference, she taught the research lesson and gave a presentation explaining the rationale and design of the lesson.

During the general interview at the beginning of the DRLS, Malan reflected on her learning experience as a novice teacher and reckoned that during her early years she went through an “imitation” stage during which she tended to directly copy ideas from other teachers’ lessons and use them in her teaching. For the next stage of her professional development, she explicitly hoped to improve her own ability in designing a good lesson. For her, the ability to design a good lesson was the key professional competence that differentiated a mature teacher from a novice (Malan Interview 1: line 123-139). Participation in the DRLS helped her significantly to develop and extend her thinking or conceptions about lesson design.

(a) Learning mediated by the DTR: Adopting new curriculum language to deepen and further clarify conceptions about the nature and goal of a review lesson

Prior to the DRLS, Malan’s experiences of teaching sixth grade pupils already started to make her think differently about review lessons. During a pre-RL1 interview, Malan explained how teaching sixth grade had helped her to develop a focus on overall language abilities and language integration.

“Review lessons in sixth grade shouldn’t be the same with those in previous grade levels. Take the unit set-up for example, in previous grades each teaching unit concludes with a review lesson. That means review lessons are often unit-specific. The content for review is more limited to language in that unit. But for sixth graders, review lessons should focus on their language as a whole. It should involve more rational thinking and more integrated abilities.” (Malan Interview 2: line 5-8)

Through participating in the DRLS, Malan’s understanding about a review lesson deepened and became more explicit. During the post-RL4 interview, Malan was able to articulate a conception of review lesson that included more explicit learning goals that were defined in the terms of language use ability in real life task engagements.

“A review lesson is to help pupils use their previous language knowledge to engage in a new task. This is the aim of review. It’s not about reinforcing particular words or sentences. It’s about helping them to develop the ability to use those words and sentences in new language contexts. That’s what makes it interesting. In another word, it’s not about re-presentation of language knowledge. It’s about being able to use previous language knowledge to engage in a new task under a new context.” (Malan Interview 8: line 263-268)

This shows that, through the DRLS, Malan’s conception of a review lesson extends from a professional hunch to a more articulate and explicitly reasoned understanding interpreted and phrased in the light of new curriculum ideas.

(b) Learning mediated by the DTR: Developing the conception of a context-approach to review lesson design

Real life context was not initially an obvious pedagogic consideration for Fragrant Hill teachers in their planning for the review lesson. It was Yumei who introduced this pedagogic possibility for a review lesson during post-RL1 evaluation meeting and then collectively the Fragrant Hill team concretised and refined its use in the current research lesson. But Malan’s conception about this new approach to review lesson did not develop instantly. At first she only considered an activity-specific approach to using context in this lesson which was to contextualise the writing activity only. Through discussion with Yumei, her thinking was extended to consider a whole-lesson approach to using context.

- Yumei: *You certainly made efforts to set up the language context at this point. But you didn’t highlight it to make the pupils aware. Right?*
- Malan: *No, I didn’t. I felt pressed for time.*
- Yumei: *I think this [the people magazine] should be presented at the beginning of the lesson.*
- Malan: *Does that make this the context for the whole lesson? Or is it just the context for the writing activity?*
- Yumei: *En, I think it can be the context for the whole lesson.*

Fragrant Hill M4: line 390-395)

As the DRLS progressed, Malan was able to think and reflect on the whole lesson approach in more depth. She was also able to experience its effectiveness through actually trying out the approach with pupils. This helped her to develop deeper understanding and appreciation for this new approach for review lesson. This was reflected during post-RL3 and post-RL4 interviews when she talked about the use of a real life magazine in the lesson.

“The purpose of the magazine is to set up a context, a real life context.” (Malan Interview 6: line 69) “The whole lesson is structured around the magazine. Even the writing task is to contribute writing to this magazine. So it makes the whole lesson tightly connected.” (Malan Interview 7: line 80-82)

This appreciation for the specific idea of using context then evolved into a more general understanding about the principles for using language context in EFL teaching, which was revealed in the post-RL4 interview.

“The principles for setting up context are these. It needs to be real. It needs to be feasible. It needs to be interesting. Then it should be consistent throughout the lesson.” (Malan Interview 8: 543-545)

During the final interview, Malan reported that her understanding of language context had led to practice change in her everyday classrooms.

“After the DRLS I get into the habit of flipping through other lessons ahead. For example currently I’m teaching Unit 13. But everyday whenever I’ve got time I try to flip through other lessons ahead, trying to plan ahead. Probably every time I can think of some new ideas. And when I plan every lesson I will keep a particular focus on language context, the overall context. And then I try to give them a real life task.” (Malan Interview 9: line 73-78)

This shows that participation in the DRLS helped Malan develop the conception of a context-approach to the design and teaching of review lessons. And this conception change went on to influence her planning and teaching actions in her everyday teaching.

(c) Learning mediated by her colleagues, the DTR, and the experience of actually teaching the research lessons: Developing a more focused conception about pupils’ learning difficulties

Malan reported learning about pupils’ learning difficulties during the DRLS. At the beginning she thought the lesson was too easy for her pupils so she just wanted to cover it quickly and extend the lesson with more challenging reading materials and tasks. For the course book part, she predicted that pupils would have no difficulty with understanding and would be able to complete the fill-in-chart task without her modelling. However, when actually teaching this part, it didn’t proceed as “quickly” as she expected. In fact in both RL1 and RL2, she had to spend much longer time on the course book part and yet pupils’ responses were not as prompt as she had hoped. The evaluation meetings helped her to develop close attention to particular aspects of

difficulties or learning habits that seemed to inhibit pupils' learning. One example of such difficulties she came to realise was the understanding and pronunciation of some long and difficult words in the reading passages. Not being able to understand and say some of the key words in the passages inhibited pupils from talking actively about the three people. This helped Malan to realise the necessity of helping them deal with the difficult words.

“Although the reading text seemed to have simple language structures, for some pupils there were still difficult points such as the long and difficult vocabulary, words like “physics”, “General Secretary of the United Nations”. I didn’t anticipate that they would still have difficulty saying those words after repeating two or three times. So it’s necessary to slow down a bit and help them with the vocabulary.” (Malan Interview 4: line 14-17)

Malan also found out about pupils' particular learning habits that became obstacles for their learning. She reflected on this in the final interview and explained how identification of this learning habit led to changes in their teaching and pupils' learning.

“As soon as pupils opened their course books, the reading process was lost. They saw the whole thing as a filling-in-chart exercise rather than reading. As soon as they turned to this page, they picked up their pens to write. That meant they would only focus on information needed for the chart and wouldn’t pay attention to other aspects of the text, as if those had nothing to do with them. So later we had to make changes. We turned this into a magazine so that the fill-in-chart task was separate from the reading. This way the pupils could engage deeper with the reading.” (Malan Interview 9: line 213-219)

In the final interview, Malan also reflected more generally on the importance of anticipating pupil learning difficulties when planning a lesson.

“When we first planned the lesson, we only planned the overall lesson framework and time allocation. We didn’t plan the operational details. We didn’t think about pupils’ learning difficulties. So when we tried the lesson, it was only trying if the main lesson links would work. Then through lesson evaluation, I realised that I should think more about difficulties that pupils may have.” (Malan Interview 9: line 198-202)

This shows that participation in the DRLS helped Malan develop a more focused conception about pupils' learning difficulties and obstacles when planning her teaching.

(d) Learning scaffolded by the lesson plans: Internalising the collectively developed lesson design and developing clear conceptions about the architecture of a lesson

Similar to the other RL teacher Ying in the Cherry Vale team, Malan as the RL teacher for the Fragrant Hill team also reported learning mediated by the collectively developed lesson plans. At the beginning of the DRLS, Malan already had a strong sense of ‘design’ in her thinking about EFL lessons. She had the general conception that a good lesson should have a well-articulated design rationale which was then to guide decisions about the make-up, order, and time allocation of lesson links. For her, intimately knowing such a design played a key part in enabling a teacher to teach a good lesson. This conception was apparent during one of the early interviews.

“Every time when someone tries out a lesson in my school, there is always a teacher kind enough to record specific time used for each link during the lesson. This helps to know how much time is actually spent on each link and decide whether the time allocation for each link is appropriate. For example if I run out of time to cover all the links then maybe some links should be condensed. Or if I finish the lesson in 30 minutes then maybe a particular link hasn’t been sufficiently handled. This must be due to insufficient understanding of the lesson design. If I don’t have a deep grasp of the lesson design, I may sometimes get the links mixed up or design repetitive links. So it’s important to try out the lesson to know if each link is necessary and how to lead from one link to the next.” (Malan Interview 2: line 153-161)

Through their pre-RL1 planning meetings, Fragrant Hill team developed a general lesson design for their research lesson. This included an overall rationale to extend the curriculum materials and pupils’ abilities and six main lesson links which led progressively to deeper thinking, more independent learning and more personal style of language use. This design was then communicated to Yumei and got her support. Hence at this point, Malan felt confident that she should be able to have a good command over the lesson since she knew clearly the structure and progression of the lesson.

However, the teaching of RL1 didn’t proceed the way she had expected. Malan was critical about her own teaching. She thought that the actual time allocation for each lesson link was disproportionate and that resultantly pupils weren’t able to read in depth or write much during the lesson. During the evaluation meeting afterwards Yumei critiqued that RL1 only realised the general framework of the lesson but not actual pupil learning. She suggested some specific strategies for supporting the operationalisation of the lesson, i.e. the kind of questions to prompt deeper engagement with the reading and

elicit more pupil talk and sharing, and ways of modelling the post reading task. The teaching experience and the evaluation meeting afterwards helped her realise that having only a macro-level lesson design was not sufficient for teaching an effective lesson. She realised that she had neglected the operational level design of the lesson which included the step-by-step decisions about what the teacher should do and say during each lesson link in order to elicit pupil learning as well as thinking and decisions around how to enable smooth transition and progression between lesson links. This was evident in her following reflection.

“My hindsight is that the lesson framework is clear but the operational details of the links need to be more carefully planned. I think the main links will remain the same, following course book reading and post reading tasks, extensive reading, and post-reading writing. But transitional language needs to be carefully thought about. Almost everything I said today was improvised. The preparation was inadequate. I didn’t think about the step-by-step operationalisation of the lesson.” (Malan Interview 5: line 21-25)

“Before the lesson, I only had time to prepare all the resources. I knew the general lesson progression and had the PPT there to remind me what to do next. But I didn’t plan the details, for example how to lead pupils from one link to the next, what to say, what questions to ask.” (Malan Interview 5: line 52-59)

During the teaching of RL2, however, although Malan reported that she was by then already familiar with the lesson link and activity progression, she was still not able to teach the lesson effectively in ways that they had expected the pupils to participate.

Malan felt frustrated:

“Is it because I’m not familiar with the lesson? I really think I’m quite familiar with the lesson now. I’m clear about all the main lesson links. But somehow I still feel that there is something awkward about it. I can’t say what exactly. It feels that the lesson is forced on me and I have to obey it.” (Malan Interview 6: line 162-165)

With more reflection she realised that this might be because she was only thinking about the procedures of the lesson but hadn’t thought deeper about the rationale behind each lesson link, its purposes and aims for developing pupil ability and therefore what support the teacher might need to provide pupils.

“I haven’t really thought very much about the rationale behind each lesson link, like what was the purpose of each link, what ability pupils needed to achieve through each link. I think up to now I’ve only been thinking about what is this lesson link, what do I need to do, and what do pupils need to do. Maybe I

haven't thought very thoroughly about the lesson." (Malan Interview 6: line 184-188)

When interviewing Malan again after the teaching of RL4, she reported much enhanced confidence in handling the teaching of the lesson. More particularly she reported a clearer understanding of the ability goals behind each activity and each new change made to the lesson. As a result she knew more clearly what she needed to do to help pupils achieve the intended learning goals.

"Now my confidence is higher than all previous three weeks. Although there will still be changes each time, I have a better sense about what the lesson will look like with new changes. Previously I often felt uncertain what the lesson would look like after each revision. But now I know more clearly what ability each change would help pupils achieve and what I can do to push them towards there, for instance, if they're still one step away from the goal, I know how I can guide them there. This is much clearer than before." (Malan Interview 8: line 126 - 130)

The account above indicates that Malan had effectively internalised the collective lesson design including understanding its macro-level lesson links, micro-level operational details, and the rationales behind each design detail. This enabled her to take personal ownership of the lesson and teach the lesson effectively as expected. Beyond the immediate lesson, Malan also developed the conception of using lesson links, activities and steps as a general framework to conceptualise the structure of a lesson. This was reflected in her conception about a well-structured format for writing a lesson plan.

"Previously I didn't really know how to write a lesson plan, because every teacher seemed to use a different format and there seemed to be no standards. But through this experience, I now know how to write a lesson plan. It should follow the headlines of lesson links, activities and then teaching steps. The lesson links make up the general framework of a lesson. Each lesson link may include a few different activities. Teaching steps are at the operational level, like what I need to do, what questions to ask, what pupils need to do." (Malan Interview 9: line 124-132)

Malan related to this aspect of learning as significant improvement in her teaching competence.

"I think in terms of teaching competence, I've made big progress. Previously when I taught a lesson, I never had such clear understandings about the structure of a lesson. I might know my teaching links but I never thought too much about the relationships between each link. But through teaching this lesson, I'm very clear about what I need to do at each step and how one step

links to the next step. This is a big improvement for me.” (Malan Interview 9: line 57-61)

During the final interview, Malan reflected how her role as the RL teacher benefited her learning.

“Whatever good ideas are out there, you’ve got to absorb them and digest them. That’s to say you really need to think the procedures through, and think through again. This is a long process. After all it’s me who is to teach the lesson. I have to figure out about every link of the lesson.” (Malan Interview 9: line 292-294)

To summarise, taking part in the DRLS and particularly taking up the role of RL teacher helped Malan develop deep and multifaceted learning. Firstly, the pedagogic deliberation around new ways of teaching a review lesson enabled her to adopt new curriculum language to re-interpret the nature and value of a review lesson. It also helped her develop the new conception of a context-approach to review lesson design, which after the DRLS she already used to guide her routine planning of other review units in her grade six teaching. Secondly, the actual experience of teaching the research lessons helped her develop a more focused conception about pupil learning difficulties. Thirdly, the process of internalising a collective lesson design and realising it in the classroom helped Malan develop a clear and explicit conception about lesson architecture. It also helped her develop great confidence in her own ability to design a good lesson, an aspect of teaching competence that she personally attached great importance to and was aiming to develop prior to this DRLS.

(2) Learning of Meiying mediated by the research lesson: Conception change about informative reading texts

Meiying’s participation in the DRLS

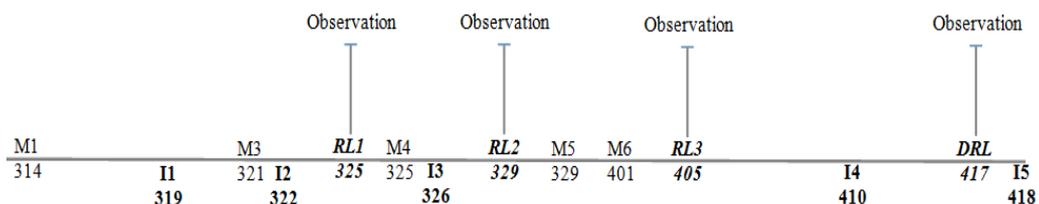


Figure 4.14: DRLS activities that Meiying took part in and the interviews she had with the researcher. (M stands for meetings; RL for research lesson; I for interviews. Numbers below indicate dates.)

Meiying took part in most of the DRLS activities, except the planning meeting held between Malan and the DTR and the observation and evaluation of RL4 because these activities took place at outside school venues. While the DRLS was taking place, she was also supervising the rehearsal of a school English drama. As the TRG leader, she played a key role organising DRLS meetings and steering meeting discussions. Through participation in the DRLS, Meiying did not report new learning in relation to review lesson which was the theme of the DRLS. But she reported one aspect of conception change in relation to the use of reading resources.

Meiying reported change of conception about using informative texts in reading. Meiying said that she had always preferred stories to informative texts as reading materials for her pupils. On one hand, she found that pupils were generally more interested in reading stories. On the other hand, she also felt that there were more language activities that pupils could do with stories, for example, reading aloud, role-play, and acting out. Informative reading text, however, seemed more limiting in the kinds of activities that she could get pupils to do. Hence in the past she had always treated informative texts in the course book with less importance. Typically when she came across informative reading passages, she used them for basic reading skills training, for example, training pupils to skim, scan, and identify topic sentences and main ideas. This caused split views between her and Yumei about the treatment of Part C reading passages.

“Yesterday I talked to Yumei about time allocation. Her view was that it might be necessary to give Part C more in-depth treatment. But I think, and I still think that, if it were me, I would only use Part C for basic reading skills training. I wouldn’t want to use 20 minutes on Part C. I would focus instead on extensive reading.” (Meiying Interview 3: line 257-260)

As the DRLS progressed, she was able to see that informative texts could also be used as rich learning sources if appropriate pedagogic approaches were used to engage pupils and stimulate their thinking. This prompted her to change her conceptions about the use of informative reading texts in language learning.

“This lesson has its exemplary value for reading instruction. I came to know ways of using informative texts in reading. I used to prefer story reading, not so much science reading or informative reading because its content is often very dry and pupils find it boring. But through this DRLS, I realise that if you can manage to stimulate pupil thinking, a lesson on informative reading can also be

lively and fun. It can help pupils improve their overall ability. So it's worthwhile exploring it in depth and excavating its value." (Meiying Interview 5: line 193-197)

(3) Learning of Lili mediated by the DTR and the research lessons: Conception extension and new conception development

Lili's participation in the DRLS

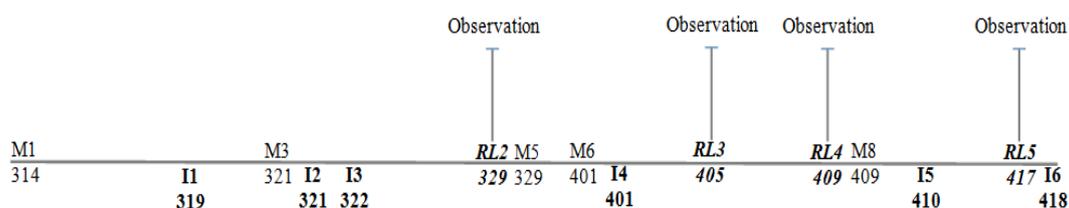


Figure 4.15: DRLS activities that Lili took part in and the interviews she had with the researcher. (*M* stands for meetings; *RL* for research lesson; *I* for interviews. Numbers below indicate dates.)

Lili took part in most of the DRLS activities except the planning meeting held between Malan and the DTR and the observation and evaluation of RL1 because these activities took place outside school venues. Through participating in the DRLS, Lili reported three aspects of conception change.

(a) Learning mediated by the DTR: adopting new curriculum language to extend understandings about a review lesson

At the beginning stage of the DRLS, Lili already articulated a conception of review lessons that reflected the new curriculum focus on ability of language use. In an early interview, she used the input-output differentiation to describe relationships between new lessons and review lessons and highlight the view that review lessons should focus on supporting pupils to use language to express personal thinking.

“There is an input and an output process in learning language. What pupils accumulate through previous learning is input. Review lesson is to [help pupils] integrate what they’ve learned previously and build upon it. It’s the output process. I absolutely agree with Meiying, it’s not about re-presenting knowledge. I think through review lesson pupils should get more opportunities to express their own thoughts based on their knowledge and understandings about what they’ve learned before.” (Lili Interview 2: line 17-22)

Through taking part in the DRLS, she developed a more articulate and coherent view of review lessons that integrated consideration of language context as an integral part of review lesson goals and as a review lesson pedagogy.

“She [Yumei] talked about the role of review lesson, highlighting that a review lesson should enable pupils to use their previous knowledge to engage in a new context. This gave me a good hint. The purpose of a review lesson is not to simply help pupils create a Déjà vu experience, although this seems to be what most teachers tend to do. The key message is the new language context. This is to say that even when teaching a review lesson, it’s also important to think about creating language context. But it’s not to replicate the same language context in which the language is previously learned. It’s to create a new context for pupils to use language.” (Lili Interview 4: line 95-100)

(b) Learning mediated by the DTR: Developing new conceptions about shared reading as a way of organising extensive reading

Lili reported learning about the concept of shared reading and its use for structuring extensive reading. The pedagogic concept was introduced to Malan by Yumei during a planning meeting between the two of them. Malan then conveyed the idea of shared reading to the team during a follow-up planning meeting. In an interview after this planning meeting Lili reported the following.

“At first we didn’t know how to operationalise the additional reading. We debated between ideas such as whether giving each group all the additional people or giving each group one or a few different people. We couldn’t come up with a very good idea. Then Yumei’s suggestion was to adopt shared reading, allowing pupils to choose what they would like to read and then share with each other, within groups and also between groups. I think this is a very useful suggestion.” (Lili interview 3: line 21-26)

(c) Learning mediated by the final research lesson: Developing new conceptions about a general approach to review lesson

Through participation in the DRLS, Lili also developed conceptions about a general approach for teaching reading. She articulated this during the final interview.

“The lesson as a whole, with its design rationale, pedagogic approaches and procedures, provides a useful model for similar lessons, saving us from having to each reinvent the wheel. Many aspects of the lesson have referential value. To begin with, pupil survey is useful for identifying pupil interest and needs although this can also be done more informally through talking to pupils. Then course book content may need to be adapted according to needs, including its order, presentation, post-reading tasks and etc. Then the idea of extending course book content with additional reading materials, authentic materials offers a useful new possibility. Then ways of relating reading to writing, getting pupils to write on the basis of reading. And finally integrating course book reading, extensive reading and writing all together into the context of a real life

magazine. I think this is a very good approach. Through these processes, pupils' knowledge and competence get reinforced and improved each time.” (Lili Interview 5: line118-127)

To summarise, participation in the DRLS helped Lili extend her thinking about review lessons in the light of new curriculum terms and form a more coherent and articulate conception. It also helped her develop new conceptions about a general approach to designing review lessons. More specifically she developed the conception about shared reading as a pedagogic alternative for organizing more independent and pupil-led reading and interaction.

Recapitulation

This section reports findings about the learning of individual teachers through the DRLS. A substantial part of their learning was reflected in changes or new development in their conceptions, particularly in relation to the focal object of the DRLS, namely new ways of conceptualising and teaching a review lesson under the new curriculum framework. However, the interesting finding to note was that the processes and outcomes of conception change was not entirely the same for each individual. Teachers reported different modes of social and cultural mediation that supported their learning, including: (a) learning mediated by colleagues in their EFL teams, (b) learning mediated by the DTR, (c) learning mediated by the research lessons, (d) learning mediated by new curriculum language, (e) learning mediated by the newly developed practical principle for teaching review lessons, (f) learning mediated by the lesson plans, and (g) learning mediated by actually teaching the research lessons. They also reported different processes and outcomes of conception change, including: conception shift, conception expansion, conception transformation, and development of new conceptions about specific practical issues. This had to do with differences in each individual teacher's pre-conceptions about the focal practice issues. It also had to do with the different levels of engagement or participation that each individual teacher committed to the DRLS activities.

The two RL teachers Ying and Malan both reported deep and multifaceted learning through taking part in the DRLS. One mode of learning that was particularly associated with their RL teacher role was learning mediated by their team's collectively developed

RL plans, or more specifically in their case the practical reification of lessons plans in the forms of teaching powerpoints (PPTs). They both reported that during the early stage of their DRLS they had to rely heavily on the PPTs for remembering the teaching procedures, activity flow and learning progression of the research lesson during its enactment. This was because the lesson design process developed through joint planning and often incorporated pedagogic rationales and ideas from different members of the team; hence RL teachers needed to interpret and assimilate the lesson design individually and collectively in order to effectively carry out the actual teaching of the RLs. As the RL teachers developed a deeper accommodation to the pedagogic rationale and ideas behind the collective design, they were able to develop a stronger sense of personal ownership of and identification with the collective design, and through these shifts and accommodations they could gradually move away from reliance on the scaffolds of the PPTs during teaching.

In the next section (4.3) I shift my focus to the two EFL teams and report findings about the team level collaboration and learning. My aim is to excavate the cognitive, social, and affective conditions, processes and outcomes of collaboration and learning of each case EFL team in this DRLS. My particular focus is on excavating how language as an important social and cultural tool mediates collaborative learning and practice development at a team level. Analysis and findings in Section 4.3 draw primarily upon teachers' talk during their DRLS meetings.

4.3 Subject teams as collaboration and learning systems: Conditions, processes, and outcomes

The school-based EFL teacher teams refer to the two teams of EFL subject teachers who took part in the current DRLS. These subject-based teams did not just come into formation for the particular DRLS task but existed as administratively endorsed practice and research units within the Chinese school system. Hence, understandings about how these teams worked together within the DRLS context is indicative of typical ways they function on a routine basis. The focus on the discourse of the DRLS meetings allowed for the analysis to closely reflect naturalistic states, dynamics and processes of case teams' collaboration. For both teams, these meetings took place at the relative early stage of their DRLS. Drawing on in-depth analysis of talk during meetings, I report in

this section findings about the characteristics of each team's cognitive and social engagement and discusses the implications of those characteristics for each team's collaboration and learning. In subsection 4.3.1, I report findings from thematic analysis of the discourse content about the cognitive profiles of each member and the patterns of *cognitive engagement and interaction* of each team. In subsection 4.3.2, I draw on analysis of the interaction functions in the discourse and report findings about the qualitative and quantitative differences in each team's *social interaction* and the characteristics of each team's overall discursive environment that supports and shapes those interactions. In subsection 4.3.3, I try to relate characteristics of each team's *cognitive engagement* with those of their *social engagement* and elucidate key cognitive, social and affective conditions and processes that seem to have significant impact on the efficacy of a team level learning system.

4.3.1 Cognitive processes one: patterns of cognitive participation and interaction and the implications for learning

The Cherry Vale and Fragrant Hill Conceptions of Practice (CCPs) tables (4.3; 4.4; 4.6; 4.7) tabulate and summarise the different practice areas (PAs) that each team deliberated upon during their team meetings. The tables also summarise the specific CCPs that each member of the teams held and verbalised about those practice areas. Each color in the tables represents a different teacher. Blank cells on the CCP tables indicate an absence of views from a member about a particular practice area. In cases when one colour spreads to other columns in a practice area, it means that the view initiated and expressed by a particular member received agreement from those other teachers. The first column of each table lists all practice areas that were deliberated upon during the meetings of each team. The second left column of each table colour codes specific CCPs that teachers verbalised about each practice area in order to reflect further differentiation at three different levels as follows: light green indicates pedagogic views that a teacher expressed as *lesson-specific ideas*; medium green indicates pedagogic views as *practical rules of thumb*; and dark green indicates pedagogic views as *general practical theories or principles*. The third left column provides a number (i.e. 1, 2, 3) to order more specific practical aspects so that reference to each specific CCP aspect is differentiated and clear.

Table 4.3 Cherry Vale teachers' CCPs revealed in DRLS planning meeting 2

Names		Ying	Yulan	Anhua	Ting	Min	Wei
PA1	Review Lesson Goal	1	Review all previous vocab and all sentence patterns related to a general topic.			Review previous vocabulary and main sentence patterns related to a particular social context	
		2	Partially accepted that food ordering sentences should be the focus of the lesson. Review as many as possible vocab and sentences related to "food"	Review previous vocab and sentences related to "ordering food". Pupils able to order food in English. Main sentences "What would you like?" "I'd like"	Review previous vocab and sentences related to "ordering food". Pupils able to order food in English. Main sentences asking and taking orders, commenting on food.	Review previous vocab and sentences related to "ordering food". Pupils able to order food in English. Main sentences asking and taking orders, commenting on food.	Review previous vocab and sentences related to "ordering food". Pupils able to order food in English.
PA2	Tuozhan (Extension)	3	Extension through adding Language content				
		4	Teaching more adjectives for describing food or including more sentences such as choosing seats	Supply more adjectives that pupils learned previously.			
		5	Extension through simulating a real life task: making a gourmet map and introducing the map.	Suggest against the gourmet map activity as it does not contribute to lesson focus.	Agree that gourmet map activity is off the lesson goal.	Extension activity "making gourmet map" should involve use of sentences for ordering food.	
PA3	Shenghua (sublimation)	6	Mixed view of Shenghua - as introduction of cultural knowledge or development of a certain ability	Shenghua as culture infiltration.	Shenghua as extending culture understanding. Sometimes using the terms Shenghua and extension interchangeably	Shenghua as introduction of cultural knowledge or moral infiltration.	
		7	Having doubts about whether introducing culture knowledge is the only way to achieve sublimation.		Achieving Shenghua through introducing cultural knowledge or cultural differences		
		8	Shenghua is a must- have lesson component, often at the end of a lesson to create a bright point.		Disagrees with Ying. Shenghua is not a must-have component in a research lesson.		Shenghua is a must-have component in a research lesson. It's an opportunity to create a bright point in a lesson.
		9	Introducing western dining culture such as use of knife and fork.	Get pupils to make Chinese and western food menus and practise food ordering in Chinese and western restaurant contexts. Teaching pupils polite manners when eating in a western restaurant.	Introducing how western food is presented in menus and ordered in western restaurants.	Teaching pupils polite table manners.	Introducing how western food is presented in menus and ordered in western restaurants. Sometimes use the words "extension" and "sublimation" sometimes interchangeably.

PA4	Learning progression	10	Follow the order of word, sentence, and dialogue					
		11	Topic lead in Review food words Review food sentences Act out dialogue Introduce Western food culture	Topic lead in Review food words Review food sentences Make up dialogues in context Introduce western food culture	Topic lead in Review food words Review food sentences Make up dialogues in context Introduce western food culture	Topic lead in Review food words Review food sentences Make up dialogues in context Introduce western food culture	Agree with such lesson structure. Suggest the last activity to introduce western food culture.	
PA5	Activity Design	12	Activity design should make sure that a research lesson is fun for pupils.	All activities in a lesson should effectively contribute to lesson goal. Sentence patterns practised in activities should be consistent with the lesson goal.		Agree with Yulan. All activities should make links to the lesson focus.		
		13	Use fun activities to present and practise previous vocab and sentences				A sixth-grade lesson should include activities to practise all aspects of language skills such as listening, reading, writing and speaking activities.	
		14	A range of activities designed in the lesson were to make sure that they were fun for pupils such as song or video, making menus, making a poem, gourmet map	Suggest against some of the activities as they involved very little practice of the focus Language content such as vocab or sentence patterns or involved practice of irrelevant Language content.	Suggested against some of the activities as they involved no or very little practice of the focus Language content. Make suggestions to change poem into chant with "what would like to eat? I'd like.."	Agree with Yulan. Suggest against some of the activities such as the gourmet map activity as it doesn't involve practice of main sentence patterns.	Agree with Yulan. Suggest against use of some activities such as poem activity as Language involved is irrelevant to lesson goal.	
			Partially accept that some of the activities are irrelevant to lesson goal.					
PA6	Lead In	15					Lead in activity is to create lively classroom atmosphere.	
		16	Use a song or video about food to lead in the topic and get pupil attention.	Agree with this approach but suggest maximizing word revision during lead-in.	Use a video of food ordering in restaurants to introduce the topic.	Use a video of food ordering in restaurants to introduce the topic.	Support use of food song as a lead in activity to create lively classroom atmosphere	Support use of food song as a lead in activity to introduce the topic
PA7	Review and practise vocabulary	17	Design multiple activities to review vocab when there is a large number of vocab to review.		Design one activity to review maximal amount of words.		Support using one activity to review maximal words.	
		18	Review words through recalling words with image prompt in "song or video", word and image matching in "making menus", and word substitution in "poem making" activities.	Agree with Anhua's suggestions.	Use brainstorming activity or PPT to review as many words as possible		Support using PPT to review words. Share personal experience of using PPT in another lesson.	
			Suggest getting pupils to say sentences rather than just words during "making menu" activity.				Against use of "making menu" activity as it is a repetition to previous activities.	

PA8	Language context	19	True representation of the real world scenarios				
		20	Always try to use true context in Language lessons whenever possible		Create contexts to induct pupils into a topic or Language practice		
		21	"Pass the salad bowl" as an effort to embed use of true context in the lesson.	Create two contexts, a Chinese restaurant context and a Western restaurant context, for pupils to do their final simulation task of food ordering in a restaurant.	Suggest against the use of "Pass the salad bowl" activity and in favour of using a simulated context that includes a narrative task induction.	Using video of food ordering scene to present the Language content holistically in context.	Using a Chinese restaurant, a Western restaurant, or a café as an environment for pupils to make up dialogues.
PA9	Writing	22	A must-have activity to elicit Language production				A must-have component for sixth grade lessons
		23	Writing task based on a dialogue framework		Irrelevant activity to eating in restaurant context	Writing a food report	Writing about something that pupils might be interested in.
PA10	Listening materials	24			Reading aloud is a necessary Language learning activity.		
		25		It includes rich Language. Can be further exploited to create more learning opportunities for pupils such as reading aloud, role play.	Listening materials can be given to pupils to read aloud.		

Table 4.4 Cherry Vale teachers' CCPs revealed in DRLS planning meeting 3

Names		Ying	Yulan	Wenxin	Wei	
PA11	Review Lesson Goal	26	When the lesson is on Part A and B, the focus is on listening and speaking and therefore lesson goal is to develop pupils' listening and speaking abilities. When the lesson is on Part C and D, the goal is to develop pupils' reading and writing abilities.			
		27	Review food Language under the broad unit context of travelling and the lesson-specific context of ordering food in a restaurant. The current lesson focuses on part A and B, so the lesson goal is to enable pupils to use English to order food in a simulated context. Writing ability is not a compulsory goal for this lesson.			

PA12	Activity design	28	All activities are designed for the purpose of preparing pupils with the ability to order food in English. Previously designed activities that were irrelevant to this goal are removed.			
PA13	Lead in	29	Make links to the broad unit topic of travelling. Set up the narrative context for the current lesson.			
PA14	Learning progression	30	1. Make links to the broad unit context, set up lesson specific context 2. Ordering food in listening -Read menus as vocab revision -Pre-listening talk -Listen and circle pictures 3. Ordering food in speaking and acting -Learn sentence patterns and practise through chant -Read a dialogue and circle pictures -Make up new dialogues and act out			
PA15	Menus	31	Design and provide pupils a menu. Use 1: to replace the listening task in the course book. Use 2: to serve as a prop during acting out activity. Menus have blanks for pupils to add new dishes they like.	Consider it unnecessary to use different menus as there are already blanks on the menus for pupils to add new dishes.	Suggesting giving pupils different menus that include different dishes so that when they make up new dialogues there is more variety.	
PA16	Dialogue framework	32	Teacher makes up a new dialogue on ordering food. Use 1: Read and circle pictures. Use 2: Serve as a framework for pupils to make up and act out new dialogues.	Suggest against this activity. Reason 1: Consider Use 1 a repetition to the "listen and circle pictures" task. Reason 2: Consider Use 2 as a constraint to pupil thinking when making up new dialogues. Reason 3: It is an abrupt transition from the previous activity.		
PA17	Use of course book	33		Previous sixth-grade lessons observed all involve use of course book.	Teaching pupils how to use the course books is important because after class they need to refer to course books to review what they've learned in a lesson.	
		34	Have legitimate reasons to discard use of course book and use alternative materials because pictures on Part A are insufficiently clear for pupils to complete the listening task.	Dialogue framework is an adaption of Part B but is based in the course book content.	Consider it problematic that pupils do not have a chance to use the course book during the lesson since Part A is replaced by the menu and Part B is adapted.	It is a fact that pictures on Part A are insufficiently clear for pupils to complete the listening task. So it is necessary to replace it.

PA18	Listening materials	35		Unwilling to take the suggestion for the following reasons: Consider it a repetition to read Language text that pupils have listened to. Consider Language involved in the listening text difficult for pupils and therefore cannot support pupils as an effective model.		Suggest using the listening text as a rich learning resource and further exploiting it to create more learning opportunities such as: Use 1: Read aloud Use 2: Role play Use 3: Serve as a dialogue model. Pupils with different abilities can pick and choose Language that suits their own abilities.		Agree that the listening text contains rich Language to use in the ordering food context.			
		36				Decisions over inclusion of activities should depend upon their potential contribution to the lesson goal.		Holds a more flexible view about the ability sequence. Listening to a song is also listening. Free talk also involves listening and speaking.			
PA19	Four Language skills	37		Sixth-grade lessons should always include listening, speaking, reading and writing. Speaking and listening alone not sufficient for a lesson.		The order of Language learning is listening and speaking first, and then followed by reading and writing. A lesson should begin with listening and speaking tasks, not reading or writing tasks.		Disagree with Ying		Disagree with Ying	
		38		The dialogue framework reading is a useful addition to the lesson to practise pupil reading skills.		It is against common practice to read the food ordering dialogue in the listening task before listening to it.		The dialogue framework reading is added for the sake of having a reading activity. It does not serve the lesson goal.		The teacher can be flexible about getting pupils to read or listen to the food ordering dialogue first.	

4.3.1.1 The case of the Cherry Vale team

Tables (4.3; 4.4) summarise Cherry Vale teachers' verbalised practical conceptions during their team meetings around 19 main practice areas. The tables show a clear discrepancy in the Cherry Vale team's cognitive profiles and an apparent asymmetry in patterns of cognitive engagement. First of all the two meetings did not attract the participation of the same number of teachers. Second, in each meeting some teachers' CCPs were more visible than others'. For example, Ying's CCPs were the most visible during both meetings. This largely had to do with the format of this team's planning meetings which featured Ying centrally in the DRLS task. Apart from Ying, Yulan and Anhua contributed the most CCPs during the pre-RL1 meeting, while Ting and Min also made their fair share of contributions. During the post-RL1 meeting, cognitive interactions featured mainly as exchanges between Ying and Yulan. In both meetings, Wei participated the least during the discussions and therefore her CCPs were the least visible among the team.

The tables (4.3; 4.4) also reveal three salient patterns in this team's cognitive interaction. A pattern apparent across both meetings was “**clustered consensus- and idea-building**”. This typically took the form in the talk as one teacher proposing opinion or idea and a number of other team members (but not all members) joining in to affirm or refine that idea. For example when Yulan gave the comment that the gourmet map activity was not suitable for the purpose of this lesson, two other teachers Anhua and Ting expressed their agreements and further elaborated on her comment (see S-PA 5, Table 4.3). Across both meetings, this pattern occurred within 11 specific practical aspects deliberated among the Cherry Vale team, taking 29% of the total 38 practical aspects.

Alongside clustered consensus building, a second noticeable pattern can be characterised as “**individual idea development**”. This typifies scenarios in which members of the team engaged individualistically in developing and proposing their own ideas but not critically or constructively engaging with each other's. Resultantly, differences were not resolved and joint decisions were not achieved over a particular aspect of the lesson. For example each member of the team had a different idea about how students' learning about *Shenghua* or sublimation could be best supported in this

lesson and yet they did not engage critically with each other’s ideas. By the end of the meeting, they were not able to reach a collective decision on this aspect of the lesson. This pattern occurred in four specific practice aspects, covering 11% of the total 52. Related to the previous two patterns, a third pattern consistent across both meetings was “**scarcity of agreement or joint decisions**” among the team as a whole. It can be noted that, during both meetings, there was a scarcity of scenarios within which the Cherry Vale team as a whole reached agreement on specific plans for the lesson. Although there were clustered agreements among some team members, they often did not lead to collective decisions by the whole team. For example, it only occurred once across both meetings that the team did not disagree on a particular practice area (see example S-PA 12, Table 4.3). And it only occurred twice across both meetings that the team reached partial agreements on specific aspects of the lesson, i.e. the necessity to narrow down the lesson goal and replace some of the activities (see examples S-PA 2 & 15, Table 4.3).

Table 4.5 Patterns of cognitive engagement identified in the talk of the Cherry Vale team

Patterns of cognitive interaction	No. & percentage of scenarios	Specific practice aspects (S-PA)
Clustered consensus and idea building	11 (29%)	4,5,12,16,18,22, 25,31,33, 34, 35
Individual idea development	4 (11%)	6, 9, 21,23
Scarcity of agreements or joint decisions	35 (92%)	All CCP aspects except 2,11,14

4.3.1.2 The case of the Fragrant Hill team

The Fragrant Hill CCP tables (4.6; 4.7) show more congruence in Fragrant Hill teacher’s cognitive profile and more symmetry in their cognitive engagement. All three teachers were actively engaged in sharing their views regarding a range of practice areas and proposing ideas for the public research lesson throughout the three team meetings. Absence of views was relatively rare in comparison with the Cherry Vale team, with only a few occurrences in the case of Lili. However, participation was not entirely symmetrical among the three members in this team either. For example during the first meeting, Meiyong’s CCPs were more visible than the other two teachers’ but during meeting two and three it was Malan’s CCPs that were more visible. This indicates that as the DRLS went along, Malan gradually took over more responsibilities in the DRLS task.

Table 4.6 Fragrant Hill teachers' conceptions of Practice revealed in planning meeting 1

Names		Practice areas		Malan	Meiying	Lili
PA1	Review Lesson Goal	1	Agree		Review lesson shouldn't simply be an opportunity to re-present previous knowledge. It should be an opportunity for pupils to consolidate their previous knowledge into use and to develop new competence and abilities. Pedagogically it should focus on supporting pupils to express individual thoughts and opinions in English. This is more important than language accuracy.	Pupils' integrated language competence should be the goal of language learning. New language assessment is also focused on language competence rather than just knowledge. The lesson will not be able to engage pupils if it's simply re-presentation of previous vocabulary and sentence patterns.
		2	Developing pupils' integrated language competence through reading and opportunities to talk and write about what they read.		The lesson goal is to develop pupils' language competence.	This review lesson should be an opportunity to further develop pupils' integrated language competence including their ability to read, to express and to write in English.
PA2	Teacher role	3	Agree. There should be more pupil group work and peer interaction during review lesson.		Teacher should play a facilitative role in review lesson. That means they should talk much less. More classroom space and time should be given to pupils. Teacher only provides effective activity structures.	Agree
PA3	Curriculum materials	4	Agree		Course book has limitations. Teachers should adapt, supplement and improve it. The ability of adapting and improving curriculum materials to suit own pupil needs is a key aspect of teacher competence.	Agree that teachers have responsibilities to improve the curriculum materials because course book writers mainly cater to the needs of average-level pupil.
		5	Lesson content needs to be adapted and supplemented. The reading passages pose no real challenge for pupils. The post-reading task involves only mechanical task of copying key information from the text.		Lesson content needs to be adapted and supplemented. Reading passages in the course book have the same rigid language structures. Pupils can complete the post-reading task without having to engage with the text.	Lesson content needs to be adapted and supplemented. Passage structure is exactly the same in the course book reading passages. Pupils know where to look for information without having to read the sentences.
PA4	Pupil ability	6	Agree. Higher ability group think actively and can express themselves well in English if given the opportunities. Middle and lower level pupils have individual thoughts but need more support to express their thoughts in English.		Ability gaps among pupils are a common phenomenon in higher-grade classes across all schools in the district. There are at least three ability groups, higher, middle and lower ability group. If effectively supported, pupils with higher level abilities can express their thoughts at a language level far exceeding teacher expectations.	Agree. Fifth grade pupils can be divided into at least three ability groups. The higher group have balanced language abilities in terms of listening, speaking, reading and writing and are capable of fluent expression. The middle group have less balanced language abilities. The lower group have difficulties in developing some areas of language abilities.
		7	Their pupils could complete the course book reading tasks while at their fifth grade. They are capable of more meaningful tasks such as talking about their preferences for famous people and explaining reasons.		The reading passages and post-reading tasks in the course book are too easy for their pupils.	Agree
PA5	Extension	8	Agree		Sixth grade pupils need extension in their abilities to use language to express individual thoughts.	Agree
		9	Extending reading materials on famous people that pupils are interested in.		Sourcing reading materials on famous people that pupils like. Also level of language should be more difficult than reading passages in the course book.	Agree
		10	Task demand in the course book was limited to mechanistic informational tasks and needed to be extended.		Agree. Their sixth grade pupils' abilities are beyond information processing. Teacher can use subjective questions	Agree

				to encourage individual thinking, personal expression, and peer interaction.	
PA6	Reading Instruction	11	Agree	Reading shouldn't be confined to information processing. Teacher should create opportunities to engage pupils deeper in the text and encourage their individual thinking, facilitate their individual expression of thoughts in English.	Agree. Support with examples.
		12	Agree	Subjective questions are useful strategies to stimulate pupil thinking and language use.	Agree.
PA7	Differentiated instruction	13	Agree	A lesson should make sure that pupils with different abilities can all maximally gain from it. It is important to consider pupils' different learning needs and provide different support. Middle and lower level pupils need more teacher guidance.	Agree. If a lesson only caters to the needs of middle and lower level pupils, it is not fair for pupils with higher abilities. They also deserve to benefit from their class time. Give the example of a particular pupil in the class.
		14	Agree	Use open questions to elicit the potential of their higher ability pupils	Agree
		15	Use thought map as a support for their middle and lower level pupils	Agree. It provides useful guidance for these pupils.	Agree.
		16	Agree	Agree	Provide a writing sample on a famous person that is written in a pupil's style and at their level of language.
PA8	Pre-lesson Survey	17	Agree	It's necessary to conduct pre-survey sometimes because teachers may not know pupils as well as they think.	Agree
		18	Conduct a pre-survey with sixth grade pupils to find out about famous people their age group like, reasons for liking them, and ways through which they know about those people.	It is necessary to conduct a pre-survey to find out about famous people that pupils are interested in. Items included in the survey are consistent with content in the course book.	Suggests conducting a pre-lesson survey about famous people that pupils are interested in. Finding out pupil interests will help clarify further planning of the lesson.
PA9	Famous people pupils like	19	Agree	There may be a gap between what teacher thinks pupils like and what pupils really like.	Agree
		20	Famous people represented in the course book reading are too far away from pupils' daily experience.	Agree	Agree. Point out especially people like Newton, Edison, and Helen Keller.
		21	Pupils don't like Jackie Chan. Among NBA stars, pupils like Yaoming.	Pupils like Jackie Chan. Among NBA stars, pupils like Kobe.	Pupils don't like Jackie Chan. Among NBA stars, pupils like Marbury. Lili found this out through talking to all fifth grade pupils.
PA10	Lead in	22	Agree	Lead in with a topical event. Avoid leading in with vocab categorisation activity.	Agree
		23	Lead with the singing show Voice of China	Lead in with a free talk on a pop show such as I'm a Singer or a NBA match.	Agree with the idea of leading in with the pop show Voice of China. Tried in class and pupils were enthusiastic.
PA11	New Vocab	24	Agree	It is within normal range for a reading passage to have 5% to 7% new words. Pupils can guess word meaning from context.	
		25	Not sure how to deal with new vocabulary in additional reading materials	No need to teach every new word, for example chemistry or physics, in the reading passages. It does not necessarily interfere with pupils' understanding.	

Table 4.7 Fragrant Hill teachers' conceptions of Practice revealed in planning meeting 2 and 3

Names		Malan	Meiying	Lili	
PA12	Lead in	26	Lead in activity should be an opportunity to show the relation between a current lesson and the whole unit and demonstrate how previous lessons have prepared pupils for the learning in a current lesson. (M2)	Agree (M2)	
		27	Making links to unit topic. Linking from previous lesson to current lesson. (M2)	Agree (M2)	
		28	Talking about people from the world and talking about famous people pupils learned in the previous lesson. (M2)	Agree (M2).	
		29	Present pupils the people magazine. Explain them the tasks of the lesson: to read and contribute to the magazine (M3)	It is an attempt to create an umbrella context to integrate the reading and writing section of the lesson into a real life task. (M3)	
PA13	Shared reading	30	Agree (M2)	Engage pupils in more active learning through autonomous reading among a wide range of materials and resources. During pupils' transition from middle grades to higher grades, they should be supported to do more shared reading. (M2)	Support this approach. This approach gives pupils more autonomy in their learning. (M2)
		31	Get pupils to choose and read what they are interested in. Then get them to share. It can be as short as a one-sentence comment or as long as a full introduction. The aim is to create peer motivation to read more. (M2)	Agree (M2). This was nicely linked to the writing activity. What pupils were supported to express verbally during this post-reading sharing could be a verbal rehearsal of what they were expected to write in the writing activity.	Agree (M2)
		32	Enough time should be given to pupils to read and engage with the content as well as share views with others. (M2)	Agree (M2)	Agree (M2)
		33	Agree. Not sure when to intervene and get pupils to stop for sharing. It is difficult to operate. (M2)	It is difficult to operate the activity. Issues need consideration such as sharing with whom, and when to share. (M2)	Agree (M2). Approaches for sharing are an important issue to think about, whether to share among groups, share through group representatives, or through individuals before whole class.
		34	Propose and consider approaches for sharing: arranging materials in category by each table, pupils read and share among peer on the same table. Predict problems and difficulties associated with this approach such as when to stop to share. (M2)	Pupils' reading pace is different. This approach of sharing can cause peer interruption.(M2)	
		35	Consider her approach more effective to help pupils learn from each other, such as new vocabulary in the reading materials. (M2)	Propose alternative approach: reading in 10-min intervals and then stop and share whatever they read in a given period of time. (M2)	
		36	Integrate Meiying's idea of sharing after fixed reading time to solve the problem of peer interruption. After first time sharing, pupils can swap seats with pupils at other tables to read for the second time. (M2)	Suggest trying out this approach in the classroom. Also suggest seeking advice from teachers of other subjects such as Chinese teachers as they often organise group work. (M2)	Thinks that the sharing involved is like an information gap activity. Support Malan's revised approach. (M2)
		37	Agree (M3)	Suggest asking more subjective questions to elicit pupil thinking and pupil views. (M3)	Support pupils to engage deeper with the texts. Give examples of subjective questions. (M3)

		38	Agree with the suggestions. Consider it a very good idea. (M3)	Agree with the suggestion. Consider it a very good idea as it gives pupils more freedom to move around and choose what they like to read. (M3)	Suggest to present reading materials around the classroom rather than categorising them and placing on fixed tables. (M3)
PA14	Differentiated writing	39	Different pupils need different support. Some can write autonomously. Some may need questions as prompts. Others may need the support of main sentence structures. (M2)	It reflects the principle of catering to pupils' different learning needs during a lesson. (M2)	Agree (M2)
		40	Although using differentiated writing task, pupils with different ability levels still need to reach the same curriculum goal. (M3)	Agree that long term goal is for all pupils to meet the curriculum goal but within a lesson learning goal can be differentiated. (M3)	Agree. District assessment won't be differentiated for pupils. Learning goals can be achieved through different ways. Some goals can be achieved within class and some after class. (M3)
		41	Not sure how to operate the activity. Intend to design three different writing tasks. Not sure how to present and assign the tasks to pupils. Agree with the suggestion. (M2)	Suggest giving each pupil all three writing tasks and let them choose one that they feel comfortable with. (M2)	Has concern that pupils may tend to choose the easiest task. But in the end support the suggestion. (M2)
		42	Let pupils choose a task among the three during the class. After the class they need to choose a higher level task as homework. Repeat the process until all pupils can do the most difficult task. (M3)	Agree. Chip in suggestions. (M3)	Agree. Chip in suggestions. (M3)
		43	Supplementary reading materials should be authentic and come from credible sources. (M2)	Agree (M2)	Use original authentic language materials (M2)
PA15	Deciding reading materials	44	Decided to use a few reading texts on famous people from other course book sets. Consider the language to be at a suitable level to her pupils. (M2)	Agree with the choices. Language in chosen reading texts matches pupils' language level. (M2)	Agree with the choices. Reading materials chosen have a right level of language difficulty. It has a suitable level of complexity, i.e. including past tense. (M2)
		45	Suggested names famous among her age group. (M2)	Suggested names famous among her age group. (M2)	Suggested names famous among her age group. (M2)
		46	Reaching decisions on list of names to include. (M2)	Reaching decisions on list of names to include. (M2)	Reaching decisions on list of names to include. (M2)
PA16	"Huyou" teacher language	47	Agree (M3)	Effective teacher language is a key factor that leads to effective teacher guidance and successful pupil learning. (M3)	Agree (M3) Teacher should thoughtfully plan instruction language. Effective language can "heat up" pupils' affective engagement during the lesson. (M3)
		48	Teacher uses effective language to coerce pupils' interest and motivation to read and find out about the Nobel Prize winners. (M2)	Agree (M2)	Offered coaching on effective language with an example – immediately rewarding pupils' efforts to ask diverse questions and express diverse thoughts. (M3)
PA17	Goal of reading lesson	49	Agree (M3)	Higher grades lessons should aim to "kindle pupils' minds" to a level that they are curious, interested and active in their thinking. The goal is to motivate them to express their thoughts and find out more. (M3) In a successful reading lesson, there needs to be a wide range of active participation during the lesson. Pupils are keen to put up their hands and volunteer their diverse views. (M3)	Agree (M3) A lesson should include more opportunities to involve pupils in talking. (M3)
		50	Not satisfied with lesson trials 1&2. Pupils' active thinking and sharing was insufficient. (M3)	Lesson trials 1&2 haven't effectively achieved a wide range of active participation. Pupils' potentials were not fully explored and realised during the lessons. (M3)	Lesson trials 1&2 haven't effectively motivated and guided pupils to talk more and express personal views. (M3)

PA18	Pupil role	51	Agree (M2) Pupils should be given opportunities to explore and find out for themselves.(M2)	Teaching by telling and learning by doing are two entirely different learning experiences for pupils. Teachers should create more opportunities for active pupil learning. (M2) It is a better strategy to let pupils explore for themselves rather than teacher providing information or answers. (M2)	Agree (M2)
		52	Get pupils themselves to summarise after reading different aspects by which they can talk about famous people. (M2)	Agree (M2)	Agree (M2)

A predominant characteristic about the Fragrant Hill team's cognitive interaction was its high frequency of **reaching shared understandings or joint decisions** among the team members. A total number of 52 specific practice areas were deliberated upon during the three meetings. This included 21 scenarios (indicated by medium and dark green colours) to share propositional views regarding a range of practice areas and 31 scenarios (indicated by light green colours) to come to joint decisions regarding the development of the research lesson. The Fragrant Hill team reached shared understandings in 18 of the 21 scenarios as a whole team and came to joint decisions in 24 of the 31 scenarios. There were only four scenarios of disagreements among the 52 specific practice aspects discussed. This presents a sharp contrast to the scarcity of agreement pattern within the Cherry Vale team.

A second cognitive interaction pattern among the Fragrant Hill team members is their inclination of **substantiating each other's ideas** through providing elaborations or justifications such as concrete examples, personal testimonials, rationales, and references to the wider educational contexts. Twenty two scenarios of such interaction were identified within the 52 specific practice aspects discussed. For example (see S-PA 6, Table 4.6), after Meiying expressed her observations about the existing ability gaps among higher grades pupils, both Malan and Lili elaborated the nature of such gap with their personal experiences and understandings about their own pupils. Malan mentioned gaps in pupils' abilities to use English to express their individual thoughts and Lili pointed out gaps in their development and balance of the four language skills listening, speaking, reading and writing.

Jointly building ideas is another characteristic of the Fragrant Hill interaction. This often took the pattern of one person making a suggestion and others joining in to build on and further concretise that idea until it was considered appropriate for classroom operationalisation. For example after an extended discussion analysing the limitations of the course book content and establishing the needs to extend the lesson content, Lili came up with the suggestion to conduct a pre-survey with pupils in order to find out about the kinds of famous people that might appeal to their interest. Then Malan and Meiying each built on the idea to suggest specific items to include in the survey so that those items also had direct links with the content of the course book. This pattern of cognitive interaction occurred within 14 of the 52 specific practice aspects deliberated in the three meetings.

Table 4.8 Patters of cognitive engagement identified in the talk of the Fragrant Hill team

Patterns of cognitive interaction	No. & percentage of scenarios	Specific practice aspects (S-PA)
Reaching shared understandings	18 (35%)	1,3,4,6,8,11,12,13,17,19,22,30,39,40,43,47,49,51
Reaching joint decisions	25 (48%)	2,5,7,9,10,14,15,16,18,20,23,31,32, 33,36, 37,38,41, 42,43,44,46,48,50,52
Substantiating each other's views and ideas	22 (42%)	1,3,4,5,6,7,11,13,15,18,20,29,30,31,37,38,39,40, 44, 49,50,51
Jointly building ideas	14 (27%)	2,3,9,10,18,23,31,33,36,38,42, 46,48,50

From these salient patterns of cognitive interaction identified through analysis of teachers' talk and interactions during each team's meetings, the nature and characteristics of each team's collaboration in the DRLS contexts can be summarised from a cognitive point of view. The Cherry Vale team's collaboration in the DRLS started from a place where members of the team held similar conceptions around some areas of EFL teaching and learning but starkly different conceptions around other areas. In the collaborative space of the DRLS planning meetings such similarities and differences in pedagogic understandings and beliefs became explicit. Different deliberation processes occurred in their meetings, including *individualistic deliberation*, *clustered deliberation* as well as *team deliberation*. The immediate collaborative outcomes through these processes during the two meetings were that clustered consensus and idea development was achieved in some practical areas but levels of team consensus and decision making were relatively low. Nonetheless collaboration was useful in the sense that at least in the most important aspects of the lesson such as the definition of lesson goal and principle for activity design the differences were partially resolved. Furthermore, through the deliberations, alternative pedagogic views were brought to individual attention, which from a long term perspective may open up further opportunities for learning and conceptual change.

The Fragrant Hill team, on the other hand, started from a more convergent place in which they shared similar pedagogic understandings and beliefs on most of the areas of EFL teaching and learning that they discussed in their meetings. This led to a more collective deliberation process through which members of the team actively built upon each other's ideas or provided substantiation for each other's ideas with details, examples, and rationales. The immediate outcomes of their collaboration were that they were able to not only establish common pedagogic grounds for the development of their

lesson but also collectively develop concrete ideas and reach joint decisions about their lesson.

To summarise, this aspect of cognitive engagement suggests that in contexts of teacher collaboration such as DRLS, the extent of similarities or differences in a team's cognitive profile may have significant impact on the ways members of a team engage and think together. Significant differences in teams' CCPs are likely to bring about fragmented and clustered deliberation processes alongside collective deliberation processes. Conversely significant similarities in a team's CCPs are more likely to foster collective deliberation processes that lead to consensus and joint decisions. However, the extent to which a team can agree or not is not a sufficient criteria *on its own* to evaluate the quality of collaboration. To understand more about the quality of their collaboration I need to turn to an in-depth analysis of two more cognitive processes: the processes of making explicit CCPs and the processes of knowledge use and creation.

4.3.2 Cognitive process two: Making CCPs explicit and the implications for learning

This aspect of cognitive processes addresses the extent to which members of a team articulate their more general pedagogic understandings or beliefs that underpin their specific pedagogic decisions in the scope of the research lesson. Based on the previous CCPs tables (4.3, 4.4, 4.6, 4.7) of each team, the tables (4.9, 4.10) below sum up the number of instances that each team verbalised their CCPs either as a general practical theory/principle, as a practical rule of thumb, or as a lesson-specific idea respectively within each practice area and during each of their meetings. Proportions of each type of CCP articulation are also calculated against the total instances of articulation in each meeting.

4.3.2.1 Comparison of the articulation of CCPs between the Cherry Vale team and the Fragrant Hill team

Table 4.9: Comparison of the articulation of CCPs by Practice Areas in meetings 2-3: the Cherry Vale team

Cherry Vale Planning Meeting 2 (Participant N = 6)				Cherry Vale Planning Meeting 3 (Participant N = 4)			
Practice areas	CCP (No. of instances)			Practice areas	CCP (No. of instances)		
	Principle	Rule of practice	Lesson-specific		Principle	Rule of practice	Lesson-specific
PA 1		2	6	PA 11		1	1
PA 2		1	6	PA 12			1
PA 3	4	5	7	PA 13			1
PA 4		1	5	PA 14			1
PA 5	3	2	6	PA 15			3
PA 6		1	6	PA 16			2
PA 7		4	6	PA 17		2	5
PA 8	1	2	5	PA 18			3
PA 9		2	4	PA 19	2	2	4
PA 10		1	2				
Total	8 (10%)	21 (25%)	53 (65%)	Total	2 (7%)	5 (18%)	21 (75%)

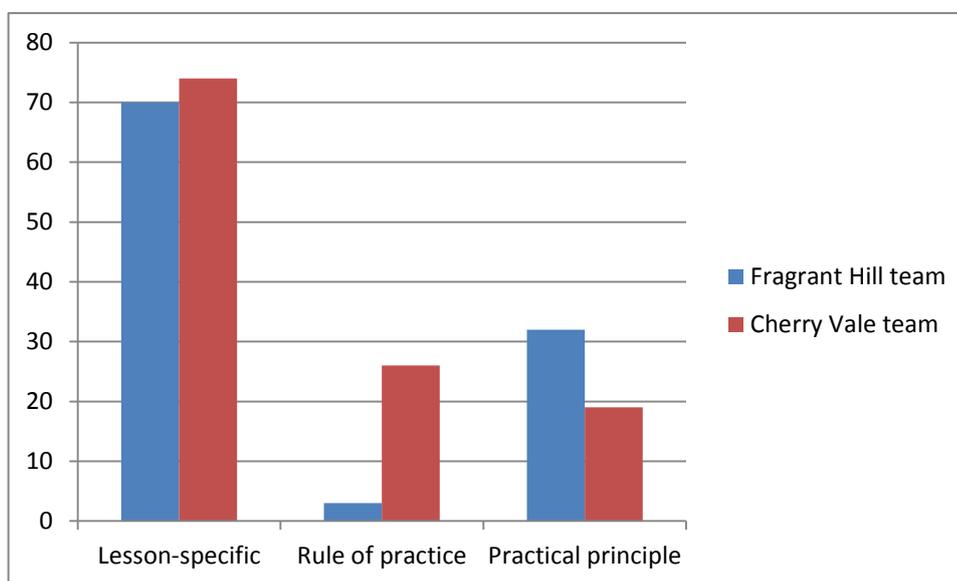
It can be noted that in both Cherry Vale meetings, a major proportion of team members' CCPs were put forward as lesson-specific ideas, covering 65% and 75% respectively of the total CCPs. About a quarter of the CCPs were expressed as practical rules. And only a very small proportion of CCPs (10% in meeting 2 and 7% in meeting 3) were articulated as practical theories or principles. For example during meeting 2 there was an absence of discussion at the principle level within eight of the eleven practice areas. During meeting 3, discussions at the principle level were absent within eight of the nine practice areas. This shows that while the Cherry Vale team did make effort to make explicit their CCPs, their CCPs seemed to be organised more as practical rules of thumb rather than general practical theories or principles.

Table 4.10: Comparison of the articulation of CCPs by Practice Areas in meetings 1-3: the Fragrant Hill team

Fragrant Hill Meeting 1 (Participant N = 3)				Fragrant Hill Meeting 2&3 (Participant N = 3)			
Practice Areas	CCP (No. of instances)			Practice Areas	CCP (No. of instances)		
	Principle	Rule of practice	Lesson-specific		Principle	Rule of practice	Lesson-specific
PA 1	2		3	PA 12	1	1	3
PA 2	2			PA 13	1		17
PA 3	2		3	PA 14	5		6
PA 4	3		2	PA 15	2		9
PA 5	1		4	PA 16	2		2

PA 6	1	1		PA 17	2		3
PA 7	2		4	PA 18	2		1
PA 8	1		3				
PA 9	1		5				
PA 10		1	3				
PA 11	1		2				
Total	16 (34%)	2 (4%)	29 (62%)	Total	15 (26%)	1 (2%)	41 (72%)

During the Fragrant Hill meetings, expression of lesson-specific level CCPs covered 62% and 72% respectively of total CCP articulations. This is similar to the case of the Cherry Vale team. But the ratios for practical theory/principle level and practical rule level articulation show a markedly different pattern. The table above shows that much higher proportions of Fragrant Hill teachers' CCPs (34% and 26% respectively) were articulated as practical theories or principles. And in almost all the practice areas (with the exception of one) the Fragrant Hill members made pedagogic deliberation at a theoretical or principle level. Conversely much lower proportions of Fragrant Hill teachers' CCPs (4% and 2% respectively) were expressed as practical rules. The graph below gives a more direct comparison between the two teams.



Graph 4.1: Comparisons of the articulation of CCPs between the Cherry Vale team and the Fragrant Hill team

It is clear from the analysis above that neither of the two teams confined their discussions to the immediate context of the research lesson. Instead both teams made meaningful efforts to articulate their underlying *practical principles* and *rules of practice* that shaped their pedagogic reasoning around particular lessons. The process of

making explicit CCPs has significant implications for learning. A central argument for collaborative learning is that through dialogic deliberations conceptions of practice that teachers hold personally and implicitly can be made public, explicit and thus shared. This is important because through such shared, public explication CCPs (and all other expressed ideas) they can be scrutinised, tested in different contexts of team deliberation and exposed to critique, thus opening up opportunities for deep learning and practice change as both collective and individual experiences. I take the discussions of the implications of this cognitive process further in the next section.

4.3.2.2 Making explicit CCPs and its implications for the learning of each team

The analysis shows that through making CCPs explicit in the DRLS deliberation, opportunities for learning were opened up for individual teachers as well as for the team as a whole. On one hand, comparisons between CCPs that were consistent with new curriculum perspectives and those that stood starkly in contrast became more apparent, prompting adjustment and shift of CCPs towards new curriculum perspectives. On the other hand, CCPs that were consistent with the new curriculum could also be elaborated and extended, leading to deepened understandings not just about the new curriculum perspectives per se, but also about ways of embedding them in classroom practice. In this subsection I discuss by each team the implications of the cognitive process of making explicit CCPs for learning.

(1) Making explicit CCPs so that they can be critiqued and adjusted – the case of the Cherry Vale team

In the Cherry Vale team, the impact of making explicit CCPs was most directly reflected in their achieving shared understandings about the most fundamental aspects of the research lesson: (a) how the lesson goal should be defined and (b) what activities would be useful. Discussions (and disagreements) around these two related aspects of the lesson formed the central themes of Cherry Vale planning meetings 2 and 3. In relation to the lesson goal, the deliberation led to an explicit contrast between a view of a review lesson that was oriented exclusively to mastery of language content and a view of a review lesson oriented more towards the ability to use language appropriately in context. This deliberation eventually led to the resolution for a more context-specific

approach to defining the lesson goal, an approach more consistent with the new pedagogic vision. In relation to activity design, explicit contrast was made between an exclusive fun principle and a more pragmatic goal-oriented principle. And the resolution came as the more pragmatic goal-serving principle was accepted by the team as a guiding principle for scrutinising and selecting activities for the lesson. Their discussion around Ying's idea of a fun activity "Gourmet map" (Appendix 7.1: p.286) exemplifies this kind of cognitive engagement. By making their CCPs explicit, the Cherry Vale team was able to address the differences in their pedagogic thinking in more depth and with more effectiveness. As a practical implication, the team was able to collectively re-shape the research lesson in ways more consistent with new curriculum perspectives. As a learning implication, it prompted members of the team to be more reflective in their pedagogic thinking, elevating their conceptions beyond the context of the immediate lesson to a more general level that may become more accessible to themselves in future practice contexts.

(2) Making explicit CCP so that it can be shared and co-constructed – the case of the Fragrant Hill team

For the Fragrant Hill team the impact of making CCPs explicit was most directly reflected in their more elaborated and deepened interpretations and conceptions about the learning goal of a review lesson under the new curriculum framework and about the use of pedagogic ideas such as extension and differentiation in the context of review lessons. For example in PA1 (see Table 4.8), the team's deliberations about the learning goal of the specific lesson led to the construction of a more general level conception that explicitly places pupils' language use ability at the very heart of a review lesson's learning goal. Guided by such a clear conception, the team was then able to propose a different teaching and learning relationship within a review lesson, featuring the teacher taking less control and the pupils gaining more autonomy for their own learning. Concurrently they were also able to use, adapt, and supplement the curriculum materials (i.e. the course book) more critically and resourcefully so that it can more appropriately cater to their own pupils' learning needs. Furthermore, their explicit thinking together helped them to deepen their understanding about pupils' language use ability as the ability to use language with personal style for the purpose of expressing individual thoughts; this example of explicit thinking enabled them to link language teaching and

learning activity with the more holistic aim of cultivating individual and critical thinking. Part of this discussion is reflected in Appendix 8.1 (p. 290-291). The practical implication was that the team was able to develop a review lesson that reflects new curriculum vision. And the team learning implication was that these understandings which were articulated beyond the scope of the immediate lesson became part of the team's deep level thinking about review lessons more generally as a unique lesson type, making it possible for them to have a long-term impact on the ways these teachers think and go about planning any review lesson in future.

To summarise, the cognitive process of making explicit CCPs has brought about adaptive and constructive conception changes within the two case teams under study. Both kinds of CCP changes are meaningful and necessary for the ambitious and yet challenging curriculum reform endeavour that aims for transformative changes at the classroom level from a traditional knowledge delivery approach to a new capacity-building approach. This cognitive process itself constitutes a reflective process of generalisation and theorisation that enables a teacher to think about practice beyond the scope of the immediate lesson, hence making it possible to distil and transfer knowledge across practice contexts. Theoretically it also has the potential to lead to more long term impacts on classroom practice. Making explicit CCPs also makes it possible to understand the characteristics and modes of knowledge use within each team. When teachers' discussions around a particular practice area are entirely contextualised within a particular lesson, the knowledge use and creation process becomes hidden. But when explicit rationales (i.e. in the forms of a practical principle or rules of practice) are articulated, it is possible to trace the characteristics and modes of knowledge use and creation that underpin a particular team's professional learning and practice development. The next sub-section discusses this third important cognitive process that was under way in contexts of the DRLS collaboration.

4.3.3 Cognitive process three: characteristics and modes of knowledge use and creation

Thematic analysis of each team's talk around the practice areas summarised on each team's CCP tables reveals different characteristics and modes of knowledge use among the two case teams. The Cherry Vale team's cognitive engagement reflects

characteristics of mixed and divergent knowledge use orientations among its members. The Fragrant Hill team, on the other hand, reflects characteristics of joint and more consistent knowledge use orientations. These different characteristics of knowledge use have impact on the nature and outcome of each team's collaboration and learning.

4.3.3.1 The Cherry Vale team: divergent knowledge use orientations

The Cherry Vale CCP tables (Tables 4.3; 4.4) show that members of this team not only held different CCPs in a range of practice areas but also showed different modes of knowledge use. Further analysis around practice areas summarised on the CCP tables (4.3; 4.4) reveals a mix of applicative, interpretative, and associative modes of knowledge use among its members. These different modes of knowledge use contributed further conflicts and difficulties for the team to achieve fruitful outcomes in their DRLS collaboration. More saliently, the conflicts were reflected (a) between applicative and interpretative knowledge use orientations and (b) in diverging interpretations or associations that derived from a set of shared pedagogic concepts or "metaphors".

(1) Conflicts between applicative and interpretative knowledge use orientations

One clear conflict in the Cherry Vale team's knowledge use process was between applicative and interpretative knowledge use orientations. The predominant mode of knowledge use identified in the Cherry Vale team was straightforward application of practical rules of thumb. This knowledge use orientation was most visibly shown by Ying and Min during their team discussions. For example Ying held a range of practical rules about lesson design including rules about review lesson (see PA1, Table 4.3), about essential elements of a lesson (see PA3&9, Table 4.3), about sequence and pace of language skills development (see PA19, Table 4.4). Similarly Min also held fixed rules about essential elements of a lesson (PA3, 5 & 9, Table 4.3). Ying's and Min's abundance and often rigid articulation of these rules during lesson planning meetings elicited disagreements from other members of the team who argued for a more flexible and pragmatic approach in planning this research lesson. Yulan and Ting, for example, held the pragmatic principle (see PA5, Table 4.3) that decisions about the suitability of an activity should be based on its potential contributions to a clear set of lesson

objectives. Therefore they didn't accept Ying and Min's propositions about a fixed lesson model. Instead they used their practical principle to critique Ying and Min's conceptions of a lesson and evaluate some of Ying's specific ideas for the lesson. In this particular case, the interpretative reasoning of Yulan and Ting outweighed the applicative reasoning of Ying and Min, resulting in collective acceptance that some of the activities should be replaced or adjusted since they bore no close relevance to the lesson objectives. Appendix 7.2 (p. 287) and 7.3 (p. 288) provide examples of such conflicts in their knowledge use orientations and instances of reaching agreement through discussion. But in most other cases, the team was not able to resolve their conflicts and therefore unable to develop shared views.

(2) Conflicts caused by divergent interpretations or associations of pedagogic concepts or "metaphors"

The second aspect of conflicts was caused by divergent associations and interpretations of pedagogic concepts that were encapsulated in the forms of "images" or "metaphors". In this particular DRLS, it was around the two metaphors "extension" (PA2, Table 4.3) and "sublimation" (PA3, Table 4.3) which were referred to by the team 9 times and 21 times respectively during planning meeting 2. It was clear that through these uses the team members each expressed their own conceptions about these two metaphors. For example, some team members associated the two metaphors with two different aspects of practice, most typically with "extension" associated with addition of language content and "sublimation" associated with linking specific topics of language learning to relevant cultural practices. But other members such as Anhua and Min, sometimes used these two metaphors interchangeably to refer to introduction of cultural practices in language learning. Then more specifically about the "sublimation" metaphor, some teachers associated it with the introduction of cultural practices, while others associated it more with the promotion of "moral practices or values". While there were already disagreements around whether or not "sublimation" was a necessary activity for the lesson (PA3&9, Table 4.3), the divergent associations and interpretations about these two metaphors added further difficulties for the Cherry Vale team to reach joint decision on this practice area (see PA3&10, Table 4.3). Appendix 7.4 (p. 288-289) illustrates the divergence in their interpretations of the metaphor "sublimation".

The knowledge use conflicts among the Cherry Vale team members suggest that when a considerable amount of a teacher's CCPs are held rigidly, it is likely to lead to straightforward, uncritical and sometimes inappropriate application of those rules in practice without consideration for other practical possibilities. This mode of knowledge use is potentially harmful when those practical rules held are based on traditional or outdated practices. It can create formidable conceptual barriers for teachers to accept alternative views, such as those new ways of pedagogic thinking promoted by the new curriculum framework. The conflicts also suggest that when new pedagogic ideas are introduced to teachers, especially when they are encapsulated in metaphors, it is likely to evoke individual and potentially divergent interpretations or associations about what they mean for practice. This creates a different kind of challenge for effective implementation of the new curriculum at the classroom level.

4.3.3.2 The Fragrant Hill team: joint and interpretative knowledge use orientations

Analysis of the talk and interactions among members of the Fragrant Hill team shows more collective and consistent knowledge use orientations. The predominant mode of knowledge use within this team was interpretative, with a few instances of associative knowledge use. Applicative modes of knowledge use were rare throughout the three meetings. This probably has to do with the fact that only a small proportion of Fragrant Hill teachers' CCPs were organised or expressed as practical rules of thumb. Even when such rules were verbalised (see S-PA 12 & 22: Table 4.6; S-PA 27: Table 4.7), they were not phrased with the same kind of rigidity as those prevalent in the Cherry Vale team. Rather they were proposed with more nuances - as a useful choice from a range of other valid practical possibilities. Relatedly another characteristic of the Fragrant Hill team's knowledge use was that it was collective rather than individualistic, which proved conducive for practice innovation and knowledge co-construction and I now turn to consider and clarify this.

(1) Co-constructing interpretations of new pedagogic concepts

In contrast to the Cherry Vale team, whose members sometimes had divergent interpretations about certain pedagogic concepts or ideas, Fragrant Hill teachers appeared to have more consistent interpretations, and they often built upon each other's

interpretations to extend and deepen their understandings. This is evident in seven of the practice areas including PA2, PA6, PA7, PA13, PA14, PA15, and PA17 (see Table 4.6 and 4.7). For example in PA13, the teachers had an in-depth episode of discussion about the pedagogic concept of “shared reading” which was newly introduced to the team by Yumei. Although none of the teachers was previously familiar with the concept, through collective interpretation they were able to develop and reach a shared understanding. They were able to collectively come to establish that “shared reading” as an alternative approach for organising reading activities could give pupils more autonomy in deciding what to read and how to read it, and hence could potentially motivate pupils to read more and learn more actively. They also came to reckon that it was a pedagogic alternative that would be particularly useful and necessary for their high grade pupils and those transitioning from middle towards high grades. This kind of co-constructive interpretation set shared grounds for their collaborative learning and practice development. Appendices 8.2 (p. 292-294) and 8.3 (p. 294-295) illustrate the Fragrant Hill team’s iterative discussions around “shared reading” over the course of two meetings.

(2) Co-constructing innovative practice and expanding practical repertoires

One immediate outcome of interpretative knowledge use was that it led to effective and often innovative practice. This was most evident in three of the practice areas PA8 (Table 4.6), PA13&14 (Table 4.7). In the same practice area “shared reading” (PA13, Table 4.7) for example, the team was able to, through iterative construction during the course of two team meetings, develop a detailed and feasible plan to try out shared reading activity in their research lesson. Such a plan included a series of detailed and practical decisions such as on what reading resources to use, how to present the resources to pupils, how many reading intervals to schedule in the activity, when to interrupt for sharing, how to guide and support pupils to share, and what the best seating arrangements would be for sharing. This plan turned out to work well in the final public research lesson. The post-district public lesson teacher survey data shows that 109 out of the 118 teachers considered this an innovative idea and 76 teachers indicated that they would like to try it out in their own classrooms.

(3) Co-constructing practice knowledge – making what's implicit explicit

A long-term outcome of interpretative knowledge use is that it can also lead to co-construction of practice knowledge when reflective interpretations are further applied to the newly developed practice. This typically took place when the team started with contextualised discussions around a practical issue in relation to the specific lesson, but after reaching agreement on what to do, tried to distil a more propositional generalisation from that lesson-specific practice or idea. This is evident in eight of the practice areas including PA1, PA3, PA4, PA5, PA8, PA9, PA16, and PA18 (see Table 4.6 and 4.7). For example, the team had already come to agree that they needed to extend both the lesson content and the learning challenges for pupils in this lesson. Guided by this shared vision, in PA9 the team wanted to find out what celebrities might appeal to their pupils in order to make decisions about the extensive reading resources for the lesson. As a start, they each proposed specific celebrity names that they thought might be influential among their pupils. But through pooling their personal experiences about the pupils, they quickly realised that many celebrity names that they proposed matched up each of their personal preferences rather than their pupils' real experiences. As an immediate outcome, they were able to reject or accept some celebrity names for consideration. But as a more reflective outcome, they went on to make explicit the implicit message behind that particular discussion episode, which is that there can be wide gaps between what a teacher thinks about their pupils and what the pupils really are. This explicit realisation became the compelling rationale for their decision to conduct a pre-survey with their pupils to inform their sourcing of extensive reading materials. This aspect of discussion is reflected in Appendix 8.4 (p. 296-297).

The characteristics of the Fragrant Hill team's knowledge use indicate that when teachers more frequently apply reflective interpretations in their practical thinking, both in using knowledge to formulate practice and in generalising knowledge from practice, it is more likely that they will develop not only well-justified innovative practice but also well-substantiated practical theories. The fact that very few of Fragrant Hill teachers' CCPs were organised or expressed as straightforward practical rules was probably both a cause and an outcome of their reflective interpretation.

Recapitulation

Through thematic analysis of teachers' talk in their DRLS meetings, it is clear that the Cherry Vale team and the Fragrant Hill team demonstrate different characteristics in their team-level cognitive engagement. The different characteristics also lead to different outcomes for both teams' collaboration and learning. The characteristics and implications of each team's cognitive engagement are summarised in the table below.

Table 4.11: Summary of the characteristics of each team's cognitive engagement and the implications for learning

Implications Cognitive processes	The Cherry Vale team		The Fragrant Hill team	
	Characteristics	Implications for learning	Characteristics	Implications for learning
Patterns of cognitive engagement	<ul style="list-style-type: none"> Asymmetrical participation Individualistic deliberation Clustered deliberation Team deliberation 	<ul style="list-style-type: none"> Partial learning outcomes 	<ul style="list-style-type: none"> More symmetrical participation Collective deliberation Substantiating each other's views and ideas Jointly building ideas 	<ul style="list-style-type: none"> Fruitful learning outcomes
Making explicit CCPs	<ul style="list-style-type: none"> Meaningful efforts to make explicit CCPs High proportion of practical rules V.S. low proportion of practical theories 	<ul style="list-style-type: none"> CCP adaptation 	<ul style="list-style-type: none"> Meaningful efforts to make explicit CCPs High proportion of practical theories V.S. low proportion of practical rules 	<ul style="list-style-type: none"> CCP extension and construction
Modes of knowledge use/creation	<ul style="list-style-type: none"> Mixed and divergent knowledge use orientations Conflicts between applicative and interpretive modes of knowledge use Conflicts caused by diverging interpretations 	<ul style="list-style-type: none"> Limited co-construction Conceptual barriers to embrace new curriculum ideas 	<ul style="list-style-type: none"> Joint and consistent knowledge use orientations Predominantly interpretative and associative modes of knowledge use 	<ul style="list-style-type: none"> Co-construction of innovative practice Co-construction of interpretations Co-construction of practical theories/principles

The nature and characteristics of each team's cognitive engagement bring about different collaborative and learning outcomes for each team. The Cherry Vale team started off their collaboration with mixed pedagogic conceptions. This created difficulties for them in achieving shared understandings and decisions about their research lesson. The collaboration was further complicated by members' divergent knowledge use orientations. But because they made meaningful efforts during their

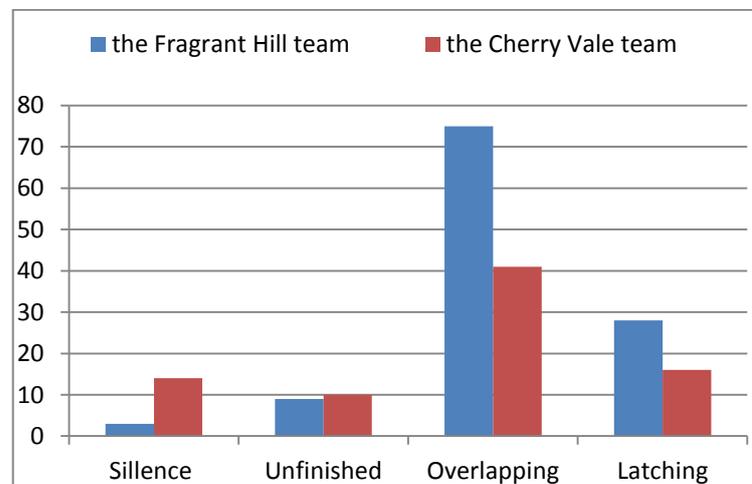
discussions to make explicit their CCPs, and hence the underlying knowledge use orientations, they were able to critique each other and prompt some conceptual change and adaptations at least among some members of the team. As a team they were also able to agree on the key aspects of the research lesson. So the Cherry Vale team's learning through their collaboration can well be described as "partial learning". By contrast, the Fragrant Hill team started off their collaboration on the DRLS with very similar pedagogic beliefs and visions. Departing from a set of common pedagogic assumptions, they were able to co-construct more in-depth understandings about some key pedagogic concepts, new understandings about the nature of a review lesson under the new curriculum framework, and innovative activities to shape the review lesson. So the Fragrant Hill team's learning through their collaboration can well be described as "rich learning".

So far the findings have only addressed the cognitive processes and outcomes underlying the two case teams' DRLS collaboration. In the next section I turn to report findings about the nature and characteristics of talk that have underpinned each team's social processes of collaboration. This is not to imply that 'cognitive' and 'social' processes are somehow independent from each other. Following the Vygotskian underpinnings of this research cognition and social interaction are mutually embedded processes mediated and defined by particular patterns of language use. A more refined focus on interaction functions that were communicated in the discourse of team meetings may provide either affirmative, contradictory, or new understandings about the working of each team.

4.3.4 Social process one: level of engagement in each team

Four engagement codes 'latching', 'overlapping', 'unfinished sentences', and 'silence' were identified and their occurrences calculated in the analysis of both teams' discourse data. Frequencies of latching and overlapping in the talk indicate the pace in the social interaction. The amount of silence in a meeting is a counter indicator of intensity of interaction. The discourse feature of unfinished sentences, on the other hand, is an indicator of the spontaneous nature of talk-in-interaction. Graph 4.2 compares the total instances of four engagement codes that occurred in each team's meeting discourse. The

purpose is to develop firstly understandings at an impressionistic level about the pace and dynamics of each team’s social interaction.



Graph 4.2 Comparison of engagement codes between the teams Cherry Vale and Fragrant Hill

Graph 4.2 shows similar instances of ‘unfinished sentences’ in both team’s discourse. This is a consistent affirmation of the spontaneous nature of thinking and talk in interaction. The graph also shows high frequency of overlapping and latching in both team’s discourse, indicating relatively high levels of engagement among both teams. But both overlapping and latching occurred more frequently in the Fragrant Hill team than the Cherry Vale team. ‘Silence’, however, occurred much more frequently in the Cherry Vale team. Together at the impressionistic level this suggests a higher level of engagement in the Fragrant Hill team’s interaction than the Cherry Vale team. But the differences are not to be interpreted definitively to draw conclusion about the quality of engagement in either team since each team had different member configurations and therefore represented different interactive structures. Any similarities or differences in this aspect of discourse need to be interpreted in combination with more in-depth understandings about other aspects of talk, a focus to which I turn next.

4.3.5 Social process two: characteristics and orientations of interaction functions reflected in each team’s discourse and the implications for learning

This section reports findings about the nature and characteristics of each team’s talk through close analysis of the interaction functions that were conducted and conveyed in each team’s discourse. Calculations of the interaction function (IF) codes clearly show

that there is a mix of *cumulative*, *disputational*, and *exploratory* talk orientations in both teams' discourse rather than any singular orientation. This collectively reflects the complex nature of talk and working in collaboration with each of the two teams under study. But individually in each team's discourse the actual configuration of *cumulative*, *disputational*, and *exploratory* orientations is distinctively different from one another. The different characteristics of each team's talk will be discussed separately as well as in comparison in the remainder of this section, with detailed analysis of IF codes and concrete examples from the discourse when necessary to elucidate their implications for learning.

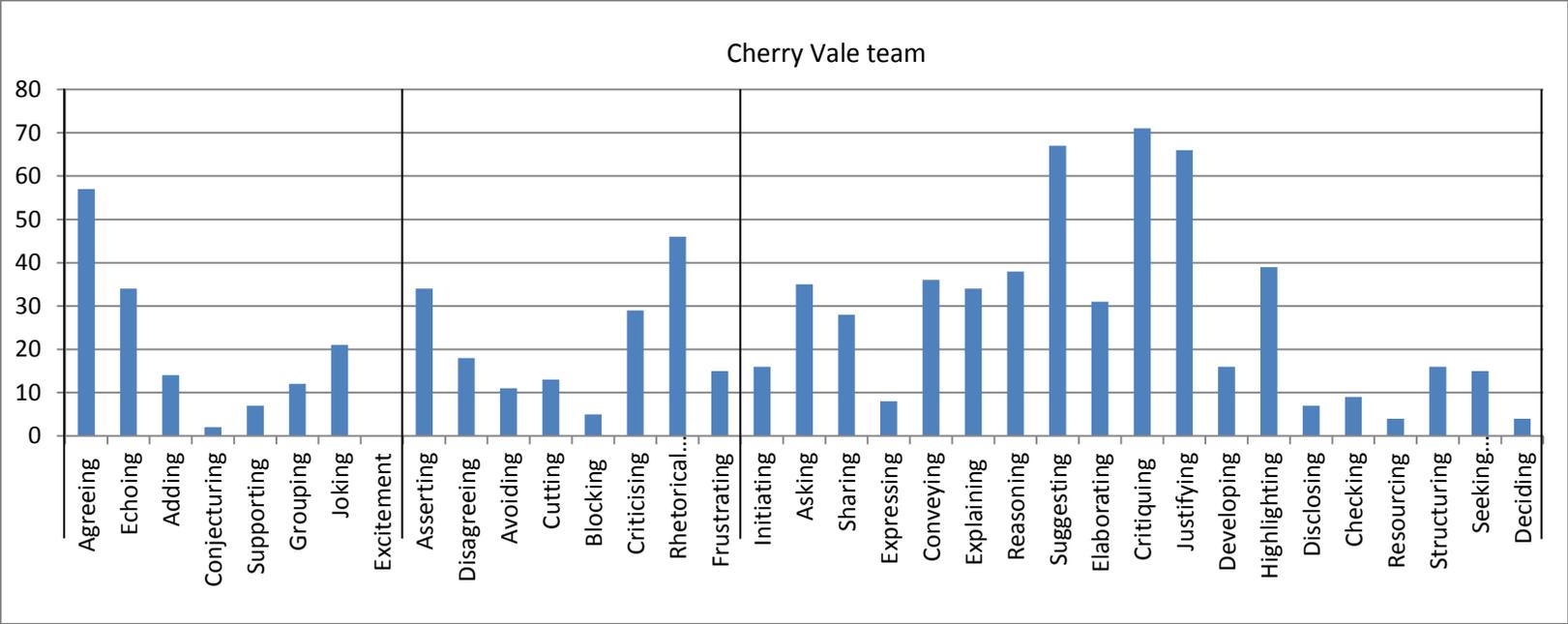
4.3.5.1 Exploratory talk with different orientations - 'exploratory talk with a disputational orientation' and 'exploratory talk with a cumulative orientation'

Although the analysis of interaction function (IF) codes shows that both teams' talk reflects mixed orientations, comparisons across the different categories of IF codes show higher frequency of exploratory-oriented IF codes than the other two categories in both teams' talk. This makes it reasonable to categorise both teams' talk as exploratory in nature. However, the analysis also shows qualitative differences in the two teams' talk. I discuss the characteristics of each team's talk with overall comparison of IF codes and comparison of IF codes by meeting for each team.

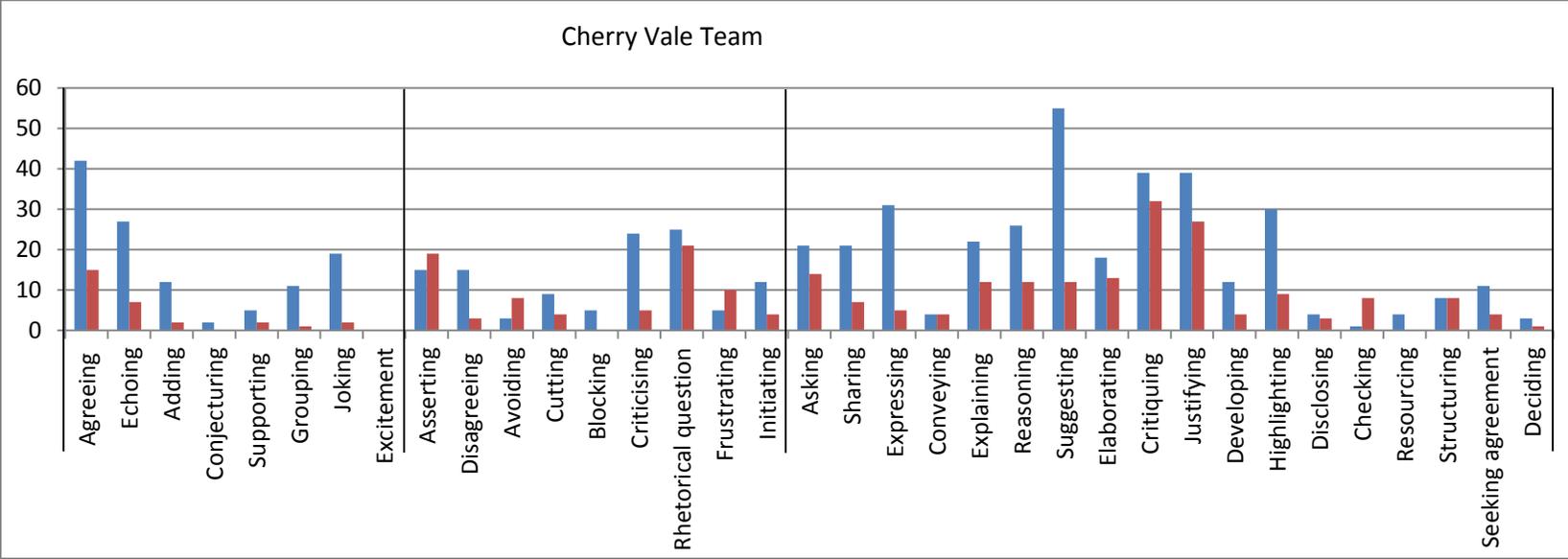
(1) Characteristics of the Cherry Vale team's talk – exploratory talk with a disputational orientation

Graph 4.3 aggregates the occurrences of each IF code across the discourse of Cherry Vale meetings 2 and 3. It shows a clear mix of cumulative, disputational, and exploratory IF codes, reflecting mixed orientations in this team's talk. Among the three categories of IF code, however, those reflecting an exploratory orientation figured the most prominently in the talk, making it the dominant orientation for this team's talk. Between cumulative and disputational IF codes, the difference was small but the latter was markedly more salient than the former in terms of range and frequency of occurrence, making disputational orientation the second apparent feature of this team's talk. Graph 4.4 compares the frequency of IF codes by meeting. It is clear that the same pattern of IF code distribution was consistent across both meetings. Hence the overall characteristic of the Cherry Vale team's talk can be summarised as 'exploratory talk with a disputational orientation'.

Graph 4.3 Frequency comparison of IF codes in all meetings: the Cherry Vale team



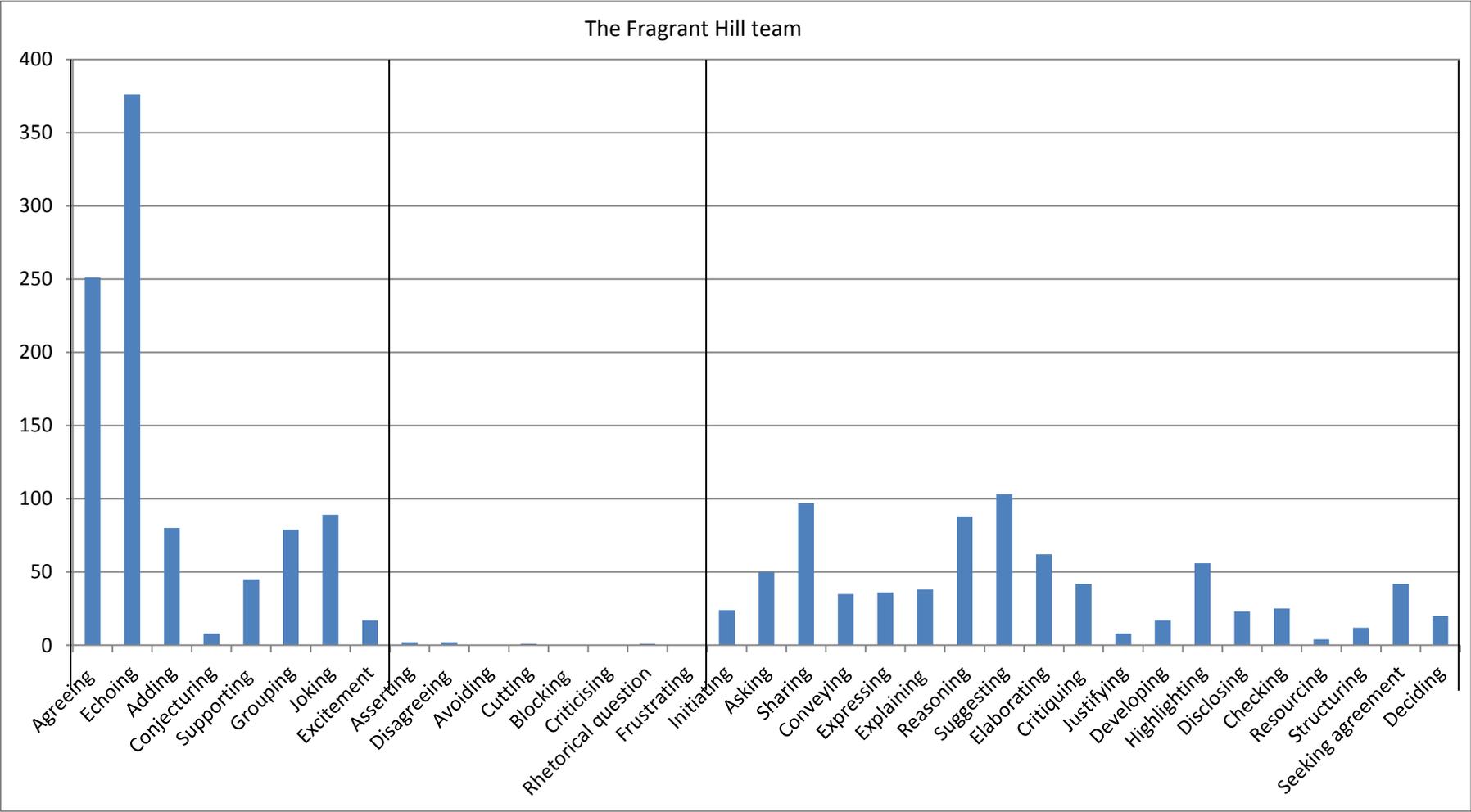
Graph 4.4 Comparison of IF codes between meetings 2 and 3: the Cherry Vale team



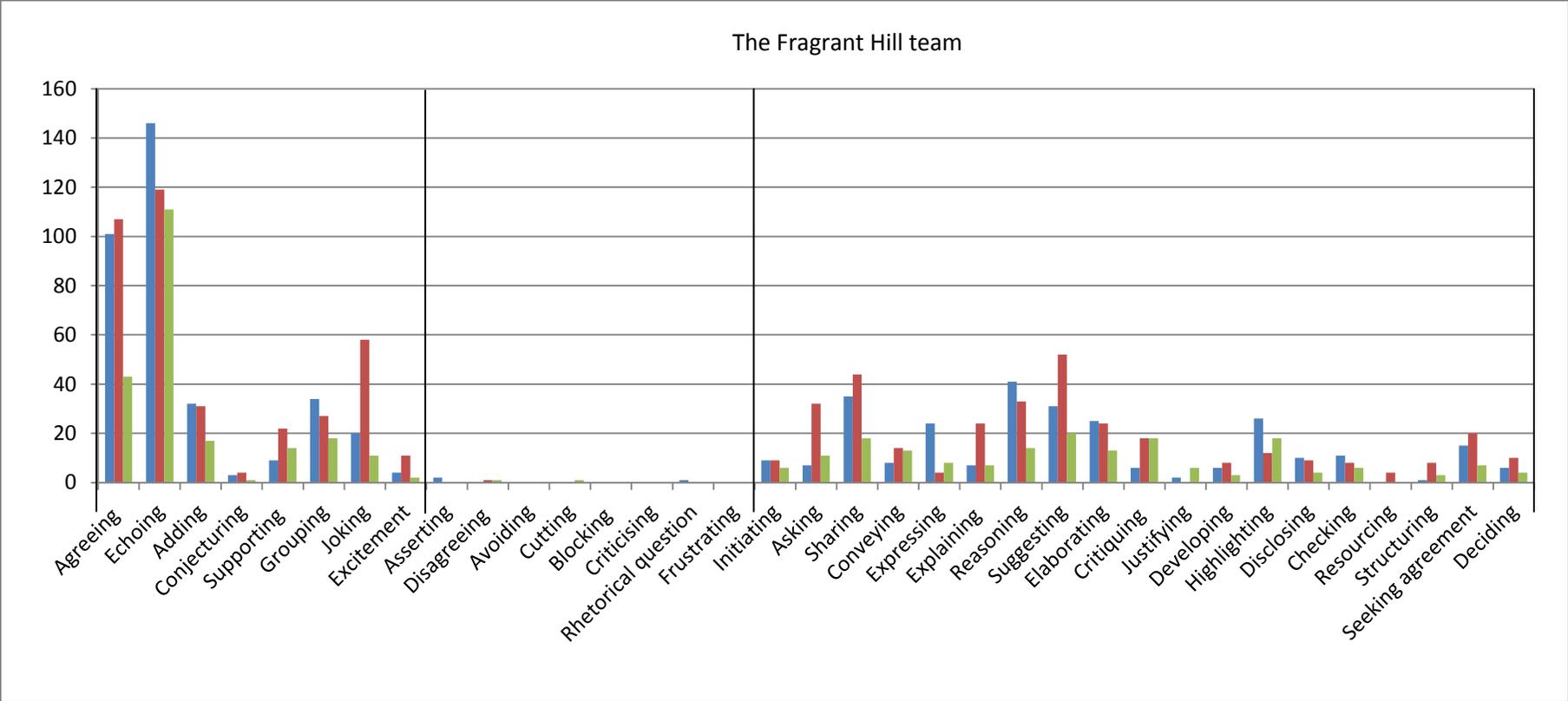
(2) Characteristics of the Fragrant Hill team's talk - Exploratory talk with a cumulative orientation

The talk of the Fragrant Hill team contained a different configuration of talk orientations. The first graph clearly shows that the most dominant orientations in this team's talk are cumulative and exploratory while disputational IF codes are almost negligible. Between the cumulative and exploratory IF codes, however, the differences are more intricate. While the high frequency of some cumulative codes such as 'agreeing' and 'echoing' may give the impression that cumulative orientation overtakes exploratory orientation, frequency alone may not be the most accurate criterion for understanding the talk composition in this case. This is because the most frequently occurring cumulative codes 'agreeing' and 'echoing' often only contain single-word utterances like "yes" or "hmm" while any exploratory IF code may represent much longer chunks of talk in the discourse. When the length of utterances is also taken into account, it is reasonable to say that exploratory IF codes still outweigh cumulative IF codes in Fragrant Hill's discourse. The second graph shows that the same pattern of IF codes configuration is consistent across all three meetings. Hence the Fragrant Hill team's talk can be characterised as '*exploratory talk with a cumulative orientation*'.

Graph 4.5 Frequency comparison of IF codes in all meetings: the Fragrant Hill team



Graph 4.6 Frequency comparison of IF codes between meeting 1, 2, and 3: the Fragrant Hill team



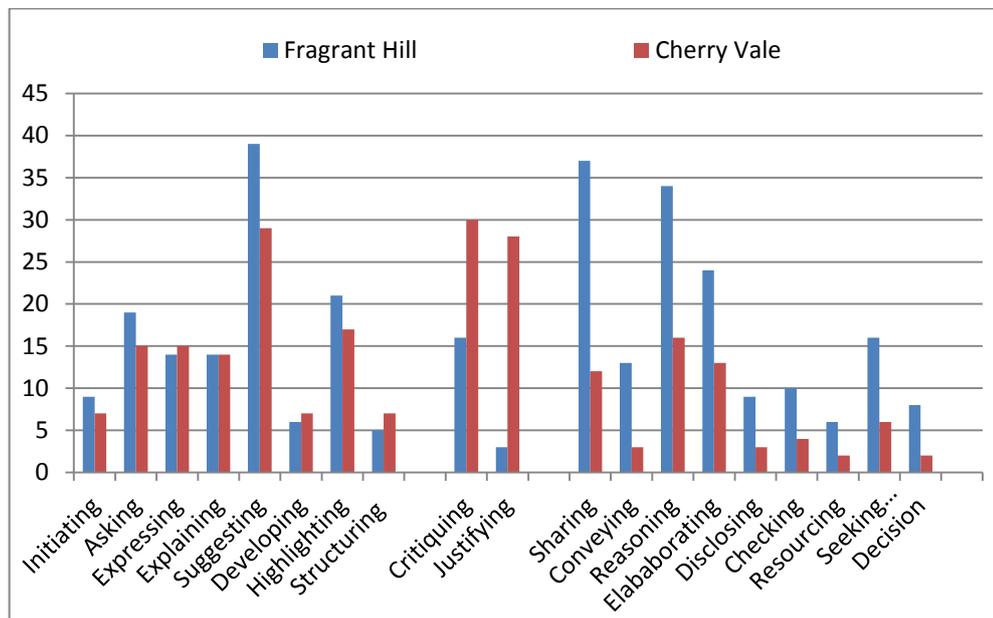
The overall characteristics of each team's talk are consistent with the overall patterns of cognitive engagement. For the Cherry Vale team, the dominant exploratory talk orientation appears to reflect the team's overall will to develop a research lesson together; however, the disputational talk orientation would seem to be consistent with the disagreements or differences among team members' CCPs reported in Section 4.2. For the Fragrant Hill team, the overall exploratory orientation reflects the team's joint efforts in developing their research lesson and the cumulative orientation seems to be consistent with similarities and congruence in the ways they think and go about their subject teaching.

But to be able to understand more about the implications of different talk characteristics on learning, it is necessary to compare the two team's talk in more depth so that more subtle and nuanced differences can emerge. This requires close-up comparison of the actual make-up and frequency of IF codes under each talk orientation in the two teams' talk. To render these aspects of their talk comparable, a 40-minute weighting was applied to the overall calculation of both teams' IF codes to address the difference in the lengths of their discourse.

4.3.5.2 Similarities or differences in the exploratory interaction and the implications for learning

In this and following sections I discuss more nuanced differences between the two teams in terms of the IF codes reflected in their meeting discourse data and discuss their implications for learning. The focus of this sub-section is on the exploratory interactions in the two teams. Graph 4.7 shows the comparison between the two teams' exploratory IF codes after the weighting has been applied. It re-arranges the exploratory IF codes into three clusters according to the similarities and differences in their frequency of occurrence between the two teams. The first cluster groups IF codes that occurred with similar frequency in both teams' discourse. The second cluster represents IF codes that occurred more frequently in the Cherry Vale team. The third cluster includes IF codes that occurred more frequently in the Fragrant Hill team. This close-up comparison indicates that exploratory talk occurred at a similar level of frequency in a 40-minute discussion by each team. But while Cluster 1 IF codes are salient in both teams' talk,

Cluster 2 IF codes are salient in the Cherry Vale team and Cluster 3 IF codes are more salient in Fragrant Hill team.



Graph 4.7 Comparison of frequency of exploratory IF codes between Fragrant Hill and Cherry Vale by cluster

The similarities and differences in the exploratory IF codes can be more meaningfully understood by further differentiating the codes in each cluster into five facets of exploratory interaction as represented in the discourse.

Table 4.12: Clusters of IF codes in relation to different facets of exploratory interaction

Code Clusters Facets of interaction	Cluster 1: Salient in both teams	Cluster 2: Salient in the Cherry Vale team	Cluster 3: Salient in the Fragrant Hill team
Managing communication	<ul style="list-style-type: none"> Structuring conversations 		<ul style="list-style-type: none"> Checking understandings Seeking agreements
Lesson development	<ul style="list-style-type: none"> Initiating topics Explaining lesson procedures Asking for information/ideas Suggesting ideas Developing ideas 		<ul style="list-style-type: none"> Elaborating Making decisions
Pedagogic reasoning	<ul style="list-style-type: none"> Highlighting critical issues Expressing personal theories and beliefs 	<ul style="list-style-type: none"> Critiquing Justifying 	<ul style="list-style-type: none"> Self-initiated reasoning
Knowledge sharing			<ul style="list-style-type: none"> Sharing personal knowledge Conveying knowledge from outside
Learning strategies			<ul style="list-style-type: none"> Resourcing Disclosing weakness

(1) Similarities and differences in lesson development – elaborating ideas

It is clear from Table 4.12 above that both teams engaged actively in the task of developing the research lessons during their DRLS meetings. Most directly this is reflected in the similar frequency of interactive acts such as initiating topics for discussions, asking for information/ideas, suggesting and developing ideas for the lessons, and explaining lesson procedures. But by comparison, the Fragrant Hill team engaged more frequently in elaborating ideas. This discursive act mainly entails rehearsing or imagining with procedural details how an activity could be enacted in the lesson. It has significance for teachers' learning and practice development through DRLS because it is often through such efforts that "images" of classroom teaching are retrieved from individual practical repertoires and shared with others (Elbaz, 1983). It is therefore an IF code that is conducive for peer coaching or the sharing of implicit or tacit knowledge (Dudely, 2013). The Fragrant Hill team also made more decisions in relation to their lesson development. This IF code reflects both a more shared decision-making process and a more fruitful outcome in the Fragrant Hill team's research lesson development.

(2) Similarities and differences in pedagogic reasoning: Self-initiated and provoked reasoning

Both teams also engaged in a high degree of pedagogic reasoning. This refers to their efforts to identify the most salient pedagogic issue and to make explicit the pedagogic rationale behind any proposed ideas. Members of both teams made similar amounts of efforts to (re)focus their team discussions on the most relevant pedagogic issues for the specific lesson. During their pedagogic deliberation, they also made similar attempts to access and engage their own pedagogic conceptions, beliefs, and visions to substantiate their standpoints. But there are also differences between the two teams. One key difference lies in that in the Fragrant Hill team there was a much higher proportion of self-initiated pedagogic reasoning than in the Cherry Vale team. In the Cherry Vale team, however, this kind of reasoning was often elicited or provoked by others rather than self-initiated. This implies that the Fragrant Hill team members shared the practice of making explicit the rationales behind their pedagogic ideas. On the contrary, in the Cherry Vale team there was higher proportion of pedagogic reasoning applied as

critique towards other's ideas. This may indicate the level of differences among Cherry Vale teachers' pedagogic conceptions and visions. It may also be partially interpreted as consequential and remedial efforts to address insufficient self-initiated reasoning.

(3) Knowledge sharing – sharing and conveying knowledge

Apart from these differences, there were also higher instances of knowledge sharing among each other in the Fragrant Hill team. This includes sharing information or knowledge that was personally held by members of the team. It also includes sharing knowledge that members of team came across through engaging with “knowledgeable others” either inside or outside their school contexts. In this particular case, they conveyed knowledge that they learned through taking part in district professional learning events, engaging with external experts who came to visit their schools, discussing with academic directors in their own schools, and discussing the lesson with Yumei.

(4) Learning strategies – disclosing weaknesses

The Fragrant Hill team also demonstrated more flexible learning strategies in their collaboration. There was a higher frequency of engaging different knowledge sources or technological resources to support their collaborative endeavors. This happened most frequently when the team lacked necessary knowledge on a particular issue under discussion. For example, during their meetings they engaged sources of knowledge such as internal or external curriculum materials. They also referred to the internet multiple times for information, resources and ideas. The Fragrant Hill team also explored their own weaknesses more than their Cherry Vale counterparts as opportunities to learn. There were more instances of disclosing personal weakness or ignorance in order to elicit support from colleagues.

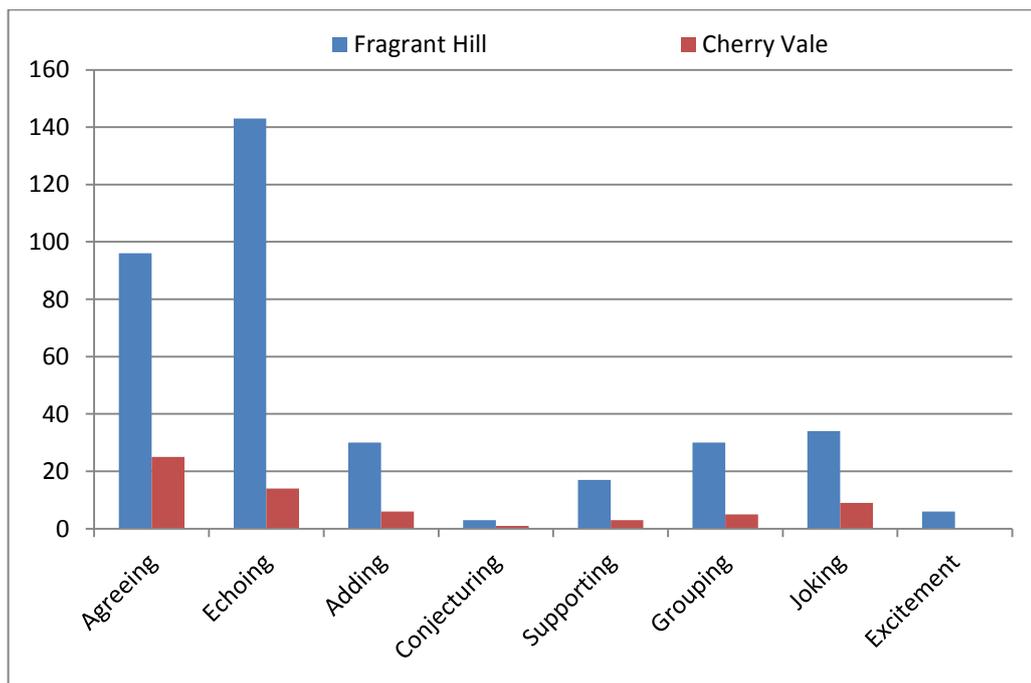
(5) Managing communication – checking understandings and seeking agreement

In addition to these exploratory efforts above, both teams also made efforts to manage their dialogic processes. But the Fragrant Hill team made noticeably more efforts to check each other's meanings and understandings and to seek mutual agreement. The

significance of checking is that meanings can get correctly conveyed and understood to avoid misunderstandings. The significance of seeking agreement is that potential disagreements can be elicited and addressed and therefore shared understandings can be established among the team.

4.3.5.3 Differences in cumulative interaction and implications for learning

This section compares the frequency of cumulative IF codes between the Fragrant Hill team and the Cherry Vale team and discusses its implication for learning. Graph 4.8 shows that cumulative IF codes occurred much more frequently overall in the Fragrant Hill team than the Cherry Vale team. While the occurrence of certain cumulative codes such as “agreement” is a natural indication of the similarities or differences in each team’s CCPs, the frequency of other cumulative codes is revealing of a team’s culture and norms.



Graph 4.8: Comparisons of cumulative IF codes between Fragrant Hill and Cherry Vale

Firstly the graph (4.8) shows that Fragrant Hill teachers “echoed” each other much more frequently than their Cherry Vale counterparts. This reflects a more salient culture of mutual attentiveness during interaction in the Fragrant Hill team. Secondly Fragrant Hill teachers also added or finished each other’s sentences more frequently. This indicates a

level of mutual understanding as colleagues. Thirdly Fragrant Hill teachers offered each other more encouragement, support, and recognition for each other's ideas. This indicates an important aspect of collaborative culture that extends beyond each other's learning needs to considering each other's affective needs. Fourthly there were many more instances of using "us" to refer to each other in the Fragrant Hill team. On one hand, this indicates a more collective orientation to dealing with the DRLS task. On the other hand, it also reflects a stronger norm of solidarity in the Fragrant Hill team. Last but not the least, there were significantly more instances of telling jokes and expressing excitement in the Fragrant Hill team. This suggests a more relaxed and positive discursive environment in the Fragrant Hill team, which potentially can make the collaboration a more enjoyable experience for every participant and a more productive experience for the team as a whole. The following excerpt from Fragrant Hill's discourse provides an example of such cumulative efforts and culture among this team.

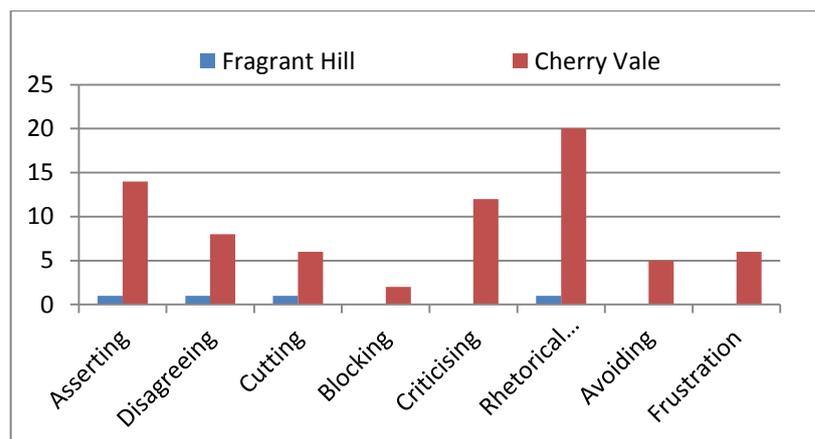
Table 4.13: Discourse excerpt taken from Fragrant Hill meeting 2: lines 86-106

Interlocutors	Talk	IF	DF
Meiying:	En, so our lead-in should start with =	Ini, Grp	
Malan:	=Dalai ++++ let's stay with Moyan=	Sugg, Joki	Latch
Meiying:	= Let's start with Moyan, [I think this is very recent	Agr, Rsn	
Lili:	[rightly so	Agr	Ovlp
Meiying:	I think we can also, from Moyan's speech, Moyan's award reception speech, [quote some influential and powerful lines,	Sugg	
Malan:	[en en	Echo	
Meiying:	=[how about that?	Skgr	
Malan	[ah, ah, I suddenly think that [in the later extension we can include Moyan=	Exci Deve	
Meiying:	[en	Echo	
Meiying:	=Of course, certainly can =	Agr	Latch
Lili:	This will work.	Agr	
Meiying:	Write it down, hurry	Mng	
Lili:	Hurry [++++++	Joki	
Malan:	[+++++++++	Joki	Ovlp
Meiying:	See, colliding of thoughts produces +++ another sparkle	Joki	
Lili:	In one moment our room will be on fire	Joki	
Malan:	The roof will be lifted up +++++ Moyan as extension (writing down)	Joki Echo	
	(gap 1.0)		

To summarise, the Fragrant Hill team teachers showed a higher level of mutual understanding and solidarity among each other as a team. They showed each other more mutual attentiveness when they engaged in the deliberation and exchanges of ideas. During collaboration, they did not just consider each other's learning needs but also attended to each other's affective needs. Compared to their Cherry Vale counterparts, they invested more effort to maintain a positive, uplifting and rewarding collaborative environment and experience for each other.

4.3.5.4 Differences in disputational orientation and implications for learning

This sub-section reports findings about the difference in frequency of disputational IF codes between the Cherry Vale and the Fragrant Hill team and discusses its implication for learning.



Graph 4.9: Comparison of frequency of disputational IF codes between Fragrant Hill team and the Cherry Vale team

Graph 4.9 shows a reverse contrast in the disputational IF codes between Fragrant Hill and the Cherry Vale teams. It shows that the Cherry Vale team engaged in many more disputational interactions while this kind of interaction was negligible in the Fragrant Hill team. Again the high frequency of disagreement is not surprising for the Cherry Vale team with the greater apparent disparity in their CCPs. But this group of IF codes also reveal a certain degree of individualistic and competitive culture in this team. Firstly Cherry Vale teachers sometimes put forward their views fairly rigidly and assertively. This may indicate a certain degree of competitive culture that stresses one is right and another is wrong. It may also indicate a certain level of defensiveness, an

unwillingness to express their ideas in ways that invite critique and development. Secondly, and related to my previous point, there were instances of cutting short someone else’s elaboration or blocking someone else’s ideas for consideration in the Cherry Vale team. On one hand, this further reflects a certain rigidity, assertiveness and possibly defensiveness in the attitudes and views of these teachers. On the other hand, it reflects insufficient consideration for creating a shared process. Thirdly there were comparatively high instances of putting forward straightforwardly critical comments and asking rhetorical questions. This implies some degree of a culture of blame and insensitivity to personal pride. These kinds of talk can potentially cause learning blockages for the team in resolving existing differences or achieving shared understandings. It may also create negative emotions or experiences among those who participated in the collaboration. These were already partially reflected in the obvious instances of expressing frustration and avoiding speaking in the discourse. The following excerpts from Cherry Vale’s discourse provide an example of such negative impact of disputational talk for learning.

Table 4.14 Discourse excerpt taken from Cherry Vale meeting 2: Lines 260-272

Interlocutors	Talk	IF	DF
Anhua:	“What do you like to eat?” and “What would you like to eat?”, are they the same? [(0.6) Not the same right. [“What do you =	High Ask	
Yulan:	[Pass me the Teacher’s Guide	Res	Ovlp
Min:	[not the same	Echo	
Anhua:	= like to eat?” refers to what you like for example I like to eat certain dishes, and when ordering food “what would you like?” it seems, should be =	Shr	
Min:	= one is for asking their food preferences, [(0.4) like to eat something=	Add Shr Deve	Lach
Anhua:	[hm	Echo	
Anhua:	= but one is when ordering food [you’ll have to ask me what I want to order	Add Shr	Lach
Min:	[yes, for example in restaurants the way of ordering food, or the waiter asks you, or in peers, that kind of ordering should be the sentence pattern “what would you like”. Right?	Agr Elab Skgr	Ovlp
Ying:	Hm	Agr	
Min:	Hm then [in] restaurants	Agr	Unfi
Ying:	Let me finish the last one then we come back to this	Cut	Grp

In this excerpt, Anhua raised a legitimate question about the sentences “What do you like to eat?” and “what would you like to eat?” after she noticed that they had been used interchangeably by a member of the team in a previous episode of talk. Between her and

Min, they almost successfully arrived at a clear clarification between the meanings and uses of the two sentences. However their discussion was interrupted and cut short by Ying and hence didn't reach a final conclusion.

Table 4.15: Discourse excerpt taken from Cherry Vale meeting 2: lines 491-496

Interlocutors	Talk	IF	DF
Yulan:	I think you can think a bit more about the lead in activity. Personally I prefer the second way. In that way pupils can talk more. Then I remember the second activity is for them to make menus. Can you use the sentence pattern "I'd like.. It's yummy. It's so and so". Ask them to say it out when they stick food pictures on the menu. Or after that get them to talk as a group, "I like, I don't like. It's"=	Sugg	
Anhua:	=But if you use "I like chicken. I don't like chicken" or "I like" in the previous [activity], then when it comes to using "what would you like" for ordering food, will students get confused?	Crtq Ask	Lach
Ying:	I think it is unnecessary to distinguish it in so much nuance. If I say "I like chicken" when I order food, there is nothing wrong with it.	Dsgr Asst	
Anhua:	To say "what do you like" when ordering food. Is that ok?	Crtq RQ	
Ying:	Why would it not be okay? Is there so much difference?	RQ RQ	

Over two hundred lines later, Anhua brought up this unresolved issue again in the second excerpt. However, it was brushed off by Ying's assertive statement that there was no meaningful difference between the two sentences in this context. When Anhua tried to challenge this view, Ying again replied with two highly assertive rhetorical questions, almost blaming Anhua for being stubborn on this issue. As a consequence, this issue around whether or not to differentiate the two sentences was never brought up again in the discussions and a learning opportunity was closed off.

To summarise, the relatively high occurrence of disputational interaction in the Cherry Vale team's discourse suggests a certain degree of individualistic and competitive orientation in this team's collaboration. Pedagogic conflicts and differences were sometimes handled insensitively, without considering the vulnerability associated with criticism and blame. The use of assertiveness can be interpreted either as a tool to compete or blame in some scenarios or as a strategy to avoid criticism in other scenarios. Either way it can create obstacles for learning and working as a group. In general, the disputational aspect of interaction in the Cherry Vale team shows their neglect as a team to create a positive, encouraging and safe discursive environment in which differences may be addressed more openly and effectively. However, on the

other hand, we also need to acknowledge the use of disputational IF codes as expression of cognitive dissonance and legitimate expression of the emotional attachment that we have to ideas and preferences including practical preferences. And the level of disputation in a team's pedagogic reasoning does not necessarily imply the nature of the relationships among members of a team in general. For the teachers in the Cherry Vale team, despite the disputational orientation in their DRLS talk, the majority of them commented in their interviews that they considered their team to be a "harmonious" group in which everybody was genuine and upfront about what they really thought. Therefore it is probably difficult to 'sanitise' the use of disputational talk among teams unless the condition of their cognitive dissonance has changed.

4.3.6 Social process three: individual characteristics of talk and roles

In this section I report findings about individual ways of talk in their collaborative meetings. The purpose is to develop understandings about different ways of participation associated with different members of the teams and different roles members seemed to play in contexts of DRLS collaboration.

4.3.6.1 Cherry Vale team

Graph 4.10 (p.190) shows each individual's use of IF codes during a weighted 40-minute period of interaction. An overall characteristic about the Cherry Vale team is that discursive participation was not symmetrical among all members of the team. Participation of a few members such as Ying, Yulan, and Anhua seemed more active than their colleagues, while participation of particular members such as Wei was negligible. This is consistent with the patterns identified and summarised in the Cherry Vale CCP tables (Tables 4.3; 4.4: p.140-144). A second characteristic is that there seemed to be differences in individual characteristics of language use within the same team, with different members associated with different kinds of talk and IF codes. Elucidating systematic associations between individuals and IF codes may reveal important systematic variations in patterns of participation among the different members of the team. Such patterns of difference at the individual level may also be indicative of different roles played by each member in the DRLS collaboration.

Ying: A leader who struggled to establish a collective orientation

Ying was the head of the EFL team or academic department in her school, a role that she had been holding for the last two years. In this particular DRLS, Ying was also the research lesson teacher. Ying's association with particular IF codes suggests that she indeed made the efforts to play a lead role in this DRLS task. Most apparently Ying did most of the lesson procedure explaining, an indication of her responsibility for putting together detailed lesson plans before and after discussions. She also appeared to be the person who was driving the overall direction and flow of team discussions. On one hand, she took the initiative in focusing discussions on the most salient practical issues as she identified them, seeking information and ideas from other members of the team. On the other hand, she also did most of the interaction management, i.e. through inviting others to speak or through re-focusing the discussions. She made the most efforts to promote a sense of collective responsibility through the use of the pronoun "we", even though it was not taken up by other members of the team. She also made the most attempts to seek joint agreement in the team. When that was not achieved, she was the one who contributed to decision-making. Together, these IF codes indicate a responsibility load tilted towards Ying during the Cherry Vale DRLS task. But at the same time, she also contributed to the disputational interaction in their collaboration. Most notably, she spoke with a certain degree of assertiveness, either directly by making assertive statements or indirectly such as by asking rhetorical questions. This, together with her high engagement in critiquing and justifying ideas, indicates that she had strongly held pedagogic beliefs that were quite different to other members of the team. So overall her efforts to promote an exploratory and collective orientation towards the development of the RL were sincere. But in view of the fairly fractious, disputational, and confrontational nature of this group she was ultimately unable to shape the discourse towards more harmonious collaboration.

Yulan: critical and confrontational challenger

From Graph 4.10 it can be noticed that Yulan's talk was closely tied to Ying's talk, especially on the exploratory and disputational sides. On the exploratory side, she and Ying engaged the most frequently in critiquing and justifying ideas. This is likely because she and Ying held quite different CCPs from each other across a wide range of

practical areas. But such differences were not handled with sensitivity. On the disputational side there was a noticeable trace of confrontation between the two of them. For example, both of them put across their own views assertively. The two of them asked the most rhetorical questions, mostly directed towards each other. Such direct disagreement caused each of them a great deal of frustration, leading them to avoid speaking at times. But Yulan was also a key contributor to the lesson development task despite her involvement in disputational talk. For example she made the most apparent effort to highlight and refocus the team on some of the more salient pedagogic issues about the lesson. She offered a relatively high number of concrete suggestions and ideas in comparison with her team colleagues. It was essentially her pedagogic reasoning that persuaded Ying to change her mind about the most important aspects of the research lesson. Yulan's talk reflected her earnest inclination to influence and change. But it also contributed to tension in the collaboration due to a lack of a more sensitive approach to articulating and responding to differences.

Anhua: reasoned contributor and attentive listener with a critical voice

Anhua's talk also reflects mixed orientations. In fact her talk was probably the most extreme in reflecting all three of Mercer's talk type orientations and to some extent the most difficult to understand. On the exploratory side, she was the most active in suggesting ideas and one of the most ready to share personal knowledge and pedagogic views. She engaged actively in pedagogic reasoning by making explicit her rationales, providing critiques and justifications, and highlighting salient pedagogic issues. Nevertheless, her active involvement in the DRLS task was balanced with cumulative and disputational kinds of interactions. For example she expressed the most agreement as well as the most disagreement towards other's views. She appeared to be the most attentive (i.e. through echoing and finishing others' sentences) and most light-hearted (i.e. through use of humor) during interactions, but she also delivered the most criticism during discussions. So it appears that Anhua played a very complicated role in the collaboration, making constructive contributions to critical planning processes while also, sometimes, presenting obstacles to team collaboration and learning.

Wenxin: Reasoned judgements, concrete ideas, willing collaborator

Wenxin's discursive participation also had characteristics of all three talk orientations, but her talk tended to be exploratory and cumulative. Like Anhua, she contributed actively towards the RL development task. For example she took the initiative in raising topics for discussion and in probing information to inform decision-making. She actively suggested concrete ideas and provided rationales and justifications for them. While she was prepared to critique ideas, she also worked with others to develop ideas. On the cumulative sides, she did not hesitate to express agreement and was attentive to the ideas expressed by her colleagues. The only disputational IF code associated with her was the use of assertion. This indicates the level of confidence she held towards her own pedagogic views. Overall, Wenxin's discursive participation reflects willingness to collaborate and contribute ideas.

Ting and Min: active contributors with a supportive voice

Both Ting and Min made noticeable contributions in the discussions about the research lesson. For example they both made efforts to suggest ideas and provide rationales and justifications. They both engaged in critiquing and developing others' ideas. They also, especially Min, engaged in highlighting salient pedagogic issues and expressing personal conceptions and beliefs. But different from most others in the team, their involvement in the disputational interaction was relatively low or even negligible. Contrarily, they both made efforts to contribute to the cumulative sides of the collaboration. For example, they promptly expressed agreement and attentiveness to others. They were also among the only ones in the team who offered affective support to Ying, an important aspect of team work that was generally absent in this team.

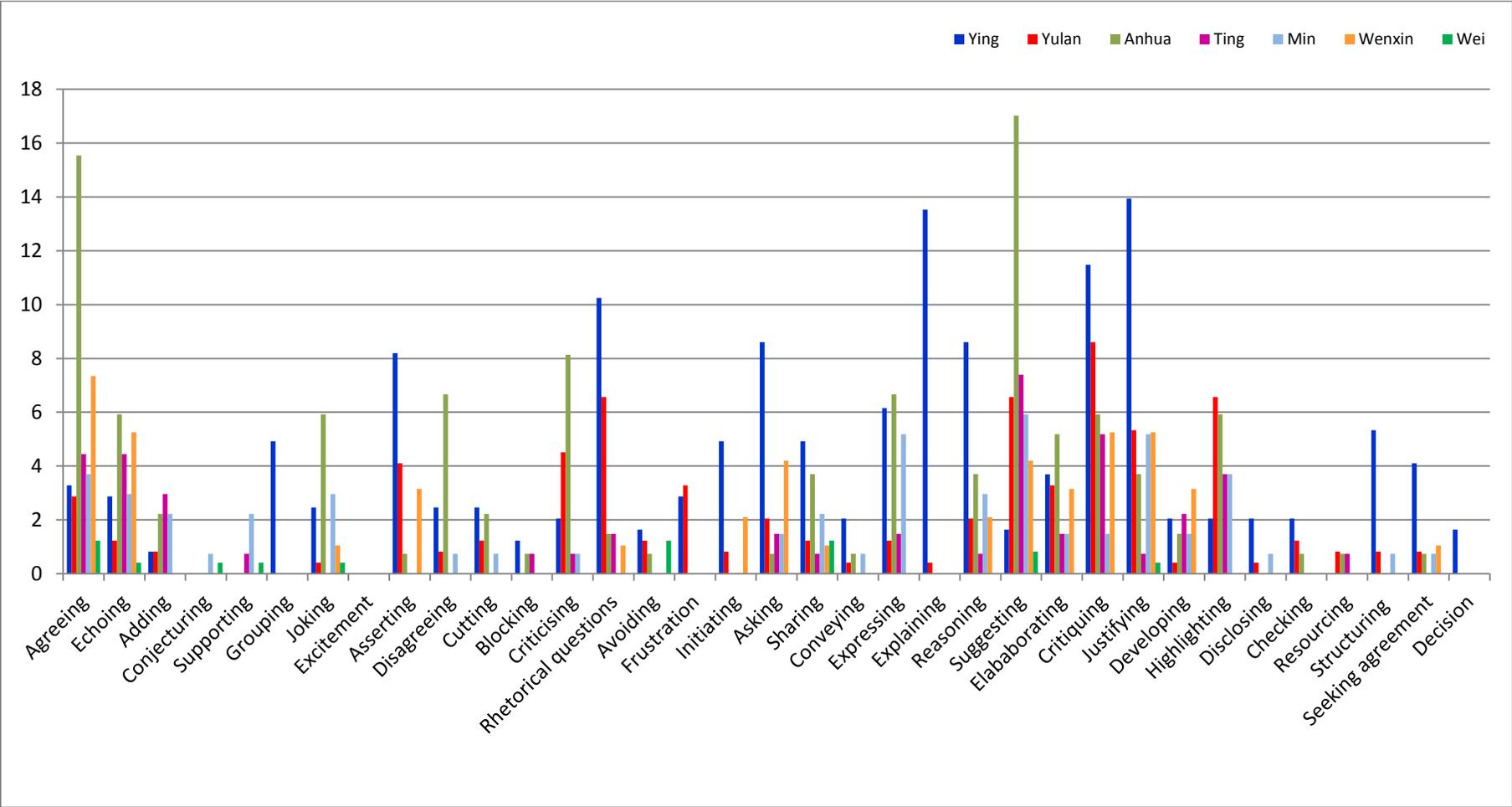
Wei: quiet learner

Wei's discursive participation was peripheral and almost negligible in the DRLS task. She attended all three meetings but kept silent during the majority of the group discussions. The occasional instances when she did participate, she tried to mitigate the tension caused by the confrontation rather than volunteering her own ideas. She was invited to speak a couple of times during the meetings but declined those opportunities

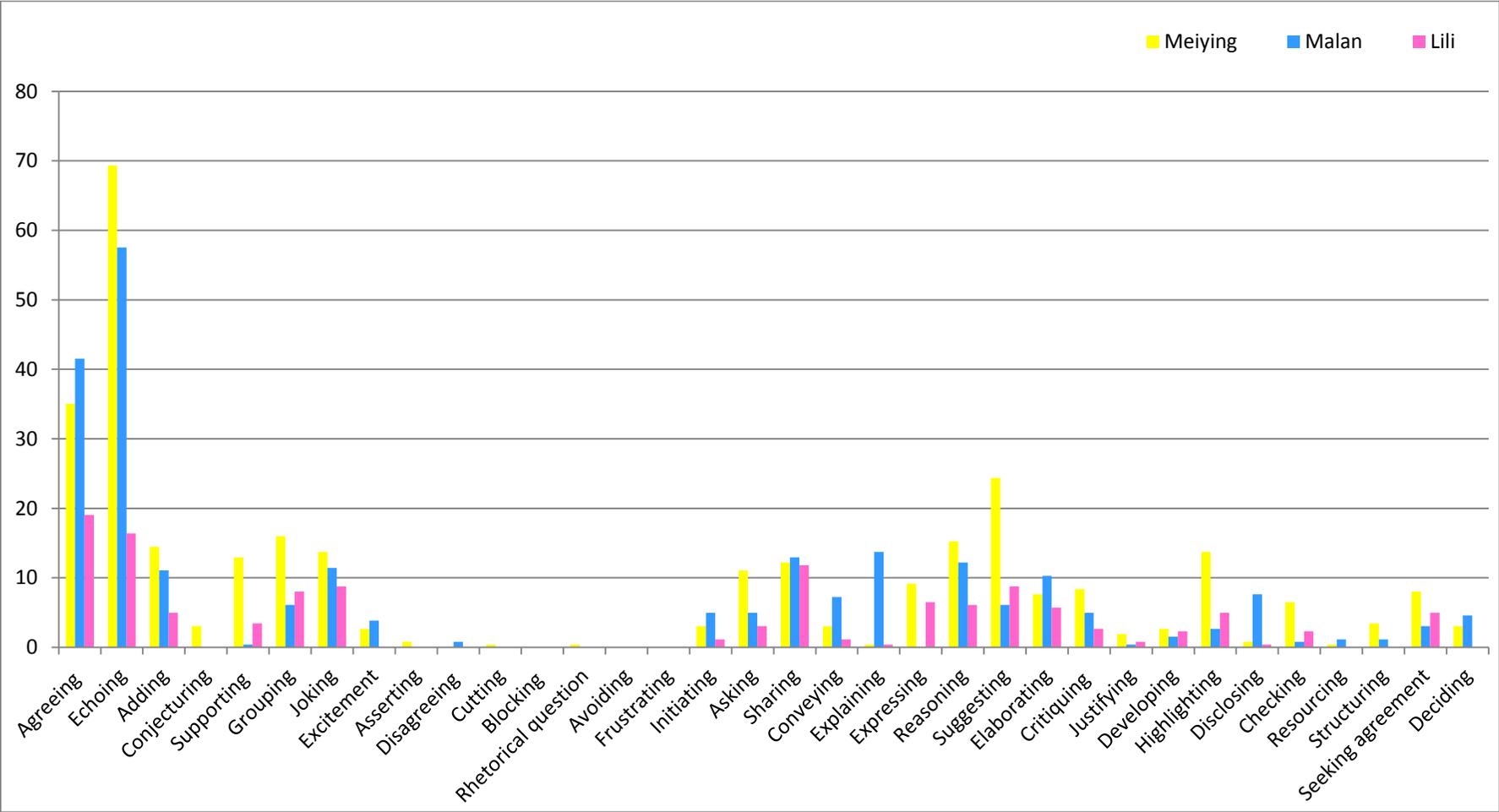
to talk. In the interviews with her afterwards, she explained that she talked minimally in the discussions because she felt that she was still a very novice teacher and therefore should focus on listening and learning from others (Wei interview 3: line 55-57). And she did report learning mediated by her colleagues during these meetings (see subsection (5): p.120).

To summarise, it can be noted that in the Cherry Vale team's patterns of collaboration, individual members talked in different ways, played distinctive roles and appeared to talk with distinct voices within the team, either to contribute, influence, convince, support, blame or defend. Given the distinct voices and orientations of the individuals, and the unsuccessful attempts of Ying to establish more harmonious collaboration, patterns of interaction tended to feature regular instances of unresolved confrontations.

Graph 4.10: Comparisons of frequency of IF codes associated to individual members of the Cherry Vale team



Graph: 4.11: Comparisons of frequency of IF codes associated to individual members of the Fragrant Hill team



4.3.6.2 The case of Fragrant Hill team

Graph 4.11 (p.191) shows that the discursive participation was more symmetrical in the Fragrant Hill team than in the Cherry Vale team, although Meiyong and Malan participated comparatively more than Lili. Graph 4.11 also shows an overall similarity in individual members' talk orientations, more specifically a mix of exploratory and cumulative orientations. This indicates that both exploratory processes of pedagogic deliberation and cumulative processes of maintaining a positive discursive environment and sustaining norms of solidarity were shared by the three members of the Fragrant Hill team. On the exploratory side, for example, all three Fragrant Hill members took initiative in suggesting salient topics for discussion and making requests for information and ideas. They participated equally in sharing personal information and knowledge with each other. All of them participated actively in suggesting, elaborating, critiquing and developing ideas. There was also a visible process of meaning negotiation reflected in codes such as checking each other's understandings and seeking agreement from others. On the cumulative side, for example, mutual attentiveness was high among all three members of the team. The fact that they could finish each other's sentences indicates a good level of mutual understanding. The three of them also contributed almost equally in creating laughter through humor and building solidarity and a collective ethos through using "we" and "us" to refer to themselves as a team. All of them offered encouragement and support to each other, especially Meiyong and Lili towards the research lesson (RL) teacher Malan.

These characteristics of talk not only suggest a more open, negotiated and shared process in Fragrant Hill team's collaboration, but also a sense of shared responsibility in maintaining a positive, uplifting and solidarity culture. Apart from collective characteristics, individual members were also associated with IF codes that were reflective of their individual roles and voices in the team. The following paragraphs discuss individual aspects of team members' discursive participation and language use.

Meiying: proactive pedagogic leader

On the cumulative side, Meiying was the teacher who showed the most attentiveness to other members of the team. She offered the most encouragement and support, especially towards Malan the RL teacher. She also made the most efforts to build solidarity and a collective ethos in the team. On the exploratory side, she took the lead in managing the direction and flow of conversation as well as an open space for negotiation of meaning. She also took part in decision-making together with Malan whereas in the Cherry Vale team final decisions were most often left to Ying. Her association with a few other codes is indicative of her role as a pedagogic leader in the team. For example she contributed the most in highlighting and bringing into focal discussions the critical pedagogic issues for the development of their RL. She offered both the most suggestions for the RL and the most critiques of ideas. She also shared the most personal pedagogic theories and beliefs with members of the team. This pattern of participation suggests that she played a key role in shaping the pedagogic thinking and deliberation around their RL. Together the characteristics of her talk reflect her proactive leadership in promoting an uplifting, supportive and shared discursive environment among the team.

Malan, the RL teacher and a proactive learner

Malan was the RL teacher in the Fragrant Hill team. Her apparent association with a number of IF codes was reflective of that role. Most notably she did most of the lesson procedure explaining. This is because she as the RL teacher was the one who worked on the detailed plans for each RL. She also initiated the most topics for discussion and made the most final decisions for activities and procedures of the lessons. Both were responsibilities that were inconsistent with her junior role in the team but consistent with her role as the RL teacher who was going to teach the public lesson.

Apart from her role as the RL teacher, Malan also came across as a proactive learner. For example she appeared to be an active listener. This was reflected in her showing high level of attentiveness and acceptance to what other members of the team were saying. She also actively sought help from her colleagues, sometimes through asking or sometimes through disclosing her own difficulties and weaknesses. She took active part

in pedagogic reasoning with her colleagues, for example, making suggestions, critiquing ideas, and substantiating ideas with details and rationales. But a key point that probably differentiated her as a novice teacher from her more senior colleagues was that she rarely articulated any pedagogic theories or propositional pedagogic understandings, although she shared a lot of factual information and knowledge with colleagues. The only time she did so was to convey pedagogic views from Yumei. This may suggest that as a novice teacher she was yet to develop a more confident and explicit pedagogic voice and repertoire in the team.

Lili, the co-operative team player and active contributor

Lili did not take the lead in any particular area of their team work but she nevertheless contributed actively towards the DRLS task overall. She engaged actively in pedagogic deliberations around the research lesson development and in the maintenance of a positive discursive environment. Like Meiyong, she frequently expressed and shared her propositional understandings about subject teaching and learning with the team. This was reflective of her confident pedagogic voice that was commensurate with her years of teaching experience. It seemed that she was happy for Meiyong the EFL department leader and Malan the RL teacher to take most of the lead in discussions while not competing for any control of the conversation or decision making. Overall she appeared to be a cooperative team player and active contributor in the team collaboration.

To summarise, the talk orientations of individual members in Fragrant Hill team were consistent with their overall talk orientations as a team. In contrast to the Cherry Vale team, discursive participation in the Fragrant Hill team was more symmetrical, open, and shared among the members, with each member sharing responsibilities for not only developing the research lesson but also for maintaining a solidary, positive, and encouraging team environment and culture. However, similar to the Cherry Vale team, individuals in the Fragrant Hill team articulated different voices in the team. Nevertheless the Fragrant Hill team appeared to achieve a more harmonious, complementary form of collaboration than the Cherry Vale team.

4.3.7 Complexity of DRLS collaboration: Relating the cognitive and social processes to describe the characteristics of each team as a learning system

The characteristics of each team’s cognitive and social processes have been discussed separately in previous sections (4.3.1 to 4.3.6). The purpose of this section is to understand how the two processes relate at a team level to form and support a learning system. The talk of the Cherry Vale team has been characterised as exploratory-talk with a disputational orientation, indicating active idea engagement among members of the team accompanied by a certain level of disagreements, competitiveness, and occasional frustration. The talk of the Fragrant Hill team, on the other hand, has been characterised as exploratory talk with a cumulative orientation, indicating active idea engagement among members of the team and at the same time active relationship building and mutual support. Table 4.13 summarises the characteristics of each team’s cognitive and affective engagement and relates them to the two different characteristics of talk.

Table 4.16: Summary of the characteristics of each team’s talk in relation to the characteristics of each team’s cognitive and affective engagement

Disjunctive Cognitive/affective engagement	The Cherry Vale team	The Fragrant Hill team
		Exploratory talk with a disputational orientation
Characteristics of cognitive engagement	<ul style="list-style-type: none"> • Making explicit CCPs so that they can be critiqued and adjusted • Individual idea development • Clustered consensus and idea construction • Limited level of shared agreements or joint decisions as a team 	<ul style="list-style-type: none"> • Making explicit CCPs so that they can be shared and co-constructed • Joint idea construction • Mutual substantiation of each other’s ideas • High level of shared understandings and joint decisions
Characteristics of knowledge use and co-construction	<ul style="list-style-type: none"> • individual and divergent knowledge use orientations - Conflicts caused by different knowledge use orientations - Conflicts caused by divergent interpretations or associations 	<ul style="list-style-type: none"> • joint and interpretative knowledge use orientations - Co-constructing interpretations - Co-constructing innovative practice and expanding practical repertoires - Co-constructing practical knowledge
Characteristics of affective engagement	<ul style="list-style-type: none"> • Moderate level of mutual attentiveness • Limited encouragement and support • Limited relationship and solidarity building • Expression of frustration 	<ul style="list-style-type: none"> • High level of mutual attentiveness • Encouragement and support • Shared responsibility in relationship and solidarity building • Expression of excitement

These characteristics combined reflect the conditions and attributes of each team as a learning system. More specifically, in the remainder of this section I discuss *collective*, *reflective*, *interpretative*, and *co-constructive* dimensions of each team's practice development and learning. This does not imply that these are four separate aspects of learning that takes place independently of each other. But rather by discussing them separately it allows room to tease out the more intricate relations between the processes and outcomes of learning.

4.3.7.1 The Cherry Vale team as a 'developing learning system'

Relating the characteristics of their talk and of their cognitive and affective engagement, the Cherry Vale team can be characterized as a 'developing learning system'. It is developing in the sense that the team demonstrated attributes in all the four *collective*, *reflective*, *interpretative*, and *co-constructive* dimensions and yet there were still a number of barriers for them to overcome as a team in order to become a more effective learning system.

Challenging learning conditions

The Cherry Vale team had challenging conditions for learning. It had a divergent pedagogic and conceptual profile among its members, ranging from traditional CCPs that were often contradictory to new curriculum perspectives, to an eclectic range of CCPs that had partially embraced new curriculum visions. Such divergence appeared to create tension for the team which narrowed scope for fruitful collaboration and the development of shared practice. More specifically it created two sides in the collaboration: the side that tried to defend the old practice and the side that tried to challenge the old and promote the new. The tension was further complicated by the divergent knowledge use orientations that members held, apparent in the conflicts between more interpretative mode of knowledge use and uncritical applicative mode of knowledge use. The fact that such stark differences existed in the team's conceptual domain might have exacerbated the confrontational tendencies within their established pattern of collaboration.

The collective dimension of the learning system

But through the Cherry Vale team's DRLS meetings, the majority of members were able to make public their opinions and ideas and share them, for example, through discursive acts such as "sharing", "expressing", "elaborating", and "suggesting". This made it possible for the team to at least develop awareness about their differences. Although within the space of a few meetings, the team was not able to resolve all the differences, the dialogic space at least created opportunities for the team to consider them and for partial shared understandings on certain practical issues to be achieved. So from this point of view, the team had demonstrated capacity on the collective aspect. However, there was still relatively low level of building relationships and solidarity as a team and showing affective regards to each other in their talk, which is an area for improvement on the collective dimension.

The reflective dimension of the learning system

The team also demonstrated reflective capacity in their individual and collective learning. There was a significant degree of making explicit CCPs in the discussions, for example through expressing personal pedagogic beliefs and through other modes of pedagogic reasoning such as highlighting critical issues and providing rationales and justifications. This shows that the majority of the teachers were able to access their personal and practical repertoires in a reflective manner, showing the awareness and capacity to extrapolate and transfer knowledge across contexts. But it also needs to be pointed out that among the range of propositional knowledge that this team of teachers drew upon, a substantial amount was codified as practical rules of thumb. While this form of knowledge is usually easy to transfer, it can potentially lead to simplistic interpretation of practice. This indicates that there was still room for improvement in the reflective capacity of this team, especially in relation to the ability to develop and generalise deeper level pedagogic understandings in practice.

The critical and interpretative dimension of the learning system

This dimension of learning is closely related to the reflective aspect of learning. As discussed in Section 4.3.3, particular modes of knowledge use are often related to particular knowledge forms. There was some evidence of interpretative mode of

knowledge use in this team but it was complicated by the tension between deep interpretation and simplistic application of practical rules. Although it occurred in the team's discussion that more interpretative reasoning allowed them to scrutinise and go beyond simplistic reasoning in a few issues, the overall generative capacity of interpretation was attenuated when the whole team was unable to pool their cognitive resources collectively on this aspect of practice development and learning.

The co-constructive dimension of the learning system

Compared to the other three dimensions of collaborative learning, the co-constructive dimension of this team's learning appeared to be relatively low. This was partially reflected in the low instances of decision-making in the discourse. Even though the team did achieve agreement on a few practical issues, it was more the case that one side convinced the other rather than that the two sides collectively developed something new. There was, however, some degree of knowledge and practice co-construction among a few members of the team. This was reflected in much higher instances of IF codes such as "suggesting", "elaborating", and "developing". It included instances of building upon each other's ideas to develop shared understandings. The next stage, however, was for them to be able to construct practice and knowledge jointly as a team.

To summarise, the Cherry Vale team typifies the characteristics of a developing system. In the broad context of new curriculum implementation and experimentation, the team as a whole was still at a relative early stage with old practice still persisting to some extent and new pedagogic thinking only becoming partially embedded in practices. In this regard, the learning need for this team was still pressing and the challenges still high due to the differences in CCPs that were held by its members. Nevertheless through the DRLS collaboration the team was beginning to make public, deliberate, and partially resolve those differences through exploratory pedagogic reasoning. They also demonstrated a considerable degree of reflective, interpretative, and co-constructive learning capacities in the DRLS task. These were important capacities that would enable the team to further develop and change their pedagogic conceptions and practice in ways more consistent to the new curriculum perspectives. The learning barrier for this team, however, lay in the team's overall lack of effective discursive strategies for mitigating antagonistic and conflictual forms of collaboration. For the team to develop

into a more mature learning system, it may require conscious efforts to adopt discursive practices that not only orient members towards exploration of ideas but also towards maintaining a positive and encouraging discursive environment.

4.3.7.2 Fragrant Hill as a ‘critical double-loop learning system’

Relating the characteristics of talk and the characteristics of cognitive and affective engagement for the Fragrant Hill team, this team can be characterised as a ‘critical double-loop learning system’. It is ‘double loop’ in the sense that it had favourable learning conditions and showed well developed learning capacities in all of the four core dimensions.

Favourable learning conditions

Members of the Fragrant Hill team appeared to be more synchronised and advanced in their pedagogic thinking in relation to embracing new curriculum ideas. At least as shown around the key pedagogic issues in relation to the research lesson, they all expressed personal CCPs that were largely consistent with the new curriculum visions. Because of the shared understandings there were no obstacles preventing them from agreeing on a common set of lenses to scrutinise, develop, and evaluate practice. This enabled them to effectively pool their mental resources together to innovate practice and deepen learning as a team. Another favourable condition was the positive, non-judgmental, and supportive culture that was apparent in the team’s discourse. Culture is tacit and evolving, and hence it is often not shaped by a single event but by a history of practices. The way the team engaged affectively with each other in this DRLS task was indicative of the traditions and norms that were already prevailing in the team prior to the DRLS task. Such a culture continued to shape a safe and encouraging discursive environment for the DRLS collaboration.

The collective dimension of the learning system

The collective dimension of the Fragrant Hill team’s engagement in the DRLS task was reflected in three different types of IF codes. First of all it was reflected in high instances of cumulative codes such as “grouping”. This indicates that the team adopted

a sense of collective ownership and responsibility for the DRLS task. Secondly it was reflected in high instances of engagement codes and codes that indicated a high level of mutual attentiveness such as “echoing”. These codes show the team’s actual commitment to listening to each other and engaging with each other’s ideas for the development of the research lesson. Thirdly it was reflected in high instances of IF codes such as “sharing”, “expressing”, “suggesting”, and “elaborating”. These codes show that Fragrant Hill teachers were very active in making public and sharing their personally-held information, knowledge, and pedagogic conceptions. Together the three types of IF codes reflect the highly collective dimension of this team’s practice development and learning.

The reflective dimension of the learning system

Fragrant Hill teachers also made significant efforts to make explicit their pedagogic understandings. This was reflected in high instances of IF codes such as “expressing” and “highlighting”, especially in the cases of the two more experienced teachers Meiying and Lili. For the team as a whole over one third of the CCPs were expressed as propositional understandings about language teaching and learning. More importantly most of these propositional understandings were articulated as practical theories or principles rather than straightforward rules. This showed this team’s ability to make sense of practice across contexts and at a level that could incorporate sophisticated practical theorising. It could also mean that they had engaged more with the new curriculum framework of thinking and ideas. Two kinds of reflective processes were evident in this team’s discussions: *general level reflection* and *local level reflection*. *General level reflection* refers to their efforts to abstract more general understandings from a wide range of practical experiences. *Local level reflection* refers to their efforts to generalise about practice from lesson-specific discussions and ideas. Through practising these two different kinds of reflection the team effectively built in the reflective dimension in their practice development and learning.

The critical and interpretative dimension of the learning system

The Fragrant Hill team engaged in mostly interpretative mode of knowledge use in their research lesson development. This was probably connected with the organisation of

most of their propositional understandings about practice as principles rather than rules. As a team they showed consistent rather than divergent knowledge use orientations. When they worked on translating practical principles into concrete ideas for teaching a specific aspect of the curriculum, the team invested critical and intellectual effort (i.e. through IF codes such as “critiquing” and “highlighting”) to (a) make sense of the meaning of the practical principle within the particular lesson context and (b) develop concrete and feasible ideas to realise that principle in a specific lesson under consideration. Through this interpretative process, they not only created theoretically justified practice but also deepened and extended their pedagogic understandings by accumulating a wide range of concrete practical examples to substantiate those propositional understandings.

The co-constructive dimension of the learning system

The co-constructive dimension of the Fragrant Hill team’s practice development and learning appeared to be very well developed in the team’s deliberations around this DRLS task. This was reflected discursively in the high instances of IF codes such as “suggesting”, “elaborating”, “developing”, and “deciding”. More significantly the co-constructive process was shared among the three members of the team rather than being dominated by particular individuals. This indicated that ownership of the constructive outcomes was likely shared among the team and that learning would be distributed across team members. The co-constructive dimension of this team’s collaboration indicates the team’s collective capacity to pool their cognitive resources to develop innovative practice and sophisticated pedagogic understandings. Potentially it can also act as a kind of reward for the team’s collaborative efforts and hence sustains the team’s motivation to collaborate with each other.

To summarise, the Fragrant Hill team showed high capacities in all of the four dimensions of practice development and learning in the DRLS task. The team as a whole showed characteristics of a critical double loop learning system. The learning system was underpinned by a set of favourable conditions that enabled the team members to pool their critical, reflective, interpretative, and creative capacities together to develop innovative practice and enhance pedagogic understandings. One key favourable condition was that the team shared conceptions and understandings about their subject teaching and learning which were largely consistent with the new

curriculum beliefs and visions. This cleared obstacles for them to develop and apply shared criteria to distinguish between practice that was contradictory to and consistent with new curriculum perspectives. It also gave team members common grounds to develop new practice that oriented towards shared learning objectives, i.e. developing pupils' ability of using language to engage in real life tasks. The second favourable condition was that the team not only focused on building ideas but were also committed to building relationships and a team culture. A positive, non-judgemental, and uplifting discursive environment made it safe for members to make public their personal thinking, disclose ignorance and admit mistakes. It also made possible more fruitful and rewarding learning experiences for the team members.

Recapitulation

The Cherry Vale team and the Fragrant Hill team demonstrated respectively characteristics of a developing learning system and those of a critical double loop learning system. The two learning systems were underpinned by different learning conditions and collaborative processes which essentially led to different learning outcomes. However the relationship between conditions and processes of learning should not be interpreted as deterministic. Rather it may be more fruitful to think of them as dialectic. While certain learning conditions seem likely to give rise to certain learning processes, the particular processes that a team undergoes are also capable of modifying or changing the learning conditions. With proper support, developing learning systems may become critical double loop learning systems. One obvious support that this research identifies is to help develop their discursive practices.

4.4 The District EFL teaching Community as a learning system: Conditions, processes, and outcomes

In this main section I widen the analytic lens to consider the learning of the district EFL teaching community as a whole through the district research lesson study (DRLS) activity. The current DRLS activity consisted of two main stages: the research lesson development stage in which two school-based EFL teams collaborated with a district teaching researcher (DTR) to develop and refine a research lesson; and the research

lesson dissemination stage in which the research lessons and the new pedagogic insights were shared with other EFL teachers in the district community. In this section I first explain the conditions, processes, and outcomes of practice development between the two EFL teams and the DTR during the lesson development stage. I then move on to explain the wider implication of the research lessons for the district EFL teaching community through dissemination. I also discuss the unique norms and conditions that seem to support such collaborative, classroom-based, and lesson-specific approach to new curriculum implementation and adaptation within the district EFL teaching community.

4.4.1 Collaborative research lesson development between school-based EFL teams and the DTR

As a recap, Yumei, the DTR, identified the need to address a gap in teachers' EFL teaching practices which was a common neglect of review lessons in EFL teachers' classrooms across the district. She therefore initiated the current DRLS in order to bring review lessons to the focal, and more importantly, encourage teachers to re-think the nature and value of a review lesson under the light of the new curriculum framework and to develop new review lesson practices. She decided to organise the DRLS among the sixth grade EFL teachers in the district because a widely used EFL course book in the district featured mainly review units and review lessons for this grade level. She invited two sixth grade EFL teachers and their teams to take part in the research lesson development. In section 4.2, I provided illustrations of the two teams' conceptions of practice (CCPs) in relation to new curriculum ideas and thinking. Fig 4.1 (p.101) shows that at the early stage of the DRLS Cherry Vale teachers in general held eclectic CCPs that represented pedagogic thinking transitioning from traditional approach to new curriculum ideas. And Fig 4.12 (p.123) shows that at the early stage of the DRLS Fragrant Hill teachers in general held CCPs that were largely consistent to new curriculum visions. The differences in the two teams' states of CCPs had impact on the nature of their collaboration with Yumei (the DTR) during the research lesson development. In the next two subsections I summarise the evolution and change of the two research lessons respectively through the DRLS cycles. I also discuss the nature of collaboration between the DTR and the two teams throughout the DRLS.

4.4.1.1 The DTR helping Cherry Vale team to change “review lesson” practice from transitional approach to new approach consistent with new curriculum perspectives

The Cherry Vale team had two planning meetings on their own before the DTR came into the lesson development. In the first planning meeting they decided on the lesson topic and came up with some general ideas for the lesson. Ying, the RL teacher, was asked to develop an initial plan based on the meeting discussion. The team then met again to discuss and revise the lesson plan. The outcomes of the second planning meeting were directly reflected in the changes between the two versions of lesson plans for RL1. Figure 4.16 represents the initial lesson plan developed by Ying. Figure 4.17 represents the revised RL1 lesson plan that integrated some of the suggestions made by the team.

The most obvious change between the two lesson plans was a refined lesson goal. The initial RL1 plan (Fig 4.16) reflected Ying’s rationale to cover maximal amount of language content related to the broad topic of food. And the revised RL1 plan reflected the team’s consensus that the scope of revision should be based on the conversational topic of *Eating in a restaurant*. Guided by the refined lesson goal, the team narrowed down the scope of revision to language most relevant for ordering food. Other changes included adaptation or replacement of some key lesson links and activities that were deemed by the team as not useful for achieving the lesson goal.

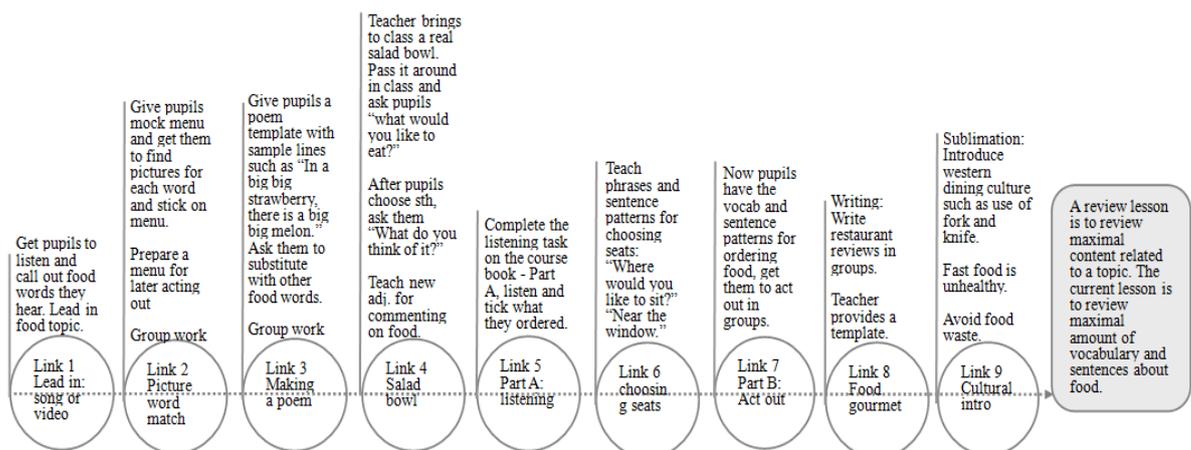


Figure 4.16 Cherry Vale’s initial RL1 lesson plan designed by Ying

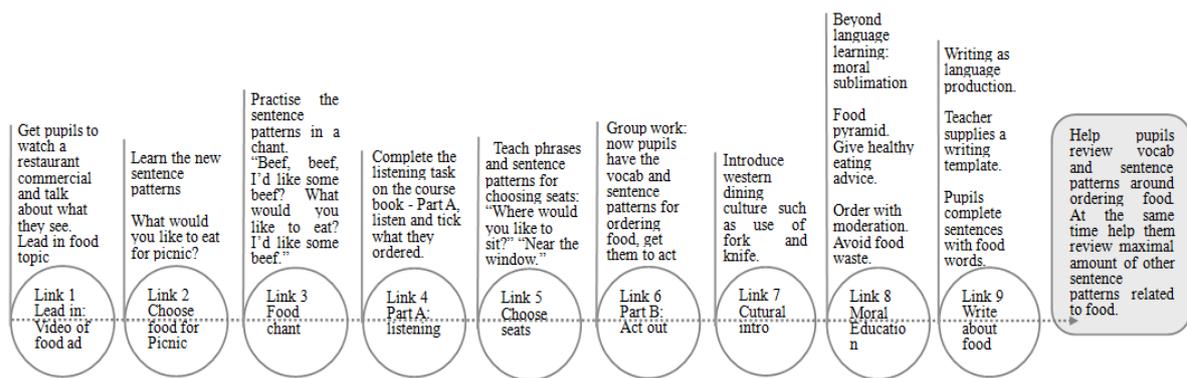


Figure 4.17 Cherry Vale's revised RL1 lesson plan

However, the actual teaching of this lesson plan showed that the design and arrangement of lesson links and activities was not helpful for forming a consistent and coherent learning progression. During the teaching of RL1, pupils were made busy (and sometimes confused!) hurrying in and out of multiple language contexts such as preparing for a picnic, discussing a food pyramid, and ordering food in restaurants. Hence pupils' language retention was low even though practice was repeated through different activities. Towards the end of the lesson only one group of pupils was able to simulate the food ordering task with fluency. This led to the evaluation afterwards that although the revised plan sharpened its content focus, language practice still focused primarily on the language forms rather than its use in the target context. Hence even though the language forms were practised multiple times through different activities, pupils still had a lot of confusion and difficulties when it came to the point of use.

In later lesson cycles, Yumei (the DTR) supported the team, especially Ying, to change their conceptions from a content focus to a context and language use focus. Guided by the language use focus, the team made substantial changes to the research lesson. Content-wise, they further narrowed down the language focus around the umbrella task of ordering food in a restaurant. Pedagogy-wise, they adopted a context-approach to lesson design and made sure that the restaurant context was consistent from the beginning and throughout the lesson. Figure 4.18 explains the evolved lesson plan after iterative cycles of change and refinement.

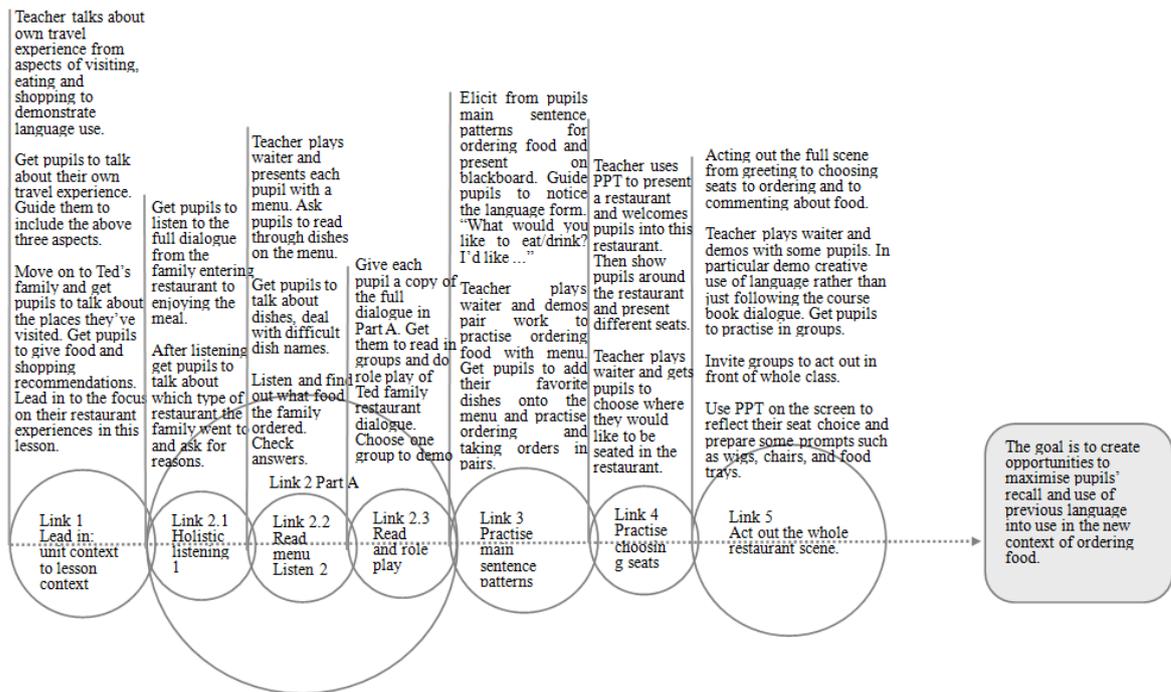


Figure 4.18 Cherry Vale final research lesson plan

More specifically, three main aspects of changes and improvements can be summarised about the design aspect of the research lesson.

(a) Changing from a content-focused lesson goal towards a competence-focused lesson goal

The most apparent change was that the team changed their scope of revision from an exclusive focus on the amount of language content such as words and sentences related to food to a focus on language useful for the task of ordering food. Furthermore, they also decided that instead of teachers prescribing the content for revision, the lesson should aim to create opportunities to evoke pupils' maximal use of their known language for engaging in the context of eating in a restaurant. By focusing on the restaurant context they aimed their lesson to help pupils develop language abilities for accomplishing a range of subtasks such as greetings, choosing seats, reading and commenting on food choices, and ordering food and commenting on food. The overall lesson goal was that pupils could simulate and act out the real life task of eating in a restaurant. It was also agreed that, during the whole process, pupils should be encouraged to freely and spontaneously engage and use any aspect of their previous language that they considered helpful for task completion in the new language context. Hence the revised plan for the review lesson reflected more explicitly a language competence focus.

(b) Changing from a word-sentence-dialogue structure to a real-life task flow lesson structure

Both the initial (Fig 4.16) and revised (Fig 4.17) lesson plans for RL1 typified a content-guided lesson structure which reflected a learning progression of word-sentence-dialogue. For example both plans started from revision of simpler language forms such as food vocabulary, then proceeded to practice of more complex language forms such as sentence patterns, and finally led to activities around using vocabulary and sentence patterns to make dialogues. The revised lesson sequence (Fig 4.18), however, aimed to simulate a natural flow of activities or subtasks within the umbrella task of eating in a restaurant and hence prepare pupils step-by-step towards accomplishing the target task. Consideration about the progression of language content was embedded in the flow of activities. For example the *reading menus* activity aimed to help pupils review food vocabulary as well as elicit their previous language to talk about food choices. The listening activity aimed to give them a holistic understanding of the target language context and help them notice the focal language for making and taking food orders. This was then followed by activities such as group and pair role play for practising the focal language. Eventually, pupils were given the opportunity to work in groups to act out the whole scene of eating in a restaurant from greetings to choosing seats, then reading menus, making and taking orders, serving food, and finally asking for feedback about food.

(c) Using contextualised meaningful learning tasks to replace de-contextualised mechanistic learning tasks

Alongside the shift from a content orientation to a competence focus, the research lesson also went through shifts from mechanistic practice of language forms to meaningful practice of language use. For example the lesson plans developed for RL1 featured more de-contextualised activities that aimed for mechanistic practice and reproduction of language forms. These were exemplified by various language substitution activities in both lesson plans such as the *poem* activity (Fig 4.16), the *writing with a template* activity (Fig 4.16 and Fig 4.17), and the *chant* activity (Fig 4.17). They were also exemplified by activities by which teachers modeled the language patterns and then pupils were asked to reproduce the language patterns with other examples, such as *Link 6* (Fig 4.16) in the initial plan and *Link 5* (Fig 4.17) in the

revised plan for RL1. The final lesson plan (Fig 4.18) reflected the efforts to create maximal opportunities to enable language practice and use in appropriate contexts. This may include adapting learning tasks provided in the course book into more contextualised tasks or creating and adding new tasks that simulated real-world task engagement. For example, in this lesson, Part A was a listening task that required listening to a restaurant dialogue and circling pictures of food ordered in the dialogue. The team changed the course book task presentation in the final lesson (Fig 4.18) into a real-life-like menu and asked pupils to listen and tick on the menus in order to simulate the real life experience. Furthermore, before the listening activity, pupils got to use the menu to talk about food choices; after the listening activity, they got to use the menu to simulate and practise ordering food.

Once the lesson structure and task flow were decided during RL1 and RL2 evaluation meetings, RL3 and RL4 evaluation/revision meetings shifted focus to the actual teaching of the lesson. From the Cherry Vale DRLS evaluation meetings, three main aspects of changes and improvements can be summarised about the actual teaching aspect of the lesson.

(d) Changing from teacher-centered interaction pattern to more pupil-centered interaction pattern

Initially the predominant interaction pattern in the teaching of RL1 and RL2 was one that involved sustained episodes of Initiation-Response-Feedback (IRF) between Ying and a small number of appointed individuals while the majority of pupils had few opportunities to talk or demonstrate their learning during the lesson. The team suggested several strategies to change this aspect of teaching. One was to break down big whole-class tasks into smaller tasks so that task opportunities could be more evenly distributed among different pupils with a view to enhancing task engagement. Another strategy was to increase opportunities for pair- and group- work, for example pair talk about food choices on the menu, pair-work to simulate making and taking food orders, group role play, and group acting out. During these activities, pupils were engaged in active and independent learning which was supported by interaction with their peers. With these new strategies being adopted and tried out, the teaching of RL4 saw steady

improvement in opportunities for more distributed pupil participation in whole-class tasks and more peer learning and interaction during independent tasks.

(e) Building a coherent lesson narrative to link all the activities and tasks together

A key evaluation about the teaching of previous RLS (RL1, RL2, RL3) was that necessary language was not in place to develop smooth transitions across different tasks of the lesson. Moving from one task to another sometimes appeared to be sudden and abrupt. This was considered unhelpful for pupils' learning on the grounds that pupils needed at least implicitly to understand the links between tasks and the rationale behind the progression of tasks in order to play their part in actively and progressively constructing their own learning towards the learning goal. The concern was that otherwise pupils would just take a passive role carrying out the actions without understanding the purposes. So it was decided that the lesson should include a coherent lesson narrative that started from the restaurant experience of the main characters in the unit, *Ted's family*, and then related to the personal experiences of the pupils so that tasks in the course books could be smoothly and logically connected with the extended tasks.

More specifically (see Fig 4.18) the narrative started with introducing Ted and his family's visit to Beijing. It then led to asking pupils to give them restaurant recommendations based on their personal experiences. After that the narrative continued that Ted and his family had chosen a restaurant and decided to go there for dinner. This then linked to the listening tasks in which pupils were asked to listen to their restaurant dialogues and find out details about the restaurant they went to and the meals they had. After that the narrative moved on to connect the experiences of the family to those of the pupils. The scenario described was that pupils were also "invited" to go to that restaurant. They were then given menus of the restaurant to consider and talk about food choices for dinner. After that the narrative further developed around the menu to organise a range of tasks such as making and giving food orders, role play and group act out. With improved teaching language both during tasks and between tasks, pupil engagement and participation throughout the lesson significantly improved. Pupils' performance in the final "act-out" task was also much more satisfactory. Pupils demonstrated not only very fluent but also diverse use of language during the task.

Just like what Yumei commented metaphorically, “When a well-crafted lesson is in place, learning occurs naturally and smoothly; just like when water flows, a channel is formed.”

(f) Changing from a focus on procedures to a focus on pupils during the lesson

A final main aspect of change in the teaching of the lesson was to shift from a focus on procedures of the lesson to a focus on pupils’ learning during the lesson. Ying reported that during the first three RLs she had to rely on her PPT during each lesson to give her cues about the flow of activities. This meant that her teaching was dictated by the order of the slides. But in the first three RLs, technical issues occurred each time to cause problems with the slides, for example the skipping of some slides or hyperlinking of the wrong slides. When such technical failures happened Ying ended up teaching some activities in the wrong order. But in RL4 and the final lesson she reported that she was able to teach the lesson without having to rely on the PPT because by then she had developed a clearer mental construction about the lesson structure and activity flow. As a result, she could free more attention towards the pupils and their learning during the lesson. For example, she felt more relaxed and could engage in more natural interaction with pupils, the kind of classroom interaction that required more spontaneous and flexible assessment and handling of the situations. She was able to probe pupils more for personal language and idea expression. She gave more instant feedback and encouragement to pupils. She was also able to react more responsively towards unexpected responses from pupils or events during the lesson.

4.4.1.2 Practice co-construction between the Fragrant Hill EFL team and the DTR: translating new curriculum perspectives into the design and teaching of a review lesson

Different from teachers in Cherry Vale team, the Fragrant Hill teachers held shared understandings about a range of new curriculum and pedagogic issues when they started their lesson development (see Fig 4.12: p.123). One common ground they established for the lesson was a pupil-oriented curriculum perspective, the ideas that the learning goals for the pupils in this review lesson should be set a level higher than the curriculum requirements in order to meet their pupils’ needs and that the learning materials should be extended and resourced to cater to pupils’ life experiences and interests. The second

common ground was an explicit articulation about the nature and goal of a review lesson. In contrast to their Cherry Vale colleagues, this team of teachers defined a review lesson to be an opportunity for pupils to develop integrated language competence and language use from the very early stage of the DRLS. Driven by this understanding of a review lesson, they opted for pedagogic approaches that were more efficacious for enabling more active pupil learning, more meaningful learning that integrated language practice with language use, and also differentiated learning so that the learning needs of higher abilities, middle abilities, and lower abilities could be each appropriately addressed. Undergirded by these shared conceptions about curriculum and pedagogic approaches, Fragrant Hill teachers were able to come to agreement about the general structure of the research lesson (see Fig 4.19) from an early stage of their DRLS. The initial RL1 plan included four main lesson links, including the introductory link of topic lead-in, the link of course book reading which was to take one third of a lesson, the main link of extensive reading of additional reading materials, and the final link of post-reading writing task. For each link the team came up with general ideas for teaching and learning activities but not at an operational level at this stage.

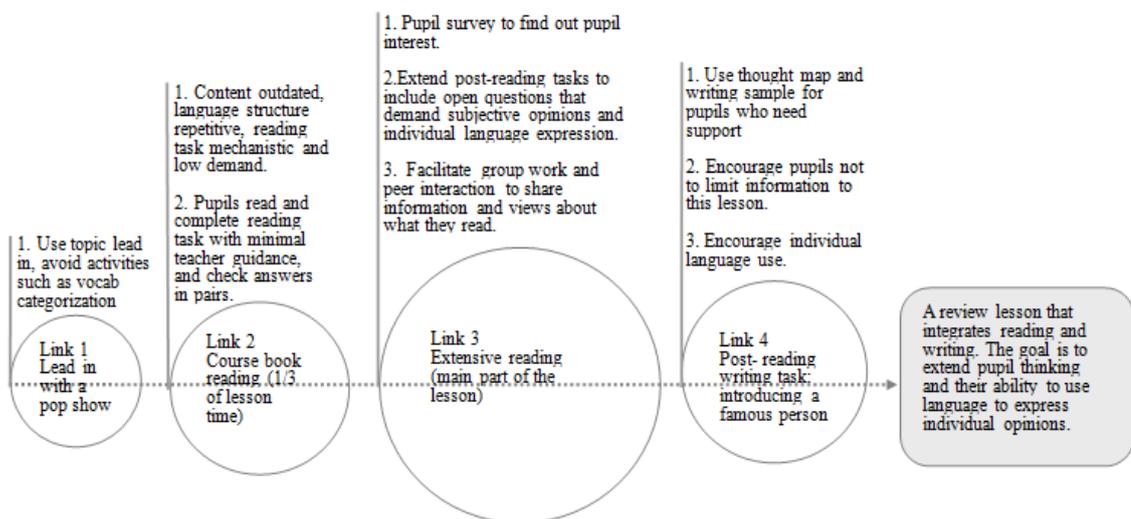


Figure 4.19: The first version of Fragrant Hill team's RL1 plan

In the second planning meeting the team further refined the lesson design by incorporating the DTR's suggestion of using "shared reading" as a pedagogic approach to organise the extensive reading link. They tried to develop concrete ideas about how to operationalise shared reading among pupils during the extensive reading link. This turned out to be a challenging task as it was the first time they heard this concept and had never observed practice that could exemplify this reading approach. They managed

to come up with a few alternative plans but were not able to decide with certainty which plan might work more effectively. For differentiation during the writing task, however, the team was able to develop consensus on how to more appropriately differentiate task instruction and support to different levels of pupils. The new plan included a basic writing task as fill-in blanks in context, a writing task with question prompts, and a writing task with task instruction only and no other prompts. They believed this would give pupils a wider range of choices depending on whether they wanted a more or less supported writing experience during the lesson. After these changes, the revised lesson (Fig 4.20) plan took the following shape.

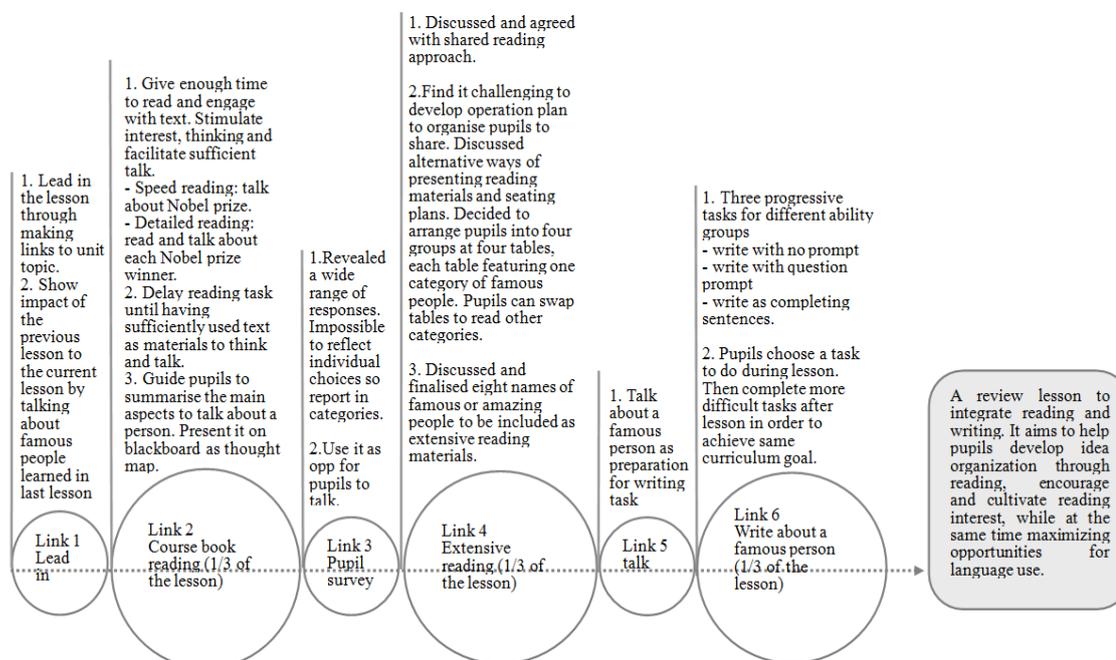


Figure 4.20 The revised version of Fragrant Hill's RL1 plan

However, although guided by a generally satisfactory lesson plan, the teaching of the first research lesson did not proceed as expected. On one hand, this was due to Malan's lack of familiarity with the lesson plan. On the other hand, it was also due to the team's underestimation of pupils' learning difficulties in this lesson. Neither the lesson flow nor pupil engagement was satisfactory in RL1. In fact only a small number of more able pupils were engaged in the learning tasks while the majority of pupils remained passive throughout the lesson. The team decided that both the lesson design and the teaching of the lesson needed to be refined in order to achieve the lesson goals. Through later cycles of teaching and refinement, the team was able to develop a more satisfactory lesson design (Fig 4.21).

Magazine as artefact to integrate different aspects of lesson resources such as course book reading, extensive reading and writing task. Simulating real life tasks of reading and writing for magazine as language learning contexts.

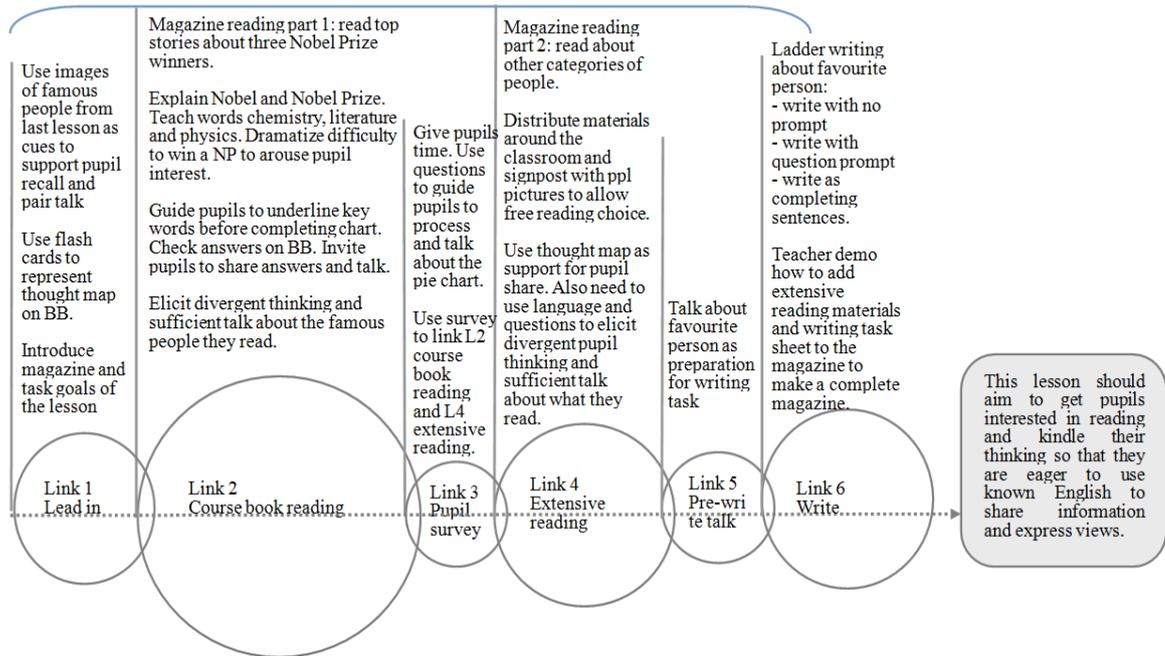


Figure 4.21 Fragrant Hill's RL4 plan

More specifically, five main aspects of change and improvements can be summarised about the design and the teaching of Fragrant Hill team's research lesson.

(a) Exploring more effective strategies for differentiating writing through classroom experimentation

Although during the pre-lesson planning meetings the team had already discussed alternative ideas for differentiating writing, during RL1 Malan opted to use different numbers and types of questions to differentiate the writing tasks for different ability groups. For example lower ability groups were given a smaller number of questions and mostly questions about basic facts while higher ability groups were given more questions and especially questions that demanded subjective opinions. But one key post-RL1 discussion point concerned whether or not questions provided the most effective support for pupils' writing experience. On one hand, lower ability groups had difficulties turning questions into statements. On the other hand, for higher ability groups while a list of questions provided a structure for writing, it also constrained these pupils' thinking and idea expression within the scope of those questions. To some extent, it turned the writing task into an experience of answering questions rather than

autonomous writing. This prompted the team to reconsider some of the alternative strategies that were previously discussed such as writing with no question prompts and writing as completing sentences.

In later lesson trials, the team developed the ladder writing strategy for effective differentiation. Three writing tasks were designed, one task as completing unfinished sentences, one task with question prompts, and one task with only task instruction and no questions. Rather than prescribing a writing task to each pupil, the team decided to give pupils the autonomy to choose a writing task that they felt most comfortable with to complete in the lesson. After the lesson, they could then continue climbing the ladder until each of them had completed the highest rung of the writing task. Contrary to the concern that the pupils might naturally opt for the easiest writing task, in this case the sentence completion task, it turned out that the majority of pupils were able to choose appropriately according to their own levels. The new strategy, without the constraints of a common set of questions, also encouraged higher ability pupils to express more diverse ideas and use more diverse language in their writing.

(b) Developing and refining strategies to implement shared reading

Extensive reading was considered a focal part of Fragrant Hill's research lesson. The team expected that pupils would engage more actively and meaningfully with the reading materials that were catered to their interests. They also expected that the relevance of the reading content would motivate more pupils to talk and interact with their peers in their best efforts of English. Part of the effects were observed in the teaching of RL1 and reflected in the enthusiasm that pupils showed towards the additional materials. But due to Malan's unfamiliarity with the lesson plan, she was not able to provide pupils with clear guidance on how to engage in this task. In RL2 the four-table and four-category structure was tried out for the shared reading task. Additional readings were divided into four categories according to people's profession and placed on four tables around the classroom. Pupils could then choose a category they were interested in and sit down on that table to form a group. Within the table, they were expected to read and share with each other about what they had read. However, later evaluation about this structure was that it constrained pupils' reading choices to only one category of people hence resultantly limiting their scope of sharing.

To enable more autonomy and more diverse language exposure in pupils, an alternative idea was discussed and developed to organise shared reading during post-RL2 evaluation meeting. The refined strategy was to arrange pupils similarly at four tables but to distribute new reading materials around the classroom. Pupils then had the freedom to shop around the classroom for reading materials that caught their attention. A two-step reading and sharing structure was also tried out. Pupils were given two five-minute reading intervals. After the first reading episode pupils were asked to share what they read with their peers so that they might motivate each other to pick up more materials to read. After the second reading episode each table would volunteer individuals to share in front of the whole class what the group had read and shared. With this different structure, pupils demonstrated high-level engagement in the shared reading task during RL3 and RL4. The two-step sharing structure proved to be effective at motivating pupils to talk and read more. Pupils did not just actively participate in the task during the lesson, but they also asked to be given the remaining reading materials so that they could read after the lesson. During RL3 and RL4 evaluation meetings the team all commented that the shared reading link had successfully achieved its expected goals of encouraging pupils to talk in English and developing their interest in reading.

(c) Developing and refining strategies to extend pupil language use

One essential goal that the Fragrant Hill team wanted to help pupils achieve through the review lesson was to develop and extend their abilities of language use. Hence during their planning meetings they made deliberate efforts to minimise mechanistic information-finding learning tasks and instead maximise meaningful learning tasks such as those that required individual thinking and personal responses. However, this strategy was not sufficiently exploited during RL1 and RL2, especially in the treatment of the course book reading materials. For example only information-finding questions and almost no open-ended questions were asked about the three reading passages in the course book.

In RL3 and RL4, more subjective questioning was used to prompt deeper engagement with reading text and hence more critical thinking and individual style of language use. Malan asked more questions to elicit individual answers rather than fact statements. For example instead of asking specific questions to probe facts such as a famous person's

birthdate, profession, or achievements, she put forward questions such as “What do you know about this person?” Prompted by this new question pupils had to make efforts to transform information in the reading passage into subjective statements such as “I know that he...” rather than just reproducing sentences from the passages. She also asked more questions such as “What do you think of this person?” to elicit subjective opinions. Questioning strategy was also extended to deliberately push pupils’ limits. For example, even when a pupil had given a satisfactory response, the teacher would pursue further with questions such as “Anything else?”, and “What else do you know?” As a result, during RL3 and RL4 pupils demonstrated active thinking and a diverse range of interesting opinions about what they read from both the course book reading passages and the extensive materials.

(d) Building lesson cohesion: building a narrative around the magazine to link all tasks together

After the teaching and observation of RL1, a key evaluation was that the lesson links were episodic and therefore the whole lesson lacked a linking device to ensure a logical and smooth lesson flow. The team decided to design an umbrella context to organise links and activities in the review lesson. The specific idea was to integrate all the activities under the real life experience of reading and contributing writing to a people magazine. With this design, the lesson was expected to take pupils on a learning experience that followed the progression of “reading about famous people in a magazine”, “talking about famous people from the magazine”; and “writing about other famous people for the magazine”. The people magazine idea was implemented in RL3 and RL4. All learning resources in the lesson were consolidated into the design of the magazine. A copy of the magazine was given to each pupil at the beginning of the lesson as an induction into the real life magazine reading context. Subsequent lesson activities were then structured around the use of the magazine. This new strategy was considered effective for establishing a clear lesson structure and logical lesson flow during both RL3 and RL4 evaluations.

In addition to the structure of the lesson, the team also identified that the tasks of reading, talking and writing about a famous person involved understanding and using some common language such as language to describe a person’s name, age, profession,

and reason for being famous. They thus came up with the idea of using a thinking map as a scaffold and support for pupils throughout the lesson. The specific plan was to guide pupils to extrapolate from previous lessons in the unit the range of key aspects to describe a famous person and turn it into a thinking map on the board. Then in later reading, sharing and writing links, pupils could be directed back to the thinking map whenever they needed language support. In this way, the thinking map functioned as the cognitive scaffold that connected different links of the lesson. This strategy turned out to be effective for providing effective support for pupils' self-expression and peer interaction. Under these changes, the lesson saw much higher pupil engagement and more visible pupil thinking, peer interaction and idea sharing. Pupils were eager to participate and express themselves throughout the lesson. The team was convinced that the cohesive devices such as the use of magazine and the use of thought map was effective for affording pupils a natural and smooth learning progression.

(e) Honing the teaching of the lesson: finding an optimal balance between effective teacher guidance and pupil autonomy

At the initial stage of Fragrant Hill teachers' DRLS they had already established the common understanding that a review lesson should aim to develop pupils' language competence rather than language knowledge. Driven by the shared conception they came to agree that during a review lesson the teacher should play a facilitative role of creating maximal opportunities for pupils to engage actively in language use. In the actual teaching of the lesson, however, they had to go through a few lesson trials in order to find the right balance between effective teacher guidance and pupil autonomy.

In the teaching of RL1 Malan gave a substantial amount of lesson space to pupils to engage in autonomous reading of additional famous people. However, a key evaluation of RL1 was that teacher guidance was not effective for helping pupils deal with learning difficulties or for prompting pupil thinking and interaction. For example some difficult vocabulary in the reading passages and an ambiguous item in the post-reading task were not sufficiently addressed. This led to a third of the pupils not being able to successfully accomplish the post-reading task. Another example of lacking teacher guidance was discussed in previous sections and it was the lack of structures to organise the shared reading activity.

RL2 then aimed to enhance teacher input in order to give pupils more guidance and support in their learning. However the teaching of RL2 seemed to take the lesson to the opposite direction of too much teacher control. Contrary to RL1, Evaluation about RL2 was that teacher's instruction took over in many scenarios at the sacrifice of learning opportunity loss for pupils. For example, the team identified multiple occasions that the teacher offered information and answers directly to pupils without allowing them the time and opportunity to explore and find out for themselves. They also identified some classroom tasks that were conducted by the teacher but could be given back to pupils as an opportunity to learn. For example the checking answer task could be conducted in pupil pairs as an opportunity to practise and use focal language.

Significant improvement was achieved in the balance between effective teacher guidance and pupil autonomy during RL3 and RL4. For example in RL3, pupils were given more lesson time and opportunities to think, explore, and talk. Effective teacher guidance was changed to more effective and efficient task induction and language use demonstration. For example in some cases more images were used on PPTs to replace lengthy verbal task explanations by the teacher. In other cases lengthy task instruction language was replaced with clear exemplary language which offered pupils task both induction and language support for completing the task. Another improvement in the teaching of RL3 and RL4 discussed was that the teacher used more effective teacher language to arouse pupil interest and motivate participation. For example the teacher made better use of language to build suspense, arouse expectations, and create humors during the lesson in order to enhance affective engagement in the lesson. This contributed to the development of a lively and pleasant class atmosphere that was more encouraging for pupil learning.

Recapitulation

So far the findings have shown how the two EFL teams worked collaboratively with Yumei, the district teaching researcher, to develop and refine the design as well as the actual teaching of the two research lessons. The nature of the DRLS collaboration seemed to vary according to the conditions and needs of each particular case. In the case of Cherry Vale DRLS, the collaboration between the EFL team and Yumei was more a case of Yumei supporting the team to transform and update their thinking and practice

about a review lesson. Within the Cherry Vale team, they were initially divided between the very traditional view of review lesson that still emphasized the componentiality of language knowledge and a modified view of review lesson that was partially shifting focus towards the communicative competence of pupils. Yumei played a key role in bringing in new insights into this team to help them develop a review lesson that was more consistent to new curriculum aims of cultivating language use competence. In the case of Fragrant Hill DRLS, the nature of collaboration between the EFL team and Yumei was more co-constructive. This was because Fragrant Hill team already showed deeper assimilation of the new curriculum perspectives in their consideration of a review lesson at the initial stage of the DRLS. In their research lesson development the EFL team came up with the basic design of the lesson and Yumei worked with them to refine and improve the lesson. Yumei also introduced some new pedagogic possibilities and helped them broaden their pedagogic repertoires. But their joint efforts were more appropriately characterised as experimenting with new pedagogic ideas and translating broad pedagogic principles into lesson-specific strategies effective for review lesson as a particular lesson type and for the particular topic of the lesson.

So far I have reported findings about the conditions, processes, and outcomes of research lesson development between the two EFL teams and the DTR. The significance of the two research lessons for the district EFL teaching community needs to be understood in relation to the experiences of EFL teachers who attended the DRLS public event at the dissemination stage of the DRLS. The dissemination of the DRLS was held as a half-day district public research lesson event and was attended by over 150 sixth-grade EFL teachers from different primary schools within the district. The event itself included the live teaching and observation of the two research lessons. After the lessons were taught, the two RL teachers Ying and Malan each gave an analysis of their research lessons in terms of the rationales and thinking that had shaped the lesson design. Yumei, the DTR, gave the plenary talk at the event and took responsibility for making explicit the key pedagogic insights embedded within the two research lessons.

In order to find out the views and experiences of the sixth grade EFL teachers who attended the DRLS event day, I was given permission to administer an open survey with them on the event day. The survey included three open questions. The first question invited their general comments about the two research lessons, especially in relation to

their design and their effectiveness for helping pupils achieve learning goals. The second question invited their nomination for “bright points” in the two research lessons. And the third question invited their reflection on their own learning through attending the DRLS event. I gave out over 150 surveys at the beginning of the event and collected 118 completed surveys at the end of the event. In the next two sections (4.4.2 and 4.4.3) I draw upon responses from the teacher survey to discuss the significance of the two research lessons for the district EFL teaching community.

4.4.2 Co-constructing and contributing lesson specific “bright points” or innovative practice towards the shared practical repertoire of the district EFL teaching community

This section draws upon teachers’ responses in the survey to the second question which asked them whether or not they saw any “bright points” in the two public research lessons. A “bright point” refers to a specific idea in a lesson that stands out as innovative and particularly effective for helping pupils achieve the learning goal in a lesson. It is common for Chinese teachers to talk about what they see as “bright points” when they make comments about a lesson they observe. For this question the teachers’ responses nominated four particular “bright points” in the two public research lessons. In the following two sub-sections I explain the four “bright points” in relation to how they came into shape through the lesson development and to typical comments about them in the survey.

4.4.2.1 Pedagogic “bright points” in Cherry Vale’s public research lesson – “Eating in a restaurant”

Two “bright points” or innovative practices were nominated for the research lesson developed by the Cherry Vale team. One related to the design of restaurant menus as an effective lesson artefact and contextual thread to support and link the flow of activities and tasks during the lesson. The other related to innovative use of the curriculum materials, more specifically, innovative treatment of the listening materials in this lesson to extend pupil learning.

(1) Restaurant menus as innovative and effective lesson artefacts

The Cherry Vale research lesson utilised a critical lesson artefact - a real-life like restaurant menu. The development of this innovative lesson artefact resulted from collaborative work between Cherry Vale EFL teachers and Yumei (the DTR). Ying (the RL teacher) first came up with the idea of using a menu in the lesson. But she intended to use it as a word and picture match activity to review vocabulary. Her colleagues such as Yulan and Anhua suggested that its use can be extended to a number of activities such as talking about food choices and acting out the food ordering scenario. Yumei later helped refine the idea so that the menu can be used as a key contextual cue to engage pupils in the restaurant context. It was also used as an important resource for language practice and use throughout the lesson. For example it was used at the beginning of the lesson to simulate the experience of reading and discussing food choices on a menu. Then it was used in the listening task to simulate the experience of listening to orders and recording orders on the menus. In a later activity pupils were encouraged to add more dishes on the menu to create a more personalised menu. They then got to use it as an artefact to practise food ordering in pairs. In the final group task of simulating food ordering, it was used again as a key prop. This lesson artefact was nominated by most teachers (97 out of 118) as an innovative idea in the teacher survey.

(2) Innovative utilisation of the listening materials

Another “bright point” from the Cherry Vale DRL was the effective utilisation and adaptation of the curriculum materials. The particular lesson they chose had two sections, the listening section A and the speaking section B. Typically the speaking section was given more weight in a lesson because it represented the core curriculum requirements of communicative abilities. In this particular lesson, however, the language text provided in the listening section was much richer than what was included in the speaking section B, covering the complete restaurant experience from arriving at the restaurant to commenting on the meal at the end. But the listening task itself only required pupils to listen to the sustained dialogue and ticked the dishes that were ordered in the dialogue. Yulan first suggested focusing on the listening materials as the main language materials for the lesson rather than the dialogue in Part B in a pre-RL1 planning meeting. But the idea was neither discussed in depth nor was it adopted for

RL1. During the post-RL1 team meeting, the same idea was reiterated and elicited a heated debate, especially between Ying and Yulan. This time Ying was prepared, tentatively, to consider the idea but in the end she didn't use it in RL2 because she wasn't able to figure out how to realise the idea in practice. During the post-RL2 evaluation meeting, members of the Cherry Vale team brought up the same suggestion for the third time. This time they had a more in-depth discussion with Yumei and were able to come to agreement that this change was more useful for extending the language challenge for pupils and providing pupils with language support for the final acting out task. A number of activities were also developed around the listening materials to maximise its utility. For example they added listening activities such as listening for language context and listening for details. The listening text itself was printed out and given to pupils as materials for reading, free talk, and role play. The Teacher survey showed that 85 out of 118 teachers nominated this adaptation of curriculum materials as a "bright point" in the lesson.

4.4.2.2 Pedagogic "bright points" in Fragrant Hill's public research lesson – "Famous people"

The research lesson developed by Fragrant Hill received consensual positive feedback from the sixth-grade English teachers who completed the teacher survey. They particularly highlighted two aspects of the lesson design that they considered innovative and worthwhile to try out in their own classrooms. The first was the creative design of the people magazine as an umbrella context and lesson artefact to organise the flow of teaching and learning activities in the lesson. The second was the idea and structure of shared reading activity to expand pupils' learning experiences and extend their language use abilities.

(1) Integrating the lesson innovatively through the design of a lesson artefact - the people magazine

The idea of consolidating all the learning resources into a people magazine was developed during RL1 evaluation meeting when teachers identified lack of lesson cohesion as a problem. The idea was then implemented and refined in later lesson trials under the joint efforts between Fragrant Hill teachers and Yumei. The majority of teachers (103/118) nominated this as a practice innovation. The people magazine was

considered an effective innovation for this lesson which served the important function of turning classroom learning experiences into simulation of everyday experience of engaging with real magazines. The idea of simulating real life tasks in language learning was not in itself a particularly new idea in the district since teachers in this district had been experimenting with this pedagogic approach in the design and teaching of new lessons since the beginning of the new curriculum reform. However the magazine idea in this lesson was considered innovative by the majority of teachers because it worked particularly well to address two practical challenges at the same time: effective ways of teaching a review lesson and effective ways of integrating reading and writing.

(2) Using “shared reading” as an activity structure to facilitate ability extension and motivate reading interest

The new national EFL curriculum encourages teachers to be active partners in curriculum development and to develop classroom level materials that are tailored to the particular learning needs of their pupils. This is said to have the potential to emancipate teachers from the passive role of transmitting the curriculum content and instead empowers them with a new agential role to make classroom-level decisions about change, adaptation or supplementation of the central curriculum. The teacher survey showed that 109 out of the 118 teachers nominated the shared reading approach in this lesson as a practice innovation. Some comments in the survey mentioned the shared reading approach as a good example of curriculum extension that tailored effectively to pupils’ learning needs and interests. They considered it a pedagogic innovation to organise learning around extensive curriculum materials. The particular way that shared reading was structured was considered effective for facilitating active pupil learning and peer interaction and for helping pupils develop a long-term interest in reading.

In addition to the specific “bright points” that teachers identified about the two public research lessons in their surveys, the significance of the two research lessons can also be understood as extending the public understandings about the nature and value of a review lesson and expanding pedagogic possibilities for the design and teaching of a review lesson. These more general pedagogic insights embedded in the two research lessons were made explicit by the DTR and communicated to EFL teachers who

attended the public event. Teachers' responses from the teacher survey offered a window to perceive how they made sense of the more general pedagogic ideas behind the two research lessons. In the next section I explain in more detail the practical generalisation from the two research lessons and how teachers related to these ideas by drawing upon their reflections about the research lessons and their own learning through attending the public event.

4.4.3 Elucidating pedagogic insights: reconceptualising the nature and purpose of a review lesson and proposing new practical principles for teaching review lessons

Throughout the DRLS, the two DRLS teams and Yumei (the DTR) had multiple opportunities to articulate each of their conceptions of a review lesson. Through in-depth deliberations, they were able to (a) contrast traditional conceptions of a review lesson that aimed for language knowledge acquisition with new conceptions that aimed at developing pupils' communicative competence and (b) reach shared understandings about the necessity and ways forward for developing new practice consistent with the new curriculum precepts. These understandings were partially embedded in the design of the two district research lessons. But in order to make the embedded pedagogic insights more explicit for the teacher audience, Yumei summarised a new conception of review lesson in her plenary talk:

“A review lesson is not as simple as recapping previous language knowledge. It is about developing pupils' competence to use previous language in new language contexts.” (Yumei plenary talk)

Based on the re-interpretation of review lesson, Yumei also theorised a pedagogic guideline for the design and teaching of a review lesson which included four core dimensions “review, consolidate, integrate, and extend”. She also elaborated each of the four dimensions of a review lesson in her talk. The first dimension, also the most basic dimension, is that a review lesson should help pupils review previously learned language. The second dimension is that a review lesson should help pupils consolidate or strengthen still relatively new and unsolid language. The third dimension is a more ambitious requirement that a review lesson should support pupils to integrate their prior language for use in new language contexts. And the fourth dimension, also the most challenging, is that a review lesson should aim to develop pupils' competence to use language flexibly and with personal style.

Teachers' responses in the survey indicate that over half of them (67/118) reported that the DRLS public event made them aware of new pedagogic possibilities of review lessons for developing pupils' integrated language competence. A larger majority of these teachers (87/118) talked specifically about classroom strategies that they would like to consider in their own teaching such as (a) sourcing and extending extra reading materials for their pupils according to their interest, (b) using and adapting curriculum materials more flexibly to address classroom needs, (c) conducting surveys with pupils before planning to understand pupil needs, (d) creating real language contexts to prompt language use and motivate learning in a review lesson, and (e) paying more attention to cultivating pupils' integrated language competence. The following are some excerpts of teachers' responses about their learning through the DRLS:

“Review lesson has always been a headache for me. It’s difficult to pin down the most important language points. And if I try to review everything, pupils end up not learning anything. I saw good examples of review lesson today. The teachers today managed to review the most basics and yet at the same time extend appropriately according to pupils’ interest and needs, such as the extensive reading.” (Lihua, Sanlitun Primary School)

“When I teach review lesson, I tend to focus on the language in the particular unit. After today’s event, I realise that I haven’t done enough in extension and supplementation. The reading lesson today included reading resources outside the course book. This is illuminating.” (Hanbing, Guangming Primary School)

“The two lessons today focus on cultivating pupils’ integrated language competence. This is what a review lesson should be like!” (Weiqiang, Dongguan Primary School)

“A review lesson is not the same with a new lesson. It should aim to help pupils make links among the language they’ve learned previously so that they can move up to a higher level. A teacher should make the best efforts to integrate and resource relevant language materials and resources, help expand pupils’ learning channels, and create opportunities for pupils to develop and elevate their language competence.” (Hecui, Haiwai Primary School)

“The lessons today helped develop a new understanding about review lesson. Both lessons made great efforts to create real language contexts, which made it so easy for pupils to get into the learning mode. The design of both lessons is well-layered and logically progressive. While the lessons help the pupils to consolidate what they’ve learned before, they also extend learning demand and materials. This is very useful for developing pupils’ integrated language competence.” (Fangfang, Neimeng Primary School)

“Even a review lesson should include appropriate language context. A teacher should make the best efforts to make sure that pupils review in real-life language

contexts. This will hugely motivate their participation and improve learning efficiency.” (Chunyan, Hangzhou Primary School)

Recapitulation

So far I have discussed how the DRLS provided collaborative structures and contexts for both EFL teams to gradually refine their research lessons and create pedagogic “bright points” to address the focal issue of teaching review lessons in new ways. I have also explained how they derived professional understandings in relation to the research lessons and “bright points” over the course of a series of carefully planned and incremental experimentations through successive research lessons. The experience of taking part in the DRLS not only contributed to the professional learning of the teachers from the two EFL teams which I discussed more specifically in section 4.2, it also holds potential for enhancing teaching and learning in the broader district contexts, especially for the body of teachers attending the public dissemination event. To summarise, the significance of the two research lessons for the wider district EFL teaching community can be understood as twofold. Firstly the two public lessons served as vivid examples of a new conception of review lesson that deviates significantly from how review lessons were usually taught in the district. Secondly the two public lessons contributed concrete and innovative classroom ideas, artefacts, and resources towards the shared practical repertoires of the district EFL teaching community.

In the next sections, I discuss the salient conditions and norms that seem to have made possible and provided support to a collective approach to classroom experimentation and adaptation of the new curriculum within the district.

4.4.4 Collective practice development and learning mediated by the use of common concepts for talking about subject teaching and learning at local EFL team level and across EFL teams

Thematic analysis of both teams’ talk in their DRLS meetings identifies some common language use within and across EFL teams for collaboration and learning in the DRLS context. Table 4.14 summarizes the list of pedagogic concepts that were commonly referred to either by individual team or across both teams during the DRLS tasks. The table also differentiates between the instances of use among the two teams of subject

teachers themselves and the instances of use in the meetings with Yumei, the DTR. I conducted the analysis through three steps. For the first step, I read through all the meeting transcripts by team and identified key concepts that were mentioned in each meeting. After this process I developed a list of concepts from different meetings. For the second step, I used the “Find” function in Microsoft Word to search for and record instances of use of the same concept in different meetings. For the third step, I aggregated the instances of use of each concept by each EFL team and also differentiating between meetings without the DTR and meetings with the DTR for each team. This allows the development of insights about the adoption and use of certain language at the local team level and across teams in this DRLS.

Table 4.14: Summary of language use by each EFL team and across both EFL teams

Instances of use in meetings		Cherry Vale team meetings	Cherry Vale meetings with the DTR	Fragrant Hill team meetings	Fragrant Hill meetings with the DTR
List of typical language					
<i>Language for talking about curriculum goals</i>					
1	学生 (pupils)	82	737	274	414
2	能力(ability or competence)	4	4	26	13
3	交流 (communicate)	1	7	17	12
4	谈论(talk)	0	16	1	25
5	表演 (act out)	19	36	0	0
6	思维(think)	1	1	10	3
7	表达(express)	3	2	7	5
8	兴趣 (pupil interest)	3	2	12	32
9	拓展 (extension)	9	7	25	9
10	升华 (sublimation)	22	4	0	0
<i>Language for talking about subject knowledge</i>					
11	话题 (conversational topic)	9	38	8	9
12	单词 (words/vocabulary)	13	1	9	0
13	句型 (sentences)	61	44	9	12
14	对话 (dialogue)	32	48	1	0
<i>Language for talking about pedagogy</i>					
15	情景 (language context)	25	51	1	13
16	任务 (language task)	0	8	0	16
17	渗透 (permeation)	9	12	0	1
18	发散 (diffuse)	8	5	1	3
19	分层 (differentiation)	1	0	8	3
20	分享 (share)	0	1	15	25
21	自主 (autonomy)	0	0	4	6
<i>Language for talking about the design and teaching of a lesson</i>					
22	教学设计(lesson design)	8	10	10	13
23	目标 (lesson goal)	10	1	4	10
24	重点 (important points)	10	31	10	8
25	输出 (production)	13	5	0	3
26	环节 (lesson link)	11	30	5	8
27	活动 (activity)	7	27	21	21

28	步骤(teaching steps)	6	9	1	7
29	示范 (modelling)	3	57	0	13
30	过渡 (transition)	3	11	5	1
31	教师语言 (teacher language)	2	34	2	21
32	板书 (Blackboard design)	0	6	3	12
33	PPT (PowerPoint)	3	24	6	25

4.4.4.1 Use of common concepts for talking about curriculum goals

Table 4.14 shows that the participants in the DRLS adopted some shared language (see items 1 to 9) to talk about curriculum and learning goals. Throughout the planning and evaluation of the two research lessons, the participants placed a clear focus on “pupils” and their learning needs. They articulated the goal of cultivating pupils’ language “competence” to “communicate” and “talk” in English and to “act out” English language situations. In addition to the performance aspect of language competence, they also highlighted higher-level language competence such as the ability to “think” critically in English and use English idiosyncratically to “express” personal thoughts. They gave further considerations to the affective goal of language teaching such as cultivating pupils’ “interest” and motivation in English learning. Almost unanimously, they all mentioned the necessity to “extend” the curriculum materials and learning objectives for each of the two lessons in order to address pupils’ needs. The adoption and use of such language in the discourse was indicative of the extent to which teachers in this DRLS had adopted the new EFL curriculum thinking for cultivating communicative language capacities among its young learners. But apart from the shared trend of language use, there were also differences in the frequency of using certain concepts for different lessons and by different teams. For example different aspects of communicative capacities seemed to be associated with different lesson types. In the Cherry Vale lesson which focused on listening and speaking, teachers talked more about the abilities to “use” sentence patterns for communication and to “act out” language situations, or in other words, the ability to reproduce appropriate language in particular language situations. But in the Fragrant Hill lesson which focused on reading and writing, teachers made more reference to the abilities to use English more flexibly and in integration in order to “think” and “express” oneself effectively in English.

4.4.4.2 Use of common concepts for talking about subject knowledge

Items 10 to 13 in Table 4.14 include common concepts that participants in the DRLS used to refer to English language subject knowledge. It seemed that participants in the DRLS put emphasis on four main components of language knowledge including language topics, vocabulary, sentences, and situational dialogues. Grammar was not mentioned at all by any of the two school EFL teams and only mentioned once by Yumei (the DTR) in a Fragrant Hill evaluation meeting when she pointed out a few grammatical mistakes in pupils' responses in the lesson. This indicates that, at least among these two EFL teams and the DTR, teachers had shifted significantly away from learning language structures and grammatical rules to the new focus on learning to communicate. The table also shows that adoption of this aspect of language was generally much higher in the Cherry Vale team than the Fragrant Hill team. This may be partially due to differences in lesson types, i.e. the listening and speaking lesson was probably more sensitive to the componentiality of language while the reading and writing lesson probably put more focus on the integration of language.

4.4.4.3 Use of common concepts for talking about pedagogy

Teachers in the DRLS also seemed to use some common concepts for talking about pedagogy. In the Cherry Vale team, teachers frequently referred to pedagogic approaches such as setting up "language context" in order to simulate real life communication, "diffusing" pupil thinking and language use from the immediate language context to other similar contexts, and "permeating" (as opposed to didactic teaching) EFL lessons with cultural and moral values. Fragrant Hill teachers, on the other hand, put more emphasis on pedagogic approaches such as "differentiating" learning goals and support for different pupils, encouraging peer interaction and learning through "sharing", and promoting "autonomy" among pupils to make choices and decisions about their own learning. Yumei (the DTR) seemed to place high emphasis on setting up appropriate language contexts and designing real-life like language learning tasks. She helped reinforce these two related pedagogic ideas in both DRLS teams.

4.4.4.4 Common language for talking about the design and teaching aspects of a lesson

Last but not the least, participants in the DRLS also seemed to share some common concepts for talking about the design, structure, and the teaching aspects of a lesson. The notion of “lesson design” was shared across both teams and by Yumei. For all of them, the point of departure for any good lesson design should start with articulating a clear “lesson goal” including the range of learning objectives and the most “important learning points”. Some learning objectives could also be described as what language pupils were expected to “produce” after a particular lesson. They also seemed to use common concepts to talk about the structure of a lesson. For example the main sections of a lesson were referred to as “lesson links”. Each “lesson link” could be made up with a number of “activities”. And each activity could in turn be realised through several “teaching steps”. With this language, a lesson was collectively envisioned as a tightly-linked and well-articulated design that could provide pupils with a logical and smooth learning progression, reflected in the vivid metaphor, “When a river flows, a channel is formed”.

Apart from the design aspect of the lesson, teachers across both teams also shared some common concepts and concern in relation to the actual teaching of a lesson. For example effective “teacher language” was considered as a key aspect of good teaching. The shared rationale was that a teacher needed appropriate and carefully planned language in order to i.e. (a) provide effective “modelling” to pupils, and (b) enable logical and smooth “transitioning” from one activity to the next and hence natural flow of learning for pupils. A good “blackboard design” which included carefully-planned visuals or learning cues to support pupil learning was also considered an important aspect of teaching by these teachers. At the same time, effective design and use of “PPT” was believed to be able to aid teaching and learning substantially in language classrooms.

To summarise, the table reveals some trends and commonalities in the language use within local EFL teams and in some cases across both teams and by Yumei. This gives some ground to imply that across the broader district EFL community EFL teachers may indeed have a set of common language to talk about their practices. And it is very

likely that such language is subject to change as practices develop and evolve, i.e. in the context of a new curriculum reform new language or concepts may be introduced to the practice community and get adopted for use by its members. Therefore, the extent to which a team adopts or fails to adopt the use of certain language may be indicative of their stage of practice development in relation to the wider practice community and the broad context of practice change. Fragrant Hill team, for example, engaged in more instances of talking about higher-level language competence such as the ability to think critically and talk idiosyncratically in English while Cherry Vale teachers engaged in more discussions on the more basic performance aspects of communicative language competence such as reproducing appropriate language in particular contexts. This indicates that the Fragrant Hill team may be more advanced in their classroom uptake of the new curriculum than their Cherry Vale peers. Yumei (the DTR) also seemed to intentionally reinforce the use of certain language through her contact with classroom teachers. Typical examples include her focus on pupils, on creating real-life like language contexts and language learning tasks in EFL teaching and learning. Such joint efforts by EFL teams and by teacher development facilitators like Yumei may lead to wider adoption, change, and development of the discourse and language use in the district EFL teaching community.

To summarise, in this section I summarised from the limited corpus of talk by two teams of EFL teachers some common use of language and concepts for talking about curriculum and lesson goals, pedagogy, and the design and teaching aspects of a lesson. Such shared language use supported the collective practice development and learning among these teachers in this DRLS context. It also implies, in a snapshot manner, the extent of language uptake and use in relation to ideas and concepts framed in the new curriculum in the district exemplified by the two teams. It is clear in the analysis that the DTR was actively promoting some new curriculum related language through her collaboration with local EFL teams. In the next section, I turn to consider the characteristics of the DRLS itself as an activity for district-wide practice development and professional learning.

4.4.5 Characteristics of the DRLS as an activity for district-wide practice development and professional learning

In this section, I discuss the characteristics of the DRLS as an activity for district-wide practice development and professional learning. In particular I discuss the norms and orientations that seem to underpin practical inquiry such as the DRLS. These characteristics, norms, and orientations are indicative of the nature and utility of such activities for advancing district-wide practice development and professional learning.

4.4.5.1 A community orientation to practice development, innovation and transfer

The DRLS was initiated by Yumei and aimed to address a practical issue that was identified as a common concern within the district EFL teaching community – how to redefine and teach a review lesson. This aim was understood and shared by both the DRLS teams in the current study and both teams' participation in this task was endorsed with leadership, administrative, and logistic support from their respective schools. The community orientation of the two DRLS teams is reflected in their disposition to view the DRLS as an opportunity to engage in a pedagogic conversation with other EFL teachers within the community. On one hand, they used public practices in the district as benchmarks to scrutinise and evaluate their own propositions and ideas for the research lessons. On the other hand, they aimed to contribute new practices around the target practical issue to the community through their research lessons. For example the Cherry Vale team mentioned “the district” five times during their meetings. In most of the contexts where “the district” was mentioned, the team was making comparisons between what they were proposing for the research lesson and what they knew about public practices in the district through each of their personal engagement in district public events. Through such comparisons they came to judgements about whether a particular teaching idea was consistent with or actually contradictory to public practices. The team also shared the aspiration for contributing innovative practices through their research lesson. In both meetings, they devoted discussions around whether or not their planned lesson had reflected practical innovations or “bright points” in its design on which other EFL teachers could draw for their own practice development through attending the district public lesson event. Similarly the Fragrant Hill team also made reference to public practices and public pedagogic views, especially those promoted by

DTRs, for evaluating or substantiating their thinking and ideas for their research lesson. This team saw the DRLS as an opportunity to showcase the features of their local practices, especially those aspects of practice that contributed to cultivating their pupils' integrated language competence including the abilities to speak, listen, read, and write in English and the abilities to use English to express themselves and communicate with each other.

During the DRLS, Yumei communicated a clear agenda for facilitating practice innovation and practice transfer within the district through the DRLS. During the evaluation meetings with the two teams, she played an active role in identifying and making explicit key insights that were to be expressed and shared with the sixth grade EFL teachers in the district through the two lessons. The following is an example of such comments that she made about the Fragrant Hill lesson during the post-RL4 evaluation meeting.

“So the purpose of sharing is to motivate pupils to read more in the next round, or even after the next round motivating them to read more at home. You see today pupils all went to pick up more reading materials after class. They all lingered around to read, each one of them. I think if a lesson can make pupils want to do that then you can say the lesson is very successful. Then the design of that particular lesson link is meaningful and very very worthwhile. And it makes a very big bright point.” (Fragrant Hill meeting 8: line 388-393)

But while encouraging “bright spot” innovation, Yumei also introduced “transferability” as an extra lens through which to scrutinise the two research lessons under development. Her particular concern was whether the research lessons developed through the DRLS had relevance to the majority of the EFL teachers in the district and their classrooms, i.e. whether or not the ideas or activities in the lesson could be easily adapted for use in a typical language classroom within the district. With experiences accumulated through her extensive contact with different schools, EFL teachers, and classrooms in the district, Yumei advised on a range of issues that had implications for transferability including (a) whether the content of the lesson was fit for average sixth-grade pupils in the district, (b) whether the task demand and learning goals were appropriately set for the majority of pupils at this level, (c) whether the activities could be realistically conducted in average classrooms, and even (d) whether the resources designed and used in the lessons were feasible for other teachers to prepare in their busy

teaching schedule. With the joint efforts between the two DRLS teams and Yumei, they aimed to develop innovative practice around the target practical issue that could encourage classroom change and adoption by other EFL teachers in the district.

4.4.5.2 A shared orientation to new curriculum implementation and adaptation

The DRLS signified a clear orientation towards implementing the new curriculum framework and experimenting with the new curriculum ideas. This was not only reflected in the focus of the DRLS which was to redefine the nature of a review lesson under the new curriculum framework but also in the pedagogic deliberation around new ways of engaging pupils in a review lesson in order to effectively achieve new curriculum goals. Throughout the DRLS during planning and evaluation meetings, the two teams of teachers and Yumei frequently made contrast between old traditional practices and new ideas and visions under the new curriculum framework. The development of the Cherry Vale research lesson typified the process of changing from traditional practices that prioritised the acquisition of language knowledge into new practices that aimed for cultivating the ability of language use. More specifically the change was from treating a review lesson as an opportunity to review all relevant language points such as vocabulary and sentence patterns under a general topic into treating a review lesson as an opportunity for pupils to integrate and use previous language in a particular language context. The development of the Fragrant Hill research lesson, on the other hand, typified the process of translating broad pedagogic principles and ideas promoted by the new curriculum framework into concrete ideas appropriate for the purpose of a review lesson. More specially the team deliberated upon and experimented with pedagogic ideas that were effective for motivating active and autonomous learning on the pupils' part and prompting use of target language for expression and interaction.

On the other hand, the DRLS also showed a clear orientation towards classroom level curriculum adaptation and extension. The participants in the DRLS made frequent reference to curriculum "extension" across all the DRLS lesson development meetings including the meetings held within the two EFL teams and those with the DTR (see Item 9, Table 4.14). For example the word "extension" was mentioned 9 times in the meetings within the Cherry Vale team and 7 times in their meetings with the DTR. And

their focus of extension shifted from addition of language content to extension of pupil abilities. More specifically it was reflected in their lesson specific efforts to adapt the use of the listening text in order to provide pupils with richer language resources and place higher demand on their communication goal. For the Fragrant Hill team, the word “extension” was mentioned 25 times during meetings within the team and 9 times in meetings with the DTR. More specifically, their lesson specific approach was to supplement extensive reading materials according to pupils’ interest and expand classroom opportunities to encourage individual thinking and self-expression in the target language. At the end of the DRLS, the notion of extension was also integrated and formalised in the pedagogic guideline generalised about a review lesson: “review, consolidate, integrate, and extend”. These aspects of the DRLS together show that participants in the DRLS shared a clear focus on new curriculum implementation and experimentation while also a focus on curriculum adaptation and extension at the classroom level through their DRLS.

4.4.5.3 A practical theory-building orientation in the collective pedagogic inquiry

Apart from developing new practice around particular aspects of the curriculum through the two research lessons, the DRLS also aimed to develop practical theories, principles and theorising in relation to the target practical issue. This was reflected in the efforts to extrapolate explicit messages about review lessons in general from the two specific research lessons. In this particular case, the explicit message was that a review lesson should not be treated as an opportunity to simply re-organise and re-familiarise pupils with language points that they previously learned about a general topic. Instead a review lesson was redefined as “an opportunity for pupils to use previous language to engage in a new task”. Furthermore a four-word principle was proposed to redefine the purpose of a review lesson which included “review, consolidate, integrate, and extend”. These were communicated as provisional theories and pedagogic principles about review lesson to the EFL teachers who attended the district public lesson event.

Recapitulation

The DRLS cases investigated in the current research provide a snapshot of how the district EFL teaching community works collectively to re-invent practice and develop a

shared practical repertoire. This includes participation and interaction between bottom-up efforts made by school EFL teachers and teams such as Cherry Vale and Fragrant Hill and top-down efforts through the District Teaching Researchers such as Yumei. In the particular case of the current research, the interaction between bottom-up and top-down efforts was clearly reflected during the development stage of the two research lessons. And although the dissemination stage of the research lessons was mainly arranged by Yumei, it was with participation from the two EFL teams and teachers.

Summary

In this chapter, I have provided contextualised account of research findings in relation to the learning of individual teachers, DRLS teams, and the district EFL subject teaching community through the collective process of DRLS, including contextualised accounts of the conditions, processes, and outcomes of learning at these three levels. In the next chapter, I aim to stand back a little and develop theorised accounts of learning at these three levels.

Chapter 5: Theoretical discussions and conclusion

In Chapter 4, I provided a detailed and contextualised account of the conditions, processes, and outcomes of learning in relation to the individual EFL teachers, the two EFL teams, and the district EFL teaching community through the DRLS activity. In this chapter my aim is to stand back from the contextual details of the previous chapter and develop theorised accounts of the three learning systems that are formed around individual teachers, subject teams, and the district subject teaching community. Each of these learning systems has different characteristics in terms of mediational relationships, pathways, and processes. I first use the activity theory model as a basis for thinking through the district subject community as a learning system including salient characteristics in its activity components that appear to influence processes and outcomes of teachers' learning and development. I then move on to discuss individual learning systems and focus on variations in the patterns of engagement in the DRLS that lead to different learning outcomes for individual teachers. Finally I consider how language mediates the collaboration and learning of subject teams through the DRLS before proposing a conceptual model to provisionally theorise four ideal types of team learning systems.

After these more theoretical discussions, I go on to consider the implications of the thesis research. First I consider its connections with the broader LS research literature reviewed in chapter 2. I then consider its practical implications for policy and practice. Finally I discuss future research prospects building on the current research.

5.1 Characteristics of the district subject teaching community as a learning system

In chapter 2, I discussed the relevance of activity theory and its conceptual model (Leont'ev, 1978 and Engeström, 1987) for explaining teachers' learning and development through the DRLS activity. In the context of this research and within the activity theory framework, teaching is construed as cultural tool-mediated activity oriented towards its object in the form of developing ways of realising the new curriculum reform through specific units of teaching, i.e. classroom lessons. Therefore the district approach to developing research lessons that promote new curriculum visions of learning can be characterised as object-oriented activity that involves

collective effort and thought from members of a district subject teaching community. Through the empirical study, I developed a detailed account about how a range of factors including teachers' conceptions of practice, ideas, and ways of collaborating contributed to the development and evolution of research lessons and new pedagogic understandings. Relating empirical findings to the theoretical model, I use the following figure (Fig. 5.1) to explain the process of learning and development of the district subject teaching community through DRLS activities.

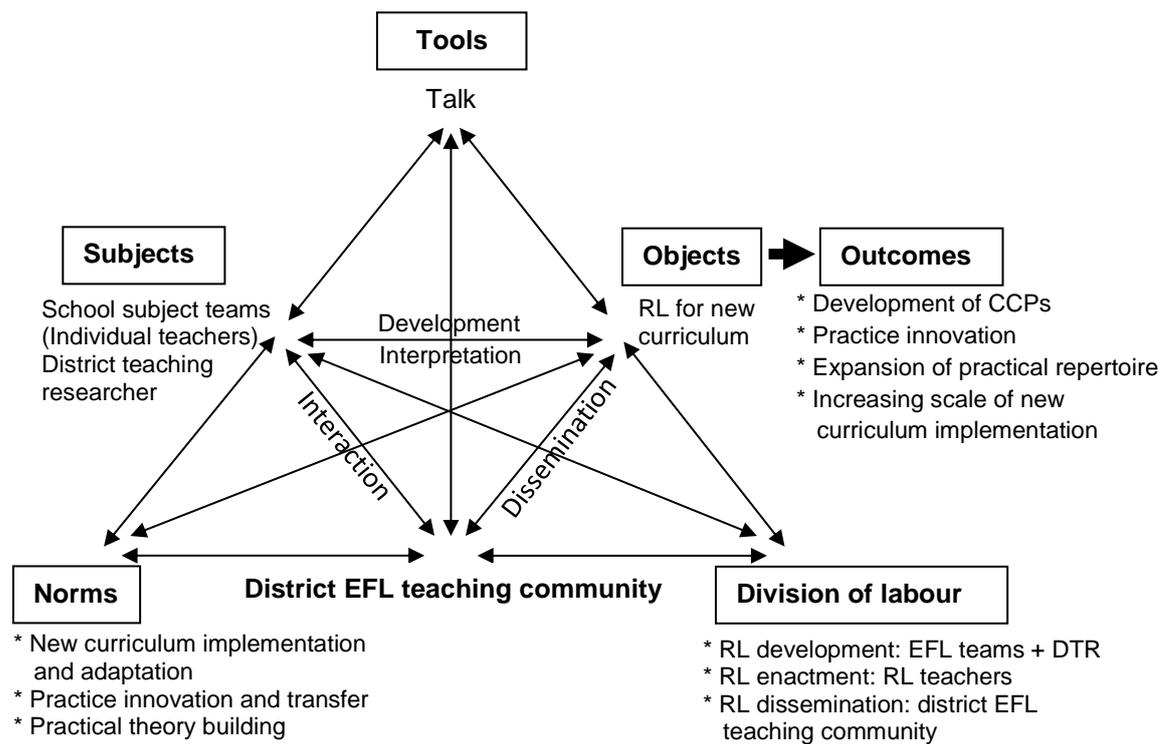


Figure 5.1 The district EFL community as a learning system through the DRLS activity

5.1.1 An overview of the DRLS activity system

Figure 5.1 summarises the main mediational factors and relationships within the DRLS activity system that is oriented towards the shared object of developing research lessons for realising the new curriculum. The research lessons are a key mediational factor in the DRLS activity system. At the *development* stage, research lessons steer the exploratory efforts of DRLS teams to exchange, negotiate, and develop understandings about the new curriculum object in the context of specific practice areas, i.e. in relation to specific aspects of subject content, lesson types, and grade levels. Hence the research

lessons can be understood as encapsulating the DRLS teams' *interpretations* and understandings about particular aspects of the new curriculum. At the *dissemination* stage, the DRLS teams' interpretations are explicated and shared publicly, and with concrete exemplification through the research lessons, to prompt evaluation, reflection, and learning of other subject teachers in the district community. Given the routine nature of the DRLS activities, subject teams across the district are able to *interact* and build on each other's interpretations, understandings and ideas through a "reciprocal spiral relationship" (Salomon and Perkins, 1998: p18) congenial to the development by teachers of deeper and more in-depth understandings and conceptions about the new curriculum framework and ways of realising it in their classrooms.

The division of labour in the activity system has three key elements that mediate learning and development in important ways. The first is a presumed element reflected in the focal place of the District Teaching Researcher (DTR) who acts as an active knowledge and practice broker across subject teams and within the district subject teaching community, bringing in new pedagogic insights and possibilities into the development of research lessons. The second is a negotiated element which was reflected in the different kinds of collaboration and pedagogic deliberations between subject teams and the DTR that were intended to support development among members of subject teams of more in-depth understandings about the new curriculum and to foster the incorporation of more innovative and effective practice ideas in the research lessons. The third is an intentional element for developing teachers especially in relation to the research lesson teachers. The DRLS created a focused space for research lesson teachers (such as Malan and Ying in the reported case) to engage actively with a wide range of pedagogic ideas and insights, to reflect deeply about the teaching of each lesson trial, and potentially to develop deep and multi-faceted learning.

The norms that guided the DRLS activity included three main expectations for new curriculum implementation and adaptation, practice innovation and transfer, and practical theory-building. These norms and expectations embedded in the DRLS activity system were conducive to eliciting the collective capacities of teachers across the district area to develop effective research lessons consistent with new curriculum visions and explicate pedagogic "bright points" and new pedagogic principles in relation to specific practice areas. It is expected that through sustained DRLS activities

over time the district subject community gradually expands its shared repertoire of innovative practice and new pedagogic understandings and comes to extend new curriculum implementation and classroom change.

The structure of the DRLS reflected in its team configuration and the norms that underpinned the DRLS activities provided the necessary social conditions for effective practice development and professional learning to take place in the DRLS activity system. In the following subsections I highlight important cultural and social processes that appeared to have given rise to individual and collective learning outcomes at the community level including language mediation and salient modes of social learning at play in the DRLS activity system.

5.1.2 Language mediation of practice development and professional learning at the community level

At the community level, language appeared to play a crucial mediating role for the development of practice and learning in the DRLS contexts. Analysis of the small corpus of teachers' language use in the DRLS showed that the teachers across the EFL teams and the DTR indeed used some shared language for talking about the curriculum goals, about the focal aspects of language content, about key pedagogical concepts, and about the design and teaching aspects of a lesson. The commonalities in their language use are probably reflective of a history of shared practices and ideas among EFL teachers in the district area. But there were also differences in the language use between the two teams. The differences in language use were, to some extent, indicative of the development stages of the two EFL teams in relation to engaging with and embracing new curriculum ideas.

Language also appeared to mediate the learning of individual teachers. An important aspect of learning and development for individual teachers seemed to relate to the extent to which they were able to internalise key concepts and ideas embedded in the new curriculum framework and use explicit language to talk about practice. For example, a key aspect of developing new conceptions about a review lesson is about using new language terms to articulate the nature of a review lesson, i.e. a review lesson is about

creating opportunities for pupils to use known language “to engage in new language contexts”.

Lastly, new language was also developed and used through the DRLS to codify new pedagogic understandings or insights, which led to the development of linguistic forms of practical artefacts to be promoted and shared among members of the district EFL teaching community. Linguistic forms of cultural and practical artefacts tended to permeate teachers’ thinking, deliberations, and actions during the DRLS. The transformation of the district subject community as a learning system is potentially closely tied to the development and transformation of language and language use among its individual members and teams.

5.1.3 Different modes of social learning at play in the DRLS-based activity system

Four modes of social learning theorised by Salomon and Perkins (1998) seemed to be most saliently at play in the reported DRLS case including: (i) active social mediation of individual learning, (ii) social mediation by cultural scaffolding, (iii) social mediation as participatory knowledge co-construction, and (iv) the social entity as a learning system.

The first mode of social learning accounted for most of the learning of individual teachers in the DRLS. It was most significantly reflected in the learning of two research lesson teachers. Both teachers, Malan and Ying, reported development or change of conceptions under the active support of their colleagues in the DRLS teams or the DTR. They also reported improvement in their teaching aspects of the lesson such as more effective questioning styles and instruction language, based on feedback as well as active mentoring and coaching that they received from their DRLS team members. Their learning reflected a many-to-one configuration of active social mediation of individual learning. This mode of social learning was also reflected in the learning of the subject teachers who attended the DRLS public event and observed the research lessons. During the DRLS public event, both the research lesson teachers and the DTR gave explicit explanations about the rationale and understandings that underpinned the two research lessons. Their explicit explanations, together with concrete exemplification of the research lessons, prompted the teachers who attended the DRLS event to reflect

and develop their own conceptions about a review lesson. Their learning reflected a one-to-many configuration of active social mediation of individual learning.

The second mode of social learning was similar to Vygotsky's idea of learning through cultural mediation. This was saliently reflected in the practice development and learning mediated by the cultural conception of good teaching as "flowing water". The key ideas in this metaphor are that an effective lesson should have a well-articulated sequence of actions for building and promoting a smooth progression and flow of pupil learning. This cultural conception appeared to mediate teachers' thinking, deliberation, planning and refinement of the research lessons throughout the DRLS processes. The two research lesson teachers Ying and Malan reported learning scaffolded by the collectively designed lesson plans. The young RL teacher Malan in the Fragrant Hill team reported that it was through teaching and internalising the well-articulated research lesson design that she developed clear understandings about the architecture of a lesson and grew confidence in her own pedagogic competence.

The third mode of social learning was most directly reflected in the development of the two research lessons, the pedagogic "bright points", as well as new pedagogic understandings about a review lesson through the DRLS activity. It involved the participation of members of the two subject teams and the DTR. In the collaborative lesson development context such as the DRLS, different subjects (i.e. individual teachers, teacher teams, and the DTR), could have different views and interpretations about the object itself and what actions may constitute as good teaching in the new curriculum vision, such as in the case of the Cherry Vale team. Hence the research lesson development in that team went through significant changes from its initial design to the final design. So at the level of collective sense making, individual sense making also appeared to come into play, turning lesson development into a process of meaning negotiation and co-construction. But the advantage of the DRLS or other LS-based activities is that it offers a "reflective immediacy" (J.H. Shulman, 2003 as cited in Fernandez 2005) to enable an evidence-based approach to the validation of practice and knowledge.

The fourth mode of social learning was reflected in both the learning of the district subject teaching community as well as the two subject teams that took part in the

research lesson development. The activity model provides an explanation of the mechanism of development and change for social entities such as school-based subject teams and the district subject community. Learning in this sense is distributed and shared in the activity system rather than residing with individuals. It is not only reflected in the development of new pedagogic understandings or expansion of practical repertoires but also in any change or development of teachers, relationships and norms. For example, after being confronted by the dissonance between her own conception of a review lesson and that of her colleagues' during the second Cherry Vale planning meeting, Ying modified her conception about a review lesson and in the third Cherry Vale planning meeting she was able to reach consensus with her colleagues on a basic structure for the research lesson. And although during the third meeting the team still held disagreements over more detailed aspects of the lesson design, i.e. regarding the treatment of the listening language material, Ying nonetheless expressed willingness to at least "put a question mark" over the contentious issue towards the end of the meeting. This gesture of Ying's was seen by her colleagues (such as Yulan and Wenxin) in a subsequent interview as a positive sign that Ying was becoming more open to views that stood in contrast to her own. During this meeting, Ying also made deliberate attempts to re-engage Yulan in discussion when Yulan resorted to silence after a heated episode of exchanges between the two of them over the use of listening language material. And at Ying's third attempt, Yulan did re-enter the discussion. This indicated learning of a small step by the Cherry Vale team in developing effective social repertoires for resolving conflicts and differences. By the end of the DRLS, the transformative changes in Ying's CCPs may lead to more significant changes in the state of her team's social cognitive dissonance and resultantly may lead to a new way of collaboration and learning for this team in their future LS activities.

These salient modes of social learning seemed to have given rise to a diverse range of learning outcomes that were reported through participation in the DRLS activity. A substantial part of what teachers learned as individuals related to changes in their conceptual understandings about particular aspects of practice and their pupils. However this does not suggest that learning is restricted to the acquisition metaphor. This is because within the cultural and historical theoretical lineage, development in conceptual understanding of practice is considered to have self-regulating effect on practice. When teachers develop new understandings about practice, it is simultaneously

enhancing their competence to participate more effectively in practice. This makes the learning of individuals also consistent with the participation metaphor. On the other hand, collective learning for subject teams and the district subject community has been understood as taking more diverse forms, i.e. as co-construction of innovative practice, expansion of practical repertoire, and co-construction of new pedagogic understandings. Holistically learning outcomes through the DRLS activity and context can be understood as integrating the acquisition, participation, and knowledge creation metaphors.

However, the other two modes of social learning theorised by Salomon and Perkins (1998), learning to be a social or resourceful learner and learning social content such as social relationships and norms, were not apparent in the data. This may be due to the predominant pedagogic or lesson focus in the DRLS activity system that tended to eclipse other aspects of teachers' and subject teams' learning needs such as development of social skills and group dynamics that could potentially give rise to more fruitful collaboration and richer learning outcomes. To address this aspect of gap in the DRLS activity system, I will propose a provisional theory of team learning and development in a later section that can potentially cater to these social aspects of learning needs among teachers and teams. In the immediate next section, I first consider the characteristics of individuals as learning systems in the DRLS activity system.

5.2 Individual learning through different configurations of the Zone of Proximal Development in the DRLS

Individual learning through the DRLS reported has been understood in this study as changes in teachers' conceptions of practice in relation to specific practice areas especially the focal practice area that the DRLS aims to address. This is similar to Shulman's (1986, 1987) notion of PCK. But the empirical findings suggest that different teachers seemed to learn through different processes and learn different things through the DRLS. Although Zone of Proximal Development (ZPD) is understood as the main locus for individual learning during the DRLS activity, teachers seemed to go through different kinds of ZPDs that were mediated by a wide range of social and cultural factors. Figure 5.2 depicts the different kinds of social and cultural configuration for ZPD that seem to be at play in the DRLS activity system.

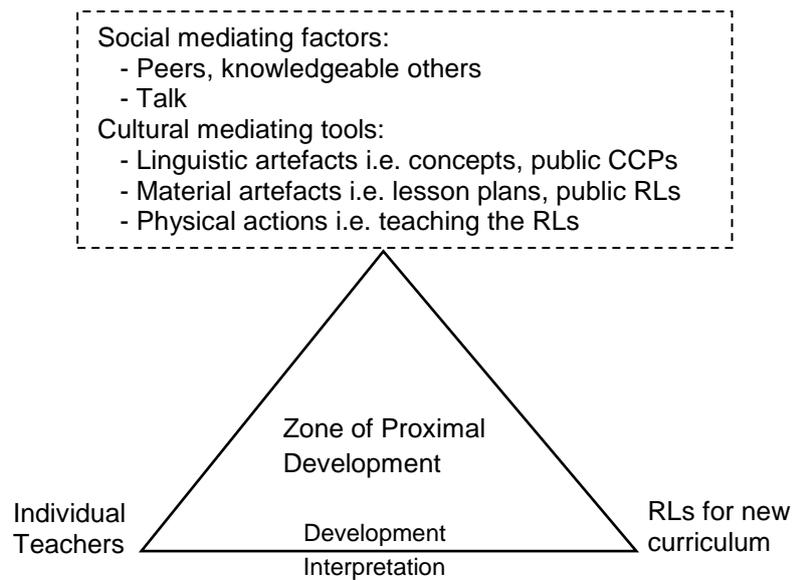


Figure 5.2 Different kinds of Zone of Proximal Development for individual teachers in the DRLS activity system

5.2.1 Zone of Proximal Development mediated by a wide range of social and cultural factors

It is clear from the empirical findings that different kinds of Zone of Proximal Development (ZPD) were at play for teachers who took part in the DRLS activity. Teachers reported learning mediated by more knowledgeable members of the community such as their colleagues or the DTR. They also reported learning mediated by a range of cultural artefacts including physical, linguistic, and material forms of practical artefacts. The two RL teachers, in particular, experienced multi-faceted ZPDs within the focused space for learning associated with their roles. For example both of them reported learning mediated by their subject team members, by the DTR, by particular pedagogic concepts, by the collectively developed lesson plans, and by the actual experience of teaching the research lessons. Other teachers, however, seemed to engage more differentially and selectively with a wide range of mediational factors. This is interesting because even though teachers went through the same DRLS activity, their learning seemed to take place at different points of the activity and through the mediation of different social and cultural factors. On one hand, this reveals the rich potential of the DRLS activity system for enabling different kinds of ZPDs. On the other hand, it also implies the agential and idiosyncratic nature of individual learning. The subjective nature of individual learning was not only reflected at the point of

selecting what social and cultural factors to engage with but also at the point of individual sense making that forms as an important part of active self-construction of learning. I discuss the latter point in the subsection below.

5.2.2 Different kinds of sense making at the individual level

Interpretation is at the heart of Eraut's (1994) theory of professional knowledge and knowledge use. It is clear from the empirical findings that teachers can have divergent and sometimes even contradictory interpretations about shared public knowledge and practices, for example about the same pedagogic concepts or same public lessons. In addition to the divergence of interpretations, teachers may also develop different levels of interpretations, most notably *deep level* and *surface level* interpretations. This is particularly reflected in the ways teachers develop and hold their conceptions of practice when they engage with public practices such as public research lessons. The levels of interpretation that teachers apply when engaging with public knowledge and practice in turn influence how they use such knowledge to guide their own practices. For example through attending the same DRLS events, some teachers may develop surface interpretations about practice that are characterised as simplistic practical rules of thumb that they then hold and apply rigidly to guide teaching practices. This is in line with Eraut's (1994) applicative mode of knowledge use. But others may develop not only understandings about the procedural aspects of practice but also deeper interpretations about the rationale behind the formulation of practical theories or principles that they can then use critically and flexibly to guide practice in specific practical contexts. This is more consistent with what Eraut (1994) describes as interpretative mode of knowledge use. Both modes of knowledge use were at play in the DRLS case, although the former seemed to be more apparent in the Cherry Vale team and the latter appeared to be more apparent in the Fragrant Hill team. The two modes of knowledge use tended to be associated with the levels of interpretations that teachers applied when they engaged with public knowledge and practice. It is therefore important in DRLS activities to find ways of supporting teachers to engage in the kinds of deep interpretations that are more likely to lead to critical and creative mode of knowledge use and practice development (Eraut, 1994).

5.2.3 The self-constructive nature of individual learning

The third key dimension of individual learning and development through the DRLS is self-constructive. It is clear that teachers came into the DRLS collaboration with each of their own pre-conceptions about specific practice areas. Hence any new or different ideas that emerged through the DRLS needed to be filtered through and built upon those existing conceptions. This led to different kinds of conception change and development through the DRLS. The empirical findings identified six different kinds of conception change through the DRLS case: conception expansion, conception extension, conception transformation, new conception development, emerging conception development, and radical conception shift. These different kinds of conception change suggest that new pedagogic understandings are unlikely to be apprehended in the same ways by different teachers. Such understandings build on teachers' existing conceptions and these are likely to differ from one teacher to another. They are also indicative of the slow and complex nature of conception development and change. The fact that most of Cherry Vale teachers' CCPs were eclectic adaptations informed by the new curriculum framework rather than its full embrace after nearly a decade of reform may be quite telling of the difficulty associated with transforming conceptions of practice. For a more specific example, Ying's conception change in relation to the review lesson and the use of context in language teaching in this DRLS case could be described as iterative and incremental, going through small adaptations after each meeting and sometimes even back and forth between prior and adapted conceptions. Even for teachers whose conceptions were largely consistent with new curriculum ideas, such as Malan, Meiyang and Lili in the Fragrant Hill team, there was still scope for conception extension, transformation, and new conception development, i.e. turning implicit pedagogic understandings into more explicit views.

To summarise, the discussions above show that the teachers in the DRLS activity indeed remained individual in significant ways even in the context of active social mediation (Salomon and Perkins, 1998: p.17). At the social end, their conceptual change and learning seemed to be supported by different configurations of ZPDs when they engaged in the shared DRLS activity. At the individual end, their practice development appeared to go through different modes of knowledge use, such as applicative and interpretative, that were underpinned by different levels of individual

interpretations or sense making. And their conceptual change also seemed to go through idiosyncratic processes of active construction. The process can be slow and hard for some teachers, especially when they hold rigidly to traditional mode of thinking and practice. But when the conception change does reach an extent, it has the potential to enable transformative changes in the thinking and practice of teachers. One teacher related to her previous LS experiences and described her learning through a particular LS experience as “breaking through the cocoon and becoming a butterfly” (Ting interview 1: line 153), a perhaps poignant and vivid testimony to Vygotsky’s proposition of “free action” through deep conceptual change. It is probably through these deep conceptual changes that the uptake of new curriculum ideas and practices can become sustainable at the classroom level.

5.3 Towards a theory of language-mediated team learning systems

A key claim made about the benefits of LS practices in the LS research literature is that it brings otherwise lone classroom practitioners together to collaborate. And yet there is a scarcity of LS research studies that look into the conditions and processes of collaboration in different LS contexts that may give rise to more or less fruitful collaborative and learning outcomes. Through the thesis study, I have developed focused understandings about the language mediation of team collaboration and learning. I first summarise new understandings that derive from the thesis study and then propose a theoretical model to differentiate characteristics of different groups such as LS teams.

5.3.1 “Exploratory talk” at different developmental stages

Through the thesis study, I have identified two distinctly different patterns of talk which lead to markedly different collaborative and learning outcomes. One is *exploratory talk with a cumulative orientation*; this is characterised as active critical engagement of ideas coupled with deliberate efforts to build relationships, provide affective support and reach together towards shared decisions and understandings. This type of talk appeared to support ‘fertile collaboration’ and ‘rich learning’ in the case of the Fragrant Hill team. The other is *exploratory talk with a disputational orientation* which is characterised by active critical engagement of ideas but lack of social resources to fully

resolve conceptual conflicts in order to develop shared understandings and practical solutions. This type of talk seemed to give rise to ‘rocky collaboration’ and ‘partial learning’ in the case of Cherry Vale team.

Through the conceptualisation of these two different talk categories, I expand Mercer’s (1995) tripartite category system to allow for more nuanced representations of talk that reflect mixed or synthetic rather than singular talk orientations. It also suggests that it may be useful to see exploratory talk as consisting of different developmental stages (see Fig 5.3) associated with different conditions of collaboration.

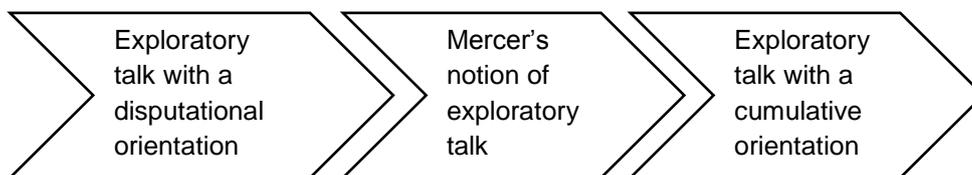


Figure 5.3 Exploratory talk at three different developmental stages

The empirical findings about the different ways teachers talk and the implications of talk for learning affirm the Vygotskian (1978) claim that language plays a pivotal role in mediating cognitive activities and social interaction. Language use or talk provides a window for perceiving not only the intramental states and activities of individual teachers but also the intermental relationships, dynamics, and engagement that give rise to collaboration and learning in a group.

Relating the empirical findings about effective characteristics of talk and effective characteristics of cognitive engagement, I have identified a framework of four core dimensions for relating teachers’ talk to their collaborative and learning outcomes. I discuss these four dimensions of talk in the subsection below and then propose a theoretical model for differentiating different types of team learning systems based on the four dimensions of language practices.

5.3.2 Four core dimensions of talk that relate to collaboration and learning outcomes

The thesis research has identified four key dimensions of talk that have significant implications for a team’s collaboration and learning outcomes. These include the

collective, reflective, interpretative, and co-constructive (*CRIC*) dimensions of talk. The collective dimension reflects willingness among members of a team to engage in joint practical inquiry and development while at the same time attending to the maintenance of relationships and team dynamics. The reflective dimension reflects the extent to which members of a team try to make explicit their conceptions of practice so that they can be shared, critiqued and further developed. The interpretative or critical dimension of talk reflects the extent to which members of a team think critically and use knowledge flexibly to guide their practices. The co-constructive dimension of talk reflects the extent to which members of a team work together to establish shared understandings or practical solutions. Different configurations of the four dimensions of talk may give rise to different modes of collaboration and learning. For example the talk of the Cherry Vale team reflected relatively high level of reflective dimension but only moderate levels of interpretive and collective dimensions and low level of co-constructive dimension. Hence their collaboration manifested as ‘rocky collaboration’ and led to partial learning outcomes for the team. The talk of the Fragrant Hill team, on the other hand, reflected relatively high levels of all four dimensions and hence their collaboration was much smoother and yielded much richer learning for the team.

Based on the four dimensions of talk discussed above, I further propose a theoretical model to differentiate the characteristics of different groups such as LS teams in terms of modes of collaboration and learning, the two core concepts at the heart of the thesis. More specifically in the quadrant diagram (Fig 5.4) below, I further group the four dimensions of talk into two broader dimensions. The horizontal dimension represents the extent of critical and reflective engagement that is present in a team’s talk. This dimension mostly refers to the extent to which members of a team make explicit their CCPs, critique and justify each other’s ideas, and use knowledge critically and flexibly to formulate practice. The vertical dimension represents the extent of collective and co-constructive engagement that is present in a team’s talk. This dimension mostly refers to the extent to which members of a team are willing to work collectively as a team, show affective regards and support to each other, and are able to develop shared understandings and practices.

5.3.3 A theoretical model for differentiating four ideal types of team learning systems through characteristics of language practices

Figure 5.4 presents four types of LS teams based on the different configurations of the two broad dimensions in a team’s talk. Through the figure, I have constructed four ideal types¹ of groups that each exemplifies a particular orientation to collaboration and learning including resistant learning system, stagnant single-loop learning system, developing learning system, and critical double-loop learning system.

I discuss below the characteristics of each of the four ideal types of team learning systems particularly in relation to characteristics of its language practices and conditions for collaboration and learning.

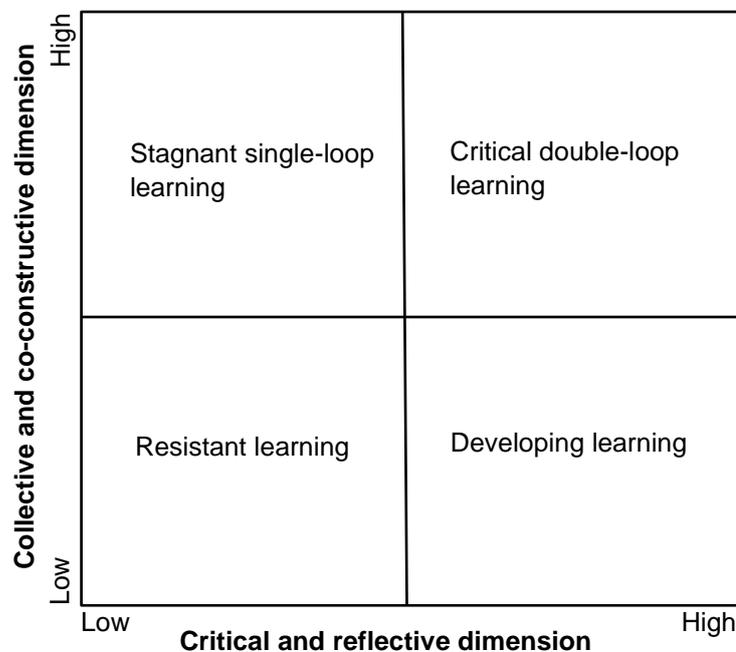


Figure 5.4 Four ideal types of team learning systems differentiated by different kinds of cognitive and social engagement

Characteristics of a resistant learning system

The lower left quadrant (Fig 5.4) represents groups that have characteristics of a resistant learning system: group members are reluctant to either work collectively as a group or engage in critical scrutiny about their own ideas and practices. On the

¹ “ideal type, a key term in Max Weber’s methodological discussion, refers to the construction of certain elements of reality into a logically precise conception. The term “ideal” has nothing to do with evaluation of any sort.” (Gerth and Mills, 1991:p59)

collective and co-constructive dimension of talk, this may manifest as low instances of engagement codes such as latching and overlapping, low instances of initiating topics, sharing knowledge or making suggestions, low indication of efforts to show affective regard and build relationships, and low indication of efforts for intending or making shared decisions. On the critical and reflective dimension of talk, this may be evident in high instances of disagreement and assertion but low willingness to resolve differences and achieve shared understandings through critique and justification.

The conditions that underlie this rather fragmented approach to collaboration and learning may be the prevalence of an individualistic culture in these groups. Examples of these groups can be found in LS cases previously reported in the literature (i.e. Demir et al., 2012). It may also be that members of these groups not only have divergent conceptions of practice but also hold rigidly to their respective conceptions and therefore resist change. In a context of new curriculum reform, subject teams that have characteristics of the resistant learning system may face significant challenges in adopting new pedagogical ideas and practices and therefore are unlikely to achieve effective implementation of the new curriculum without substantial support.

Characteristics of a stagnant single-loop learning system

The top left quadrant (Fig 5.4) represents groups that have characteristics of a stagnant single-loop learning system. Different from the disengaged groups such as those described above, members of these groups often demonstrate a high level of team solidarity and achieve great success at developing shared understandings and practices. But these groups may lack the necessary critical and reflective means to scrutinise their own practices and consider new or different pedagogic possibilities. On the collective and co-constructive dimension, their talk may feature high instances of cumulative IF codes such as agreeing, grouping and supporting, low instances of disputational IF codes such as disagreeing, cutting and avoiding, and high instances of seeking agreement and making decision. But on the critical and reflective dimension, their talk may include low instances of critiquing, justifying, highlighting critical issues, and making explicit CCPs.

A stagnant learning system may come into formation due to members' inclination towards politeness and avoidance of conflict in some cultural contexts such as those reported by Lewis, Perry and Hurd (2009) and by Rock and Wilson (2006). It may also develop in conditions where members of these groups already have well established patterns and routines for working together or have developed a well-established set of shared pedagogic conceptions and practices over a sustained period of time. But because they tend not to be open to reflection and critique, they may develop "group think" and erect well-honed defences against external ideas, especially those that challenge the group's entrenched habits of thought, practices and values. This way the prospects for learning tend to be limited within what Argyris (1976) described as the "single loop" (p.367). In the stagnant learning system, learning emphasizes affirmation of the status *quo* by prioritising questions related to maintaining current habits and routines. Typical examples of this kind of learning can be found in LS cases reported by Adamson and Walker (2011), Parks (2011) and Saito and colleagues (2006, 2008). In a context of new curriculum reform, these groups may need external support to help them develop explicit comparisons and contrasts between their own practices and new practices promoted under the new curriculum framework. This way continuities between the old and the new can be highlighted as one way to encourage more openness to new curriculum ideas and practices in their classrooms.

Characteristics of a developing learning system

The lower right quadrant (Fig 5.4) represents groups that have characteristics of a developing learning system: members tend to think reflectively about their practices and engage critically with their own and one another's ideas, values and practices; however, they may not necessarily have a committed team culture or shared pedagogic vision as a team. On the critical and reflective dimension, their talk may include high instances of disagreement and even some instances of assertion but these are often coupled with high instances of making explicit personal practical theories, reasoning, critiquing, and justifying. As a result, members tend to resolve conceptual conflicts and develop shared understandings. But this may not take place without potential difficulties or frustration because of the emotional attachment that members may invest in their ideas. This may correspond with low instances of cumulative IF codes such as grouping and supporting

and probably some but not very high instances of making shared decisions on the collective and co-constructive dimension of talk.

Conditions that underline a developing learning system may be that members of these groups hold quite divergent conceptions of practice which become increasingly explicit in the context of collaboration. And because these groups have not established already a tradition of collaboration and team work, they may encounter challenges in mitigating their differences and conflicts or construing them as resources for learning. The Cherry Vale team reported in the thesis study seems to share characteristics of a developing learning system. Another typical example of such groups can be found in the LS cases reported by Puchner and Taylor (2006). In the context of the new curriculum reform, subject teams that have characteristics of this learning system may need support for developing necessary social resources so that they can utilise their team capacity more fully for collectively adopting the new curriculum vision and developing shared practices.

Characteristics of a critical double-loop learning system

The top right quadrant (Fig 5.4) represents groups that have characteristics of a double-loop learning system: members of such groups not only have a well-established collaborative culture and shared practical vision but also show high commitment to ongoing practical inquiry and development. On the collective and co-constructive dimension of their talk, this may be reflected in high instances of cumulative IF codes such as grouping and supporting and high instances of developing ideas, seeking agreement, and making shared decisions. But on the critical and reflective dimension of their talk, this may be reflected in high instances of IF codes such as reasoning, critiquing, justifying, highlighting critical issues, and making explicit CCPs. These characteristics of talk enable a team to effectively utilise their team capacity for developing innovative practices and more in-depth pedagogic understandings.

The conditions that underlie this learning system are often that the team have already established a collaborative culture and also developed a shared practical vision and understandings over a sustained period of time. But individually and as a team, they also have the critical and reflective means to engage in the kind of candid, self-

evaluative and evidence-based inquiry and problem-solving that is conducive to what Argyris (1976) terms critical “double-loop learning”. The main attributes of this learning system are its openness to new ideas and possibilities, either from internal or external sources, and a flat structure for new ideas to take root. Through these attributes these groups develop capacity to continuously re-invigorate or re-generate or unlearn practices and values of collaboration and collective search and introspection as necessary pre-conditions for new critical learning and innovation. The Fragrant Hill team reported in the thesis appears to share characteristics of this learning system. The fact that all members of this team hold CCPs consistent with the new curriculum framework is indicative of its receptivity to new ideas. Their capacity as a team to generate innovative practice was also reflected in the context of the specific research lesson that they developed in the DRLS case reported in this thesis. In the context of new curriculum reform, such teams may become leaders in practice innovation and can play a significant role in supporting the learning and practice development of others across the community.

Summary

The four ideal types do not represent all possible modes of collaboration and learning that may be realized by groups such as LS teams. But they provide useful prototypes for comparison and contrast and for identifying key characteristics of a group that may inform understandings about its prominent learning needs. In the context of new curriculum reform, subject teams that share characteristics with these different types of learning system may need different kinds of support. For example, subject teams that have characteristics of *stagnant single-loop learning systems* may need the support of knowledgeable others to help them develop a critical and reflective lens in their talk for scrutinising practice. Subject teams that have characteristics of *developing learning systems* may need support to develop group dynamics and the team culture. Subject teams that have characteristics of *resistant learning systems* may need substantial intervention and support from knowledgeable others or from school leadership so that they can make conscious efforts to develop and function as a team and utilise team capacity to carry out classroom experimentation of the new curriculum. Subject teams that share the characteristics of the *critical double-loop learning system* may become

practice innovators and knowledge contributors in new curriculum implementation and development and can be engaged in supporting the learning of others.

5.4 The implication of the thesis study to LS research

The thesis study contributes important understandings to under-researched or yet-to-be researched areas identified in chapter 2. First, it has developed both contextualised and theoretical accounts of the systemic nature of professional learning and practice development through LS practices, especially in the context of national scale educational reform. Second, it has included multiple levels of analysis of learning, contributing detailed understandings about the conditions, processes, and outcomes of learning for individual teachers, subject teams, and the district subject community as a whole through the shared DRLS cycle. The multiple-level analysis of learning in this research contrasts with the emphasis in much of the LS literature on the role of communities of practice in shaping what teachers learn and do without attending properly to the active role that individual teachers play in improving their own knowledge, understandings, and practice. The multiple-level analysis I adopted also allows for development of more understandings about collaboration in order to address certain assumption in the LS literature that associates collaboration with automatic learning. Last but not the least, the thesis study has contributed significant understandings about ways that language mediates collaboration and learning in LS contexts and has developed a theoretical model for differentiating the characteristics of different LS teams based on characteristics of their language practices. I discuss each of these implications in more detail in the subsections below.

5.4.1 The systemic nature of LS practices for promoting professional learning and practice development in subject teaching community

The systemic nature of LS practices in countries such as China and Japan is often commented upon in the LS literature and accredited for their pupils' outstanding performances in international assessment schemes (Chen and Fang, 2013; Huang and Han 2015; Fernandez, 2005; Lewis, 2006; Yang, 2009). But very few studies have used empirical data to explain and theorise how LS practices enable teachers across schools and regions to learn collectively and develop shared practices. The thesis study, through

its community focus, offers a contextualised account of how the DRLS engages members of a district subject teaching community and supports them to develop innovative practices and pedagogic understandings around a focal practical issue. Empirical findings from the study also point consistently to the relevance of activity theory for explaining individual and collective professional learning and practice development through the DRLS. Important factors such as rules and norms that place explicit focus on new curriculum implementation and practice innovation have significant mediating influence on the processes and outcomes of collective learning and practice development. Through sustained DRLS practices, the district subject teaching community develop a shared practical repertoire and public conceptions of practice that become the mediating source of professional learning and practice development for subject teachers and teams.

Through both contextualised and theoretical accounts, the study set out to describe and explain how a nested system of LS practices oriented towards the shared object of developing effective research lessons supports teachers to collectively innovate practice and create knowledge on a focal-issue-by-focal-issue and lesson-by-lesson basis. The nature of such knowledge creation is similar to Shulman's (1986, 1987) notion of creating PCK but the validity of such knowledge is established and tested in classrooms at the community level by teachers themselves on an ongoing basis. Hence it provides a highly contextualised and dynamic way of creating and using knowledge than traditional approaches involving knowledge producing academic institutions and knowledge using schools and teachers.

The study shows that LS can be more than a set of procedures to be adopted at local team level. Instead it can be used to link teams across schools and regions to address shared practical issues through LS variations such as the DRLS. A collective and systemic approach to LS has the potential to utilise the collective capacity of teachers and classroom expertise for tackling difficult issues in classroom practice, especially issues that are not yet well-defined or well-understood in the context of new curriculum reform. But the thesis study investigates only one case of such practice. More studies need to be conducted in the future to understand the potential of systemic LS practices for fostering and sustaining educational reform and change.

5.4.2 The self-constructive and idiosyncratic nature of individual learning in contexts of LS

The focus on each individual teacher in the subject teams leads to understandings about the constructive and distinctive nature of individual learning in LS contexts. Such distinctiveness is first reflected in the six different kinds of conception development and change that teachers reported as outcomes from their participation in the reported DRLS. These differences in conception point to the importance of allowing space in DRLS processes for the active and personalised interpretation of new ideas and practices by individuals that build on their existing conceptions of practice. In some cases, this may lead to expansion or extension of existing conceptions, or transformation of implicitly held conceptions into explicitly held conceptions. In other cases, it may lead to cognitive dissonance and radical shifts from one conception to a quite different conception. Or it may lead to development of entirely new conceptions unrelated to a teacher's experience or understanding.

Second, teachers may play different roles in the context of team collaboration due to differences or asymmetries in their practical experiences, pedagogic understandings, and professional dispositions such as their critical and reflective capacities. Therefore they can learn differently and learn different things even as they go through the same DRLS cycle. For example a teacher who has deeper understandings about the new curriculum may play a more 'teacherly' role while a novice teacher may take a more explicit role as 'learner' in the collaboration. Hence at the team level, the 'teacherly' colleague may have supported and contributed to others' learning but not necessarily learn anything new him/herself about the focal practical issue. In such cases, his or her learning may need to come from input from a knowledgeable other such as the district teaching researcher. The study also reveals the different opportunities for learning offered by different ways of participating in the DRLS context. For example the opportunity of being the research lesson teacher seemed to relate closely to the deep conceptual change and multi-faceted learning reported by Ying and Malan.

Close attendance to the learning of each individual teacher in the two subject teams through the DRLS reveals interesting findings about how they develop and construct their own learning within the shared collaborative context. Hence the research supports

Salomon and Perkins' (1998) view about the necessity of attending to the balance between individual and collective modes of learning even in contexts of social collaboration. For instance, it may be useful in LS practice and research to give teachers more flexibility and autonomy to decide and develop their own LS procedures or variations so that the collaborative structure can most effectively cater to both their collective and individual learning needs.

5.4.3 Different patterns and modes of team collaboration and learning in contexts of LS

The focus on teams, especially through the comparison of the two case teams, also leads to interesting findings about different patterns and modes of team collaboration and learning. The differences may be due to a range of social factors such as team configurations, the culture and norms, the extent of social cognitive dissonance among members of the team, and characteristics of language practices in those teams. Mercer and colleagues' (1995, 2001) studies focus primarily on studying the relationships between the characteristics of language practices and the outcomes of team task performance, especially in relation to the extent of exploratory talk and a team's success at correctly solving mathematical problems. But their studies do not take into account factors such as team configurations and the social conditions of collaboration in those teams. This is understandable as the contexts of their studies were based on flexible rather than fixed pupil groupings. However, as teachers' collaboration in LS is often based on school-based subject teams, it becomes necessary to consider pertinent questions such as conditions of collaboration and their impact on learning. In other words, while it is still important in LS research to understand effective characteristics of language practices that give rise to more fruitful modes of collaboration and learning, it is also important in LS research to understand the conditions of collaboration such as the extent of collaborative culture and the extent of social cognitive dissonance that may give rise to different characteristics of language practices. Through in-depth understandings about the social conditions or factors that underlie certain language practices, it may be more possible to find out more effective ways of supporting teams to develop their language practices and learning.

The thesis study, through integrating understandings about the social conditions of collaboration and the characteristics of language practices, has proposed a theoretical model of four ideal types that differentiate between the characteristics of LS teams. More future LS research may be needed for refining and further developing this theoretical model in different contexts of collaboration and learning in LS and other teams.

5.4.4 Language mediation of collaboration and learning in contexts of LS

The thesis study developed an explicit focus on the language mediation of learning and practice development, a claim at the heart of Vygotskian sociocultural theories that are sometimes mentioned but not explicated in detail in the LS research literature. Findings from the study show that language indeed plays a crucial mediating role at all three levels of learning systems in respective relation to individual teachers, subject teams, and the subject teaching community.

At the level of individuals, language mediates teachers' mental representations or conceptions of practices which in turn have regulating effect on their actual teaching actions or choices for teaching actions. On one hand, the extent to which a teacher develops explicit understandings (i.e. in propositional forms) about practice is indicative of the teacher's ability to develop intentional and reflective control over his or her own teaching actions. Relatedly on the other hand, the actual formulation of practical propositions may also influence how a teacher develops, evaluates or interprets practice. For example when a teacher develops a rigid mental representation of practice, i.e. in the formulation of a rigid practical rule of thumb, it may lead to uncritical application of practical rules or procedures regardless of diverse classroom needs. The finding suggests that attending to teachers' verbalisations about their conceptions of practice in LS research may reveal important understandings about teachers' individual learning and the ways they learn with others.

At the level of the community, language mediation is mainly reflected in the development and use of a common language for codifying and talking about practice, or linguistic artefacts of practice. Linguistic forms of practical artefacts permeate teachers' thinking, deliberations, and actions during the DRLS. Hence it is possible to develop

understandings about the state of professional learning and practice development in a community through studying the common language use not just within but also across subject teams. For example, in the context of new curriculum reform, the extent to which new curriculum language and concepts are being interpreted and integrated into the DRLS discourse is indicative of the extent of new curriculum implementation and learning in the district subject community.

Language mediation at team level learning is at the heart of the thesis study and has also been elaborated in most detail in this thesis. The findings contribute understandings about two distinct kinds of exploratory talk, i.e. *exploratory talk with a cumulative orientation* and *exploratory talk with a disputational orientation*, that give rise to different patterns and modes of collaboration and learning. The findings also identify four core dimensions of effective language practices that are closely related to collaboration and learning outcomes including collective, reflective, critical, and co-constructive dimensions. These understandings address a significant gap in the LS research literature about how language mediates the processes and outcomes of collaboration and learning through LS.

Together, the findings about language mediation of individual, team, and community levels of learning and practice development in the thesis study shows that although social and cultural mediation is a complex phenomenon, linguistic or discourse analysis as a method holds great potential in future LS research for developing more in-depth understandings about the processes and outcomes of learning in relation to individual teachers, subject teams, and subject teaching communities. In the next section, I discuss the practical implications of the current research.

5.5 Implications for policy and practices

I consider in this section three main sets of implications of the thesis research for policy and practice, especially in relation to providing systemic support to teachers in contexts of new curriculum implementation, balancing individual and collective learning needs in contexts of collaboration, and attending to the language practices of individuals, teams, and communities of practice.

5.5.1 Supporting practice development, sharing, and transfer through district research lesson study in the context of new curriculum reform

Curriculum reform entails significant adaptation in the thinking and practice of teachers. Eraut (1994) points out that the key reason why traditional approaches to teacher professional development fail to make a meaningful difference in teachers' classrooms is that support is often only provided to teachers at the stage of knowledge acquisition but not sufficiently at the stage of knowledge use. In the thesis research, the range of different interpretations and conceptions that teachers seemed to hold and express during the DRLS about the meaning of certain practical issues under the new curriculum framework, from a side angle, mirror the complicated nature of new curriculum reform and implementation. The DRLS provides an example of classroom-based, lesson-specific, and focused support to teachers in the hard task of interpreting and experimenting with new curriculum ideas. It provides an opportunity for teachers in a district community to communicate their personal interpretations and conceptions and together negotiate and co-construct meanings in their specific local practical contexts. It also has the potential to mobilise and connect classroom experiences and pedagogic expertise to strategically support practice development, innovation, and new curriculum development. The DRLS as an example of providing systemic support to teachers at the stage of knowledge use, can potentially be a useful addition to the international repertoire of LS practices and variations, especially for educational settings that are currently undertaking an ambitious scale of reform and change, or that already see regional uptake of LS practices among schools (Dudley, 2007; Fernandez, 2002; Lim et al., 2010; Perry and Lewis, 2009; Saito et al., 2006; White and Lim, 2008).

5.5.2 Attending to the balance between individual and collective learning needs in contexts of collaboration

The majority of the international LS research studies reviewed in this thesis were conducted as small scale case studies on one or a few LS teams that came into formation on a voluntary basis, sometimes across subject departments. But in countries like China and Japan, LS practices have been systemically built into school life and are part of the routine practices of subject departments or teams, especially in the primary school setting. As the research I undertook shows through the two case teams, subject teams in different schools can have very different characteristics in terms of member

configuration, collaborative culture, and learning orientation. There can be asymmetry in teachers' knowledge, development stage, and learning needs within the same subject team. For example what a novice teacher in the team wants to learn and improve through LS practices may differ from what a veteran teacher does. This suggests that in LS practices it may be necessary to emphasize less on one particular set of procedures but instead give teachers more autonomy and flexibility to decide and negotiate their own ways and procedures for conducting LS activities so that their approaches to LS collaboration can more effectively cater to both collective and individual learning needs. It is also worth considering the opportunities provided for learning through taking particular roles in LS activities such as the role of the research lesson teacher.

In the literature, LS researchers have also reported the increasing scale of LS uptake as strategies for not only teacher learning but also the organisational learning of schools (Dudley, 2012; Lim et al., 2010; White and Lim, 2008). When LS becomes part of routine organisational and departmental practices rather than one-off research experiments, it may be necessary to consider some of the practical issues associated with the learning needs of individuals within subject departments or teams when engaging in LS practices.

5.5.3 Supporting the development of effective language practices among teachers and teams: *CRIC talk* for learning

In the DRLS case reported, the majority of support to teachers and teams was devoted to the development of practices and pedagogic understandings. Very little support was devoted to the development of their social repertoires, or Salomon and Perkins' latter two modes of social learning, such as effective language practices among teachers and teams. Like many other aspects of cultural practices, language practices of individuals, teams and communities often develop tacitly in the contexts of particular social conditions. Hence the characteristics or patterns of language practices may not necessarily be immediately obvious to its practitioners. It is therefore important to make explicit such patterns and characteristics and feed back to individuals, teams, and practical communities for their critical reflection, with a view to promote critical reflection on these patterns as a way of further improving collective learning and the kinds of collaboration that fosters it. For example, efforts made by individual teachers to

critically reflect and improve their own language practices can potentially improve not only their own learning, but the social processes that they construct, not only for themselves but also for other people.

One of the key outcomes from the thesis study is a set of analytic methods and instruments such as the IF coding framework for understanding patterns of social interactions and the cognitive analytic frameworks for understanding patterns of cognitive processes. These analytic tools make it possible to make visible and feed back to individuals, teams, and communities the patterns of their language practices and the embedded modes of collaboration and learning as reflected by the balance of the CRIC dimensions. Through feedback systems, it is possible to support the development of a critical stance on the whole process, dynamics, and underpinning values of learning that inheres in individual, collective, and community systems. Universities possess the kinds of research and development expertise that would allow for such feedback processes which have application at all three levels: individual, team, and community learning. In other words, such feedback opens up scope for supporting double-loop systemic learning (Argyris and Schön, 1996).

5.6 Methodological reflection

I would like to report a methodological dilemma that I encountered in my research which related to my interview strategy for eliciting comments and accounts from teachers about their learning. In the methodology chapter, I have already reported the difficulty I encountered, both during my pilot and main studies, in getting teachers to articulate what they had learned through their LS/DRLS activities. In general, my informants found the question about learning quite general and hard to answer. As a reaction to this, I reported that I had to adjust my interview strategies. For example I tried avoiding abstract words such as learning in my questions and instead using more everyday language such as benefits and gains. I also tried making the questions more context-specific, for example through making particular reference to some of the focal issues that the teams had been discussing in their DRLS meetings. With more active support from me and more structure in the interviews, my informants were able to develop more detailed accounts of their conceptual change and development through the DRLS. But the adjusted approach contradicted slightly with my initial intention of

adopting a more open-ended stance towards understanding what teachers learn through the DRLS. After all, learning is such a unique and personal matter that its content and significance for individuals ought to be maximally defined and articulated by themselves in their own terms, which is why I wanted to use interviews to elicit their own accounts of learning in the design of this research.

But despite my best efforts to rely on teachers' own accounts in developing research claims about their learning, I still found it hard to ignore the instances of discrepancy that came up in this research between what I thought a teacher had learned and what the teacher said themselves. For example there were points in the meeting transcripts where I thought that the teachers had clearly learned something together there and yet some of those points did not come up at all in teachers' own accounts in subsequent interviews. This might be understood as indicative of the implicit nature of much of teachers' professional knowledge and expertise. And there is always room for me, an early researcher, to improve my interviewing skills and develop more effective and skillful probes to support teachers develop more comprehensive accounts. But still I have a few unresolved puzzles that linger in my mind about the learning of teachers.

The biggest puzzle of all is what do teachers perceive *themselves* as learning something? In cases when a learning point had been identified by me and yet not mentioned by teachers themselves, was it because the teachers did not consider it significant enough to be taken into account as learning or because some learning is destined to be ephemeral and fleeting in teachers' memories if it is not solidified through prompt reflection, or because, as mentioned above, much of teachers' learning is implicit and not available to articulation in interviews? And if that's the case, what kind of learning should we, as teacher researchers, focus upon when we try to develop claims about teacher learning? How can we differentiate the kinds of learning that are more likely to have lasting impact on teachers' thinking and future practice? In other words, to what extent can we make claims about the learning of other people? I felt though, through the thesis research, I have developed more questions than answers about learning.

These questions made me wonder what role I had played in drawing out those accounts of conception change from teachers. In this research, I had focused on teachers'

verbalisations of their conceptions of practice. But if I hadn't provided an explicit and fairly formal opportunity for teachers to reflect on their learning through my successive interviews, would they have been able to give me the same accounts of learning at the end of their DRLS? Or would they have given me very different accounts of learning? Had I, without being aware at the time of research, played an interventional role in helping my participants 'cement' some aspects of their learning through my repeated interviews with them? I do recall a few times that my informants gave me positive feedback after particular interviews, saying that spending time with me talking about their learning experiences had been a very meaningful use of their time, perhaps helping them develop clearer articulation about their own conceptions through the focused space for reflection in the interviews and the support of my questions?

On a practical note, this methodological dilemma has made me wonder if it is necessary to build in the kind of immediate reflection in teachers' LS processes and discursive practices, not only about their practices and pedagogic understandings, but also explicitly about their own and collective learning through the LS processes. After all, it is more likely for them to use what they learn intentionally to guide their future practices if there are opportunities to help them bring their learnings to more explicit awareness. In the thesis research, I as the researcher played some role in supporting teachers with that reflection. In practice, it may be useful for teachers to support each other or for a LS facilitator to provide teachers with timely support in developing prompt reflection about their own and collective learning. In this way, learning may become more visible in LS processes, not only to LS researchers but also to the teachers themselves.

5.7 Future research prospects

In this section, I want to briefly highlight prospects for future research that build on this study, especially in relation to the language mediation of individual and collective learning in contexts of professional collaboration. In the current study, I focused on studying the language practices of individuals, teams, and the district community in naturally occurring contexts of practice. And from a small discourse sample collected from two teams, I identified some effective characteristics of language practices for promoting critical, co-constructive, and double-loop learning. Building upon the current

research, I would like to expand the scope of inquiry to investigate more teacher teams. More importantly, my aim is to build in an intervention and development element to the research through involving teacher teams in two or three consecutive LS activities within a certain period of time and providing diagnostic feedback to teachers after each of their LS activities. More specifically, my research aim is to compare the patterns and characteristics of teachers' language practices in LS activities before and after intervention and find out the extent to which the feedback intervention is useful for promoting more effective language use in teachers and teams. I identify the following research questions to guide such future research:

- What are the patterns and characteristics of teacher teams' language use in their pre-intervention LS activities?
- What changes take place in teacher teams' language use in their post-intervention LS activities?
- To what extent do teachers identify changes in their language use during their post-intervention LS activities as their intentional efforts?
- How have changes in teachers' language use have impact on the effectiveness of their collaboration and learning in LS contexts?

Furthermore I would also like to investigate in detail the individual and collective processes in different organisational settings, whether this be educational settings or not. Perhaps there are important things for teacher teams to learn from successful teams in other contexts and sectors. If the purpose of DRLS is to promote innovative practice that is effective, then perhaps there is much to be learned from the collaboration and knowledge creation embedded in successful organisations such as Google and Tencent. Two key research questions to consider are:

- How does language use mediate innovation and knowledge creation in the contexts of collaboration in business teams?
- What conditions seem to have impact on the effectiveness of innovation and knowledge creation in contexts of collaboration in business teams?

5.8 Reflections on my own learning

I have committed this research to developing understandings about the learning of others. It is probably necessary, towards the end of this research, to develop some reflections about my own learning through the four years of doctoral study.

I feel that my learning through this doctoral research may be best described as that of an ‘academic magpie’. I worked hard searching and ‘collecting’ theories and ideas and ‘assembling’ them on my own research nest in my personal way, but probably without giving full appreciation or justice to their original values in most cases. But nevertheless I would like to think that overall I have been a curious magpie after having devoted a focused four years in the design and construction of a piece of research.

Four years ago I commenced the doctoral study to follow a lead that developed from my postgraduate study. After the doctoral study, I may have to devote many more years to follow the many leads that have arisen through this research. In many ways though, I still feel like that caterpillar living in the dark, enveloped by a wall that separates me from the vast world of knowledge. It may take me many more years of continuing efforts to get my own moment of, like one of my teachers said in an interview, “breaking through the cocoon and becoming a butterfly”!

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Appendices:

Appendix 1: Translation of letter of invitation to take part in the research



LETTER OF INVITATION

Dear TEACHERS at XXX School

My name is Haiyan Xu and I'm currently a full time PhD student at School of Education, University of Leicester in the UK. My doctoral research focuses on understanding the effects and mechanisms of lesson study (LS) as a form of professional learning and practice development. LS has been practised in countries in the East such as China and Japan for decades and yet empirical research about LS as an alternative approach for fostering collaborative and classroom-based teacher learning has only started recently under the initiatives of Western researchers. My own research aims to contribute understandings to this line of inquiry. More specifically my research investigates district research lesson study (DRLS) as a particular variation of LS practices in China and focuses on understanding what and how teachers learn through the DRLS.

For my study, I need to work with groups of teachers who engage in DRLS and gain their first hand accounts of their DRLS experiences. You are invited to participate in my study because I learned that you and your subject team are going to take part in research lesson development for the forthcoming district DRLS on sixth grade review lesson. Your experiences in the forthcoming DRLS will be valuable for my research and have the potential to help me address some knowledge gaps in LS research. Findings from this research may also inform policy and decisions that can lead to more effective DRLS practices for teacher learning and practice development. If you agree to participate in my study, I need your permission to:

1. Sit in and audio-record your planning and evaluation meetings.
2. Conduct interviews with you at different stages of your DRLS activities including an interview before you start your DRLS, an interview after each of your planning meetings, lesson observations and evaluation meetings, and a review interview after you complete your DRLS cycles. Each of these interviews will last approximately 30 minutes.

3. Observe your research lessons in classrooms and take notes on lesson development and pupil participation. My observation in your classrooms is necessary because it will help me to make sense of your discussions in planning and evaluation meetings.

I would really appreciate if you could consider taking part in my study. If you have any further questions or concerns about participation in this research or about my research in general, please feel free to contact me via email hx22@le.ac.uk or telephone via XXX. I look forward to hearing from you and wish you success in your forthcoming DRLS.

Best Wishes,

Haiyan Xu

PhD Candidate

University of Leicester

10.03.2013

Appendix 2: Translation of the informed consent form to take part in the research

Consent to Participate in LS Research

1. I agree to participate in the research initiated by PhD candidate Haiyan Xu from University of Leicester. I understand that this research is about understanding teachers' professional learning in DRLS contexts and I will be one of the xx members in the DRLS team.
2. I understand that my participation in the study involves taking a series of interviews at different stages of the DRLS processes before the start of DRLS, after each planning meeting, each lesson observation and each evaluation meeting, and at the end of DRLS cycles. Each interview will last for about 30 minutes and an audio-record will be made for each of the interviews. My participation in this study also involves allowing the researcher to sit in and audio-record our DRLS meetings. By agreeing to participate in this study, I also give the researcher the permission to observe the research lessons in our classrooms.
3. My participation in this study is voluntary and I understand that I have the right to withdraw or discontinue participation at any time of the research.
4. I understand that if I feel uncomfortable in any way during any of the interview sessions I have the right to decline to answer any question or end the interview.
5. I understand that the researcher will not identify me by name in any reports using information obtained from this study, and that my confidentiality as a participant in this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.
6. Colleagues and administrators from my school will neither be present at any of the interviews nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
8. I have been given a copy of this consent form.

My Signature

Date

Signature of the Researcher

Date

For further information, please contact:

Haiyan Xu
hx22@le.ac.uk
MP: 13910590688

Appendix 3: Excerpt of tables for recording details of reviewed LS studies

Author	Year	Sample	School/ Subject	Country/ Region	Research Approach	Research Focus
Fernandez, C.	2002	One group of 14 k-8 teachers and one group of 16 middle school lead teachers (DBLS)	K-8 math Middle school	USA	Qualitative Case study	Challenges of adopting LS in the US
Fernandez et al	2003	A group of 16 teachers and administrators in a school, with the help of Japanese teachers (SBLS-lesson development)	Primary math	USA	Qualitative Case study	Teachers' difficulties in adopting critical lens in LS
Fernandez, C.	2005	A group of four teachers (SBLS-lesson development)	Primary math	USA	Qualitative Case study	LS features and opportunities to learn about PCK and mathematical reasoning
Rock & Wilson	2005	6 elementary teachers in two LS groups (SBLS-LSP)	Elementary math and literacy	USA	Qualitative Case study	Teacher perceptions of LS How LS affect instruction
Pucher and Taylor	2006	2 LS groups of 4 teachers each with an outside advisor (Two SBLS-LSP)	Primary math	USA	Qualitative, collective case study	Teacher self-efficacy Tension associated with collaboration
Puchner et al.	2008	23 K-8 mathematics teachers in a two-week summer institute in four LS groups (DBLS-LSP)	K-8, mathematics (elementary and secondary)	US	Qualitative, collective case study	Teachers learning how to use mathematics manipulatives. Some teachers turn it into an end rather than a tool.
West-Olatunji et al.	2008	4 female early childhood teachers (DBLS-LSP)	Preschool	USA	Qualitative Case study	Mediated LS and its function in facilitating reflective thinking and teacher collaboration
West-Olatunji et al.	2008	Three female African American early childhood teachers (DBLS-LSP)	Primary school, a home school, and a pre-school agency	USA	Qualitative case study	Mediated LS and its function in promoting cultural awareness, reflectivity, and teacher empowerment
Groth et al.	2009	High school teachers, two lesson study cycles (not details about number of teachers) (SBLS-lesson development)	High school, mathematics	US	Qualitative case study	LS as a qualitative approach to assess technological pedagogical content knowledge.
Lewis et al.	2009	6 teachers from 5 schools (DBLS-Lesson Development)	Elementary math	USA	Qualitative Case study	LS features and learning pathways
Perry and Lewis	2009	A k-8 district in the US, BASD, about 70 teachers and administrators (DBLS)	K-8, Started with Mathematics Extended to other content areas	USA	Qualitative Case study Grounded theory	Evolution of a four-year district-wide LS Changes perceived by teachers Conditions for sustainability

Appendix 4: Excerpt of tables for summarising research focuses and findings of reviewed LS studies

Author (s)	Research questions and focus investigated	Reported Findings
Andrew 2011	What is the impact of using Learning Study in schools?	Benefits: improved student learning, teacher collaboration, teacher reflection, focus on student learning, development of a learning culture
Dotger 2011	What is the impact of participation in a LS cycle on GTAs' pedagogy in an introductory science course?	Benefits: regular forum to explore teaching, small changes in developing a learner awareness Constraints: lack of experience, lack of PCK
Fernandez 2002	What are the challenges to implement LS in the US?	Expected challenges: time, making teaching public, and limitation of PCK, Lack of a research stance
Fernandez et al. 2003	What are the challenges for US teachers to use LS as a way of examining their practice?	Challenges: lack of three critical lens: researcher, curriculum, student
Fernandez 2005	What is the educative value of LS?	Benefits: opportunities to learn PCK, opportunities to develop mathematical reasoning
Gao & Ko 2009	What is the impact of using Learning Study for the professional development of primary English teachers?	Benefits: improvement in student and teacher learning, changes in teachers' beliefs about learning, students' learning difficulties, and ownership of pedagogical innovation
Holmqvist 2011	How does LS help teachers develop theoretical knowledge? And how does it impact student learning?	Benefits: teachers' increased ability to discern the critical features of a learning object, teachers developing more specified content-related object of learning
Lawrence & Chong 2010	What can LS as a collaborative structure offer?	Benefits: increase in teachers' knowledge, increased awareness of specific areas for improvement , aligning teaching to long-term learning goals, foster teachers' sense of efficacy, productive collective efforts, school support to sustain teacher instructional change
Lieberman, 2009	How can LS serve as a vehicle for developing teacher learning community?	LS helps to break the norms of individualism, presentism, and conservatism
Lee 2008	What are the gains of teachers and pitfalls encountered in LS process?	Gains: facilitating teacher professionalism, learner perspectives, opportunity to raise different views and practice self-reflection. // Pitfall: workload, time constraint
Lewis 2009	What do teachers learn during LS?	Teachers develop three types of knowledge: subject matter and its teaching and learning, interpersonal relationships, and personal qualities and dispositions
Lewis et al. 2009	How does LS contribute to instructional improvement?	A theoretical model: changes in teachers' knowledge and beliefs, changes in teachers' professional communities, changes in teaching-learning resources
Matoba et al. 2007	What is the impact of lesson study as a means to promote leadership for learning?	Improvement in students' academic achievements and motivation, building a culture of learning at school, and changes in teachers' classrooms
Meng & Sam 2011	What is the impact of using Geometer's Sketchpad in LS?	Positive changes in teachers' knowledge and skills in using GSP. Peer support, collaboration. Constraints: time, commitment, group leader's leadership and personality

Appendix 5: Translation of teacher survey administered during the public DRLS event

Feedback survey on the public DRLS event

Your basic information:

EFL teaching experience: _____ years

Professional title: _____

Please think about the following three questions during your lesson observation today and provide detailed comments about each of the questions.

1. What are your views about the design and effectiveness of the two research lessons?
(Please be as detailed as possible.)

2. Were there any aspects of the two research lessons that you consider as “bright points”? (Please be as detailed as possible.)

3. Have you gained anything through attending the DRLS public event? (Please be as detailed as possible.)

Appendix 6: Example of analysis of conception change and development

1. Ying's evolution of conception on 'review lesson'

	Ying's verbalised conceptions on 'review lesson'
Verbalisation 1	<i>"At the moment I don't have a clear direction. I'm not very experienced in developing public lessons yet. I only did twice before, and only at my school-cluster level, not at district level. And in those two times I did new lessons. This time it's going to be a review lesson, a different lesson type. I'm not sure how I should teach a review lesson. I haven't observed a public review lesson either. So I'm still at an exploratory stage. Considering there will be many people observing my lesson, it's got to have its bright points, doesn't it? I don't have an innovative approach in mind yet. So I'm still thinking about it. Maybe after I go through this process I may learn about it. Because you start with having no idea how to do it, then after a month when the public lesson is developed you know how to approach a review lesson. This will be a learning curve."</i> (Interview 1, 20130314: line 213 - 221)
Verbalisation 2	<i>"Er, because this is a review lesson, it involves a lot of words about food, and some main sentence patterns. All the food words, I've listed them together. It includes ... And the sentences include..."</i> (Cherry Vale Meeting 2, 20130318: line 2-17) <i>"Because these are all language content that pupils have learned before so my main approach is to use different activities to bring out those previously learned language content."</i> (Cherry Vale Meeting 2, 20130318: line 51-52) ... <i>"No, all my activity design is for the sole purpose of serving the words and sentences, just these words and sentences."</i> (Cherry Vale Meeting 2, 20130318: line 292-293)
Verbalisation 3	<i>" [After the planning meeting] I feel the direction is clearer than previous. I mean in terms of what the lesson should include, what the focus should be and what should be secondary. At the beginning I just wanted to squeeze in everything and include everything [in this lesson]. So I was being over ambitious about being comprehensive. As a result, it was all over the place, it seemed to be very messy. Er, the theme of the lesson was not so clear. After discussion with colleagues, we further clarified the lesson goal and made decisions on the most important and must-learn sentence patterns [for this lesson]"</i> . (Interview 2, 20130318: line 3-7) <i>"So the focus is going to be the question 'What would you like to eat/drink?' and the answer 'I'd like to eat/drink' as well as the question for feedback about the food and the answer. This should be the focus."</i> (Interview 2, 20130318: line 18-19) <i>"So one of the achievements [in this meeting] is that the lesson goal is clarified. Er, when I was analysing the course book, I noticed such a long list of vocabulary and sentence patterns. My immediate reaction was how it was possible to include all this in a lesson. But after the discussion I came to know that there should be a differentiation between prior and secondary aims. Before discussion I thought I had to include everything in the lesson. If it's a review lesson then you need to review everything, this was what I thought. So the activities I designed were to include all the language content. I'm not sure if this is right or not. One was my initial thought. The other was what they raised in the meeting. I think I need to listen to the authority and then make changes."</i> (Interview 2, 20130318: line 237-241)
Verbalisation 4	<i>"Er, after I taught the first lesson, we had an evaluation meeting with the DTRO and two teachers from our TRG. This helped me to compare my initial thought with their views. So my initial thought was to review all language under the wholesome topic of food. I tried to include everything related to the topic of food. So it was to maximize language information under the topic of food. But the DTRO's view was to focus on language under the topic of ordering food during traveling. So you need to first introduce the topic of traveling. And then because this lesson is about ordering food, the language focus should be around the topic of ordering food. The lesson goal is to help pupils learn the language for each step of ordering food. So the whole framework [of the lesson] needs to be changed."</i> (Cherry Vale Meeting 4, 20130327: line 2-12) <i>"So this is to say Part A is ordering food in listening and Part B is ordering food in</i>

	<p>speaking. To put it simply, everything is about ordering food. So this is to say this lesson from beginning to end is to teach ordering food. And then if in the end pupils can [use English to] order food it can count as language production.” Cherry Vale Meeting 4, 20130318: line 62-63</p>
Verbalisation 5	<p>“I think from the beginning up to the current stage, there has been a qualitative leap [in my understanding]. At the beginning I didn’t really understand the extensive treatment of Part A and Part B in this lesson. I didn’t understand because I only saw them as two exercises, exercises to review food. So I didn’t see them as very important. Neither did I try to break them up, nor did I ever think about preparing pupils with the background. I thought an exercise is just an exercise. My focus was to review everything about food. So I was only using the topic of ordering food as a point of departure or a prelude to review everything related to food. And because of this understanding I treated Part A and Part B as two exercises to quickly go through. And now I know the focus is on language for a particular situation, the situation of ordering food in a restaurant during travel. So I need to re-assess the aims of Part A and Part B and treat them as focal resources for the lesson. I’ve tried both ways, now I know the difference. ” (Interview 5, 20130329: line 157 - 166)</p>
Verbalisation 6	<p>“Before you do the exercises [Part A and Part B], you need to break them up so that they [pupils] understand what it is before asking them to do the exercises. For example, before I ask pupils to do the listening exercise in Part A, I need to make them do a series of preparation work such as learning the background and reading the menu. After this kind of preparation, I then get them to listen. And after listening I get them to read the whole dialogue aloud and do role play in groups. I never did such treatment to Part A and Part B before. Before this my usual practice was to get them to open their books, read the exercise instruction, and then get them to listen and check answers”. (Interview 7, 20130412: line 100 - 107)</p> <p>“Part B is acting out. You also need to pave the way towards it. So example in this lesson you have learned to read the menu, you’ve also listened to the dialogue, after listening you’ve read aloud the dialogue, you’ve practised the main sentence patterns and practised in groups. Then you’ve watched teacher’s demonstration and tried making up new dialogue with your peers. At last you try to act out with your group. This is like ‘when water flows, a channel is formed’. It develops smoothly through a series of activities.” (Interview 7, 20130412: line 111 - 114)</p>
Verbalisation 7	<p>“The biggest gain of this whole process is that I now know the general approach to design and teach a review lesson. I was really exploring with this new lesson type. I now know my initial thought [about review lesson] is exactly what the DTRO hoped to change. My initial understanding about Part A and B was also not thorough. It was not an appropriate treatment of the course book materials. Now I know even a review lesson needs to be around a specific topic.” (Interview 8, 20140418: line 159 - 168)</p> <p>“The design of each individual review lesson still depends on its actual topic and content. But there are several aspects to think about when designing a review lesson. First of all I would probably try to relate the current topic to [pupils’] previous knowledge. Then I will decide the main content of the lesson and use different activities to represent the main content. This may involve innovative re-arrangement or adaptation of language resources in the course book. At last I need to make sure that there are activities to guide [pupils’] language production appropriate to the lesson type. For example if it’s listening and speaking [lesson] then language production will be in listening and speaking forms. And if it’s reading and writing [lesson] then language production will be in reading and written forms. ” (Interview 8, 20140418: line 176 - 180)</p>

Appendix 7: Discourse samples taken from the transcripts of the Cherry Vale team meetings – idea development, learning points, conflicts in knowledge use orientations

7.1 Discourse sample 1: *Deciding the suitability of the “Gourmet Map” activity (Cherry Vale team meeting 2: lines 220-256)*

- Ying: Then the next activity I want the pupils to work in groups to make a gourmet map, or a gourmet magazine. So as a group they can come up with a list of dishes, such as fried chickens, or as such, (0.6) or some salad. They can make it up on their own, and then give it a name. I can then give them some guidance, for example food places such as Burger King or Dairy Queen. They can decide if they want to include hamburger or French fries, or fried fish. Then you can make (3.0) one or two dishes, no, not making the dishes, introduce the gourmet food. It's a bit like [some TV shows, yes, like some food shows, I can introduce the =
- Anhua: [introduce a feature dish
= famous Sichuan dish fish fillets in hot chili oil in a particular restaurant. I can talk about the features of this dish. Then I can give them a form, a format, to fill in some words and turn it into short passage, as language production.
- Yulan: What main sentence patterns would you use here?
(gap 1.0)
- Yulan: Gourmet map
- Ting: Is it a bit off the focus? Don't you think?
- Ying: Is it off the focus?
- Ting: Isn't this the main sentence pattern in this lesson? The language for ordering food I'd like to
- Ying: [[I will come to that later
- Ting: [[Should the lesson focus on practising this, and then relate to some other language? Have this been used in making gourmet map or introducing gourmet food =
- Ying: = How about I don't introduce gourmet map, instead get them to talk about gourmet wishes. I would like to eat so and so
- Ting: Isn't the sentence used for ordering food?
- Ying: But when I make a wish about food the sentence is the same with the sentence for ordering food right
- Ting: The context is different =
- Ying: = no, but when you order food surely you will say I would like to eat this or that =
- Ting: Shouldn't you include a [lesson] link here for pupils to practise ordering food, like really sitting down in a restaurant, practise that?
- Ying: That was already practised, in the previous activity, choosing seats and ordering food, [during the acting out activity
- Ting: [Or during the extension, think about how to link back to this sentence pattern in that activity =
- Ying: = oh, how to make it more linked =
- Ting: Yes yes yes, more linked =
- Ying: = so the gourmet map activity and this are a bit [disjointed
- Ting: [yes, a bit disjointed
- Anhua: Seriously disjointed, they have no connections whatsoever
(gap 4.0)

7.2 Discourse sample 2: *Clarifying the lesson goal and discussing the lesson design rationale*
(Cherry Vale team meeting 2: lines 281-324)

- Ting: I think this lesson has very rich content, very [(0.3) substantial, =
 Anhua: [yes
 Ting: = including [many aspects, but I just feel that
 Anhua: [it feels quite messy, lacking a
 Ting: It feels that it lacks a focus
 Anhua: Yes yes yes
 Ting: You want to cover everything, [it's quite hard
 Anhua: [en
 Ying: Does a clear focus mean just highlighting one point?
 Anhua: A clear focus
 Ting: [[is to review all the vocabulary and main sentences
 Ying: [[no, but all my activities are designed to serve the words and sentences,
 the words and sentences [right here
 Yulan: [in your words and sentences here the most
 important should be "what would you like to eat?" and "what would you
 like to drink?", this lesson, all those things that you diffuse to
 Anhua: Too mixed
 Ying: So should we [include choosing seats or not?
 Yulan: [also this sentence should be consistent, you are using one
 sentence pattern here and another there. Those extra sentences, you can
 leave them to the acting out activity for the pupils to decide themselves
 whether they want to use any of them or not. If they know any extra
 sentences they have the freedom to use them, but if they don't know any
 extra sentences it is not a problem either. I think the problem here is the
 lesson goal, the way you define the lesson goal
 Ying: So I was trying to include too much
 Ting: [[yes, wanted to cover everything
 Anhua: [[your lesson goal is too mixed, jumping from one thing to another, too
 messy
 Yulan: According to the teacher's guide, the main requirement about Part A is that
 pupils know "what would you like to eat and drink". Sentences like *where*
 are minor. You need to redefine your lesson goal
 Ying: So re-define into what
 Yulan: Words like tasty I think
 Ying: But all these sentences appear in the [course book
 Anhua: [no no, I think we can include the
 sentence "what do you think of it?" I'd like to eat, for instance, hamburger,
 then, en, you can say, en, these are fine, then diffuse to other language =
 Ting: = in fact you can continue to ask their food comments, I like to eat this, Ai,
 how do you like it, just like that. Then other language,
 [he can use if he knows, it's fine if he doesn't =
 Anhua: [what I mean is
 Ting: = [because this is differentiation too, also
 Anhua: [yes, like when we go to the restaurant, yes, when we order food in the
 restaurant that is the authentic context, [we need to have a think about it =
 Ting: [what do you think of it?
 Anhua: = I'd like some chicken, oh, what do you think of it, [what do you think =
 Ting: [en
 Anhua = of it, I don't like it, it is sour, [or it's so and so. [Then I think it goes =
 Ting: [en en [en
 Anhua: = pretty much like this. [(0.3) in fact you can use a video, including a =
 Ting: [yes, I think it's simple that way
 Anhua: = food ordering context, kids will understand immediately. When the kids
 get to order food, they will say what they think. Like when we go for a
 meal in a restaurant in twos, or threes or eights, it is often one person
 doing the ordering while consulting everybody else, will this do, do you
 like it, or what do you think of it

7.3 Discourse sample 3: *To write or not to write – conflicts in knowledge use (Cherry Vale team meeting 2: lines 339-480)*

- Ying: So what about the last writing activity, how should we get them to write?
Anhua: Writing, en
Min: It is up to you, because this is only spontaneous throwing ideas, but you have to decide in the end. So I've learned about the main sentences on the course book, about ordering food, and I can make comments about the dishes, so the writing can develop into, what kind of format
Ting: Feedback?
(gap 3.0)
Ying: ++ I would like to eat so and so, it is so and so, over, two sentences, not much to write about
(gap 2.0)
Min: We can definitely guide pupils to write with interest, with the wish to express themselves, set up a
Anhua: Ordering food, what is there to write about? You order and then eat. ++ I don't see [what you can write about
Yulan: [if you have to write, then it's writing for its own sake =
Anhua = exactly
Min: But I think for a sixth grade lesson, for this lesson type =
Anhua: = but in real life context if I invite you to go to a restaurant, we will call over the waiter and order what we want, then we will eat and chat at the same time. I really don't see what you can write about here. (0.5), and during the mean, one may say, ai, this is a bit spicy, that is a bit salty, or it doesn't taste the same from last time, these are pretty much what [they will talk about

7.4 Discourse sample 4: *Divergent interpretations of "sublimation" (Cherry Vale team meeting 2: lines 539-592)*

- Ying: How about sublimation then?
Anhua: Sublimation, sublimation, have I given you an idea already, what is it again? [I can't recall what I said previously. But anyway I think for =
Min: [let's all have a think
Anhua: = sublimation you can just introduce the cultural differences, that also counts as sublimation, because this is also part of the curriculum requirement, do you know
Min: But Ying wants to think of something really novel don't you. Something [that might surprise others
Anhua: [but remember what we are researching here is for a normal lesson. These days =
Yulan: =[she still thinks
Ying: =[but others' lessons are all like that, they all have the sublimation part in the end
Min: That's true, [many lessons do
Anhua: [But we are not here to replicate others' lessons, you need to be down to earth and focus on your own lesson
Ying: But there should be a sublimation stage at the language production stage
Anhua: Your production is to make up a dialogue, to order food, if pupils know how to do this, that's your production there
Min: It's already sublimation if you can help them learn this difficult passage
Ying: ++
Min: Oh, sorry I have to go, I've got a class, bye
Anhua: You see there is also culture in it.
Ying: [to Wei] What's your view? Can you say something?
Wei: Yes sublimation, how about eating in a western restaurant, pupils can make comparison. If we spend relatively shorter time at the first part then we can spend more time in the later part, more time on sublimation

- Anhua: You see, [quoting the curriculum] “Include in teaching knowledge about foreign culture that is relevant to pupils’ study and life and can motivate their interest for learning English. During higher grades teachers can help pupils extend their cultural perspectives through widening their contact with foreign culture. This can help them develop sensitivity and recognition towards cultural differences and improve their ability for inter-cultural communication.” (0.5) This is to suggest that after I have learned how to order food in a Chinese restaurant, I can then sublimate to learning how to order food in a Western restaurant. For examples pupils might not know what’s appetizer. I know when I go to Western restaurant I often don’t know how to order. I just choose whatever I fancy. I don’t follow any rules.
(gap 2.5)
- Anhua: Also like medium rare, when you order steak. I think the sublimation can be around the dining culture.
- Ying: So introduce the cultural differences =
- Anhua: =Exactly, through comparison, help them understand
- Ying: What I mean is whether we should aim for pupils to sublimate into some [kind of abilities
- Anhua: [like as a production of some sort
- Ying: En, in other words
- Anhua: But, the key is [I think this lesson
- Ying: [maybe the topic is not [suitable
- Anhua: [Exactly, not suitable for sublimation into other things. I mean in terms of ordering food, you can probably follow it up with comments such as “It’s a bit salty” or “It seems to be really slow today.” (1.0) I feel there is nothing else
- Yulan: I think the sublimation can be about table manners, [(0.5) like how to =
- Ying: [that’s right
- Yulan: = put on the table cloth, how to arrange the knife and forks, don’t make [noise
- Wei: [I remember researching on this before, a common poor manner when we order food in Western restaurant is that many people just say “I want, I want”. But they tend to use modal words such as “can I, can I have this please?” That’s polite language. This is what I read about poor manners online
- Ying: So permeate some table manners

Appendix 8: Discourse samples taken from the transcripts of the Fragrant Hill team meetings – co-constructing interpretations, idea development, knowledge co-creation,

8.1 Discourse sample 1: *Co-constructing the nature of a review lesson (Fragrant Hill Meeting 1: lines 335-346; lines 421- 492)*

- Meiying: So this is a review lesson with a focus on reading.
 Malan: En
 Lili: En, a reading lesson
 Malan: The integration of reading and writing, Aiya
 Lili: En
 Meiying: This links really well to the district assessment (0.8), fits really well, the most important areas [of the assessment] are reading and writing, [(0.2) also the most difficult to improve
 Lili: [en
 (gap 3.0)
 Mala: [[En : :
 Meiying: [[Not a problem for you, Malan
 Malan: All right, (1.0) I will give it a try +++
 ...
 Meiying: I think this lesson can really reflect pupils' abilities. Because reading is not about finishing the multiple choice questions and checking the answers. It's not that. Didn't Yumei also say that there should be sufficient group work? [It's about giving them something and letting =
 Malan: [en
 Meiying: = them read sufficiently. These a few questions, for example, after the pupils finish these they should be able to use their own language to express them. In fact I think we can add a question here, what kind of question do you call that, that, that, (0.3) [not giving him
 Malan: [exten[sion
 Meiying: [extension [question =
 Malan: [en
 Meiying: =, not giving him, (0.3), what's that called, [(0.2) a subjective question
 Malan: [you you
 Malan: Yes
 Malan: You see in middle school exams the last question after many reading passages is often "what do you think about", "what do you think of" (0.3), [such and such, [blabla
 Malan: [him
 Lili: [What do you think of this man? What do you think of this book?
 Meiying: Yes yes yes, [what is your view on this. Pupils can say whatever they =
 Lili: [open question
 Meiying: = want, it doesn't matter. Even if they make mistakes, it's also fine. [what matters is that they have expressed their individual thoughts =
 Lili: [but
 Lili: =yes yes, you can see =
 Meiying: =[[isn't it?
 Malan: =[[En, talking about ideas I think class two really have ideas, [class one some pupils have ideas, [(0.3) but in class one there are one =
 Meiying: [as long as they have ideas [that's right
 Malan: = third who have ideas [and express them, but there are also one third =
 Meiying: [en
 Malan: = [who have ideas but they can't express them in English
 Meiying: [en
 Lili: So if we use this, (0.3) we need to think about how to support these pupils to talk about it, right
 Meiying: En

Malan: I heard Tiantian speak English the other day, his English is really authentic

Meiying: Yes, that kid is really capable. [That day

Lili: [yes, he belongs to the type who speaks very well and also has a lot of ideas

Meiying: En en

Lili: [[he belongs to the type with a lot of ideas

Malan: [[yes, he normally ignores me in class +++

Meiying: ++ This bit of reading is really [just a piece of cake for him

Lili: [but he, (0.2) he normally behaves very well in class though

Meiying: You see when we get to higher grades, higher grades in primary school there is really a huge gap among the pupils, this kind of problems come. [(0.3) the content, the course book is right there, you have to keep =

Malan: [en

Meiying: = in mind the majority of pupils, the majority of pupils are middle level, the bigger part. But between the highest and the lowest there is this problem. That's a different issue. Sometimes you don't know what to do. (gap 1.0)

Lili: En, so the last key question, the open question becomes very important, I think. [We need to design such an such an open question =

Malan: [yes, need to have a good think about an open question

Meiying: =En right, this is really the best way to dig their potential, let the individual thinking of the kids really come through, let their thinking collide, and interact. If they can do this [in this lesson

Lili: [En yes, and let's keep a balance between the boys and girls

Meiying: Balance between the boys and girls, absolutely. You see the questions on the course book are really basic, like date of birth, [name, country

Malan: [yes, there isn't really much scope for, this is just mechanic copying

Meiying: Yes, copy from here to there, move this word there, that's it =

Malan: = Exactly =

Meiying: = Really, it's far from enough to just focus on the course book, this will probably take several minutes, ten minutes, really basic for grade six pupils, for them, they really need the extension of abilities.

8.2 Discourse sample 2: *Building an initial interpretation of “shared reading” (Fragrant Hill team meeting 2 – post RLI: lines 228- 330)*

- Malan: About the reading link, such as the additional people we added, Yumei suggested using “shared reading” among pupils, [just like what she mentioned in yesterday’s meeting
- Meiying: [right
- Meiying: That’s the word. She did mention this point. During the transition from middle grades to higher grades, like in grade 5 and 6, teachers can try using shared reading. That was [the term she used right, shared [reading
- Malan: [yes
- Lili: [Did she make any suggestions about how to share?
- Malan: Well, for instance, we have included someone who uses grass to make clothes. So after pupils read about it they can introduce to their peers that they read about such a person, he is quite funny, or they can say I read a story about a very interesting tailor. Even if pupils can only say one sentence about it, they may be able to motivate the interest of their peers, [come and read about this guy, [then they can talk about it, [for example
- Meiying: [en [en
- Lili: [en [en
- Meiying: [I think this links well with Part D the writing, [right, I need to [yes, before they get into writing
- Malan: [yes, before they get into writing
- Meiying: Yes, I have read this story, I want to share the story with you. But what do I share? I will share with you what his profession is, what makes him famous, these are exactly what we want them to write in Part D. [Ai, that’s it
- Malan: [yes, yes, and even if they can’t say so many things, even if they just say, oh I just read about a funny tailor, [or a very interesting designer, even if just this one sentence is fine
- Meiying: [that’s also fine
- Lili: [[En, this is a good idea. This is to give pupils more autonomous space
- Meiying: [[Ai, this idea has height, I think this idea has height.
- Malan: So at this stage we need to give them plenty of time to read, [then plenty of time to talk, (0.4) then
- Meiying: [yes, certainly, this is the most important lesson link. Another key issue is that at this stage how pupils engage is very important, [think that = [yes
- Malan: [yes
- Meiying: = there are so many groups in a classroom, it can get quite messy, who do I talk to, or if after I read the story about a tailor I really want to talk about it, but who do I talk with, with you or with her, or with him, the classroom will be like somewhat [a free market
- Malan: [yes
- Lili: [yes, the structure is important, it needs considering, do we put them into groups, and let groups choose representatives, or anyone can just go to the front to share with the class, which way is more efficient
- Malan: That’s what I struggle with too. Because if we have decided on these famous people, do we then put the materials about these people on every table, then pupils just sit on their own table and read, or is it better if I put two famous people on one table and another two famous people on the next table, then pupils will have to walk around in the classroom. Then he will need to switch seats to read about another person. Then in the middle of this, if some pupils have finished, should there then be a stop, then ask pupils to talk about one person they have read at a table, then other pupils might be attracted to that table.
- Meiying: Aiyou, this is indeed [not easy to operate, [really not easy to operate =

Malan: [it's not easy to operate I think
Meiying: = [also their reading speed can be different
Malan: Yes
Lili: [so the reading materials are not what they use for writing right
Meiying: No, [we have got to writing yet, this is extensive reading, =
Malan: [no, not writing yet, this is still reading
Meiying: = [the additional reading materials about the famous people, I read =
Malan: [en
Meiying: = a good story, I want to talk with you, but the process is not easy at all
to operate, [(0.3) really not easy, some of them can read fast, [some =
Malan: [not easy, like when to [yes
Meiying: = read slow. If I haven't finished, and yet you want to come to =
Meiying: = talk to me. Won't you be interrupting me, [right
Malan: [yes, when should I stop
Meiying: En, right
Lili: Yes
Malan: When do I get them to talk
Meiying: Perhaps we should ask other teachers, like Chinese teachers, I think in
Chinese lessons they have often use this kind of group talk, perhaps we
can teacher Wu
Malan: Yes. It has been bugging my mind since yesterday. I feel it's especially
[difficult to stop, yes
Meiying: [not easy to operate, not easy to operate, but it is a very good idea=
Malan: =yes, say some pupils I'm still reading the first one and I don't want to
listen to him
Meiying: Yes, how about this, we can set a time for them, within ten minutes,
maybe I can read one person, maybe I can read two people, then okay,
for the next ten minutes we can talk with each other, I can talk about the
one person I read, you can talk about the two people you read
Malan: Or we can also do it like this, because each reading will have new words,
so during reading we can put the pupils who read the same person
together, [then if there is a word I don't know I can still ask someone
Meiying: [en
Meiying: Ok, [so you think that's better
Malan: [right?
Malan: Yes, but on a second thought if there are four tables and each table has
these people, and the pupils each pick one, then it can happen that what
you read is different from what I read. Then if you ask me about one
word, I'll have to read yours from the very start
Meiying: En, yes
Malan: Right? Not easy to operate, I think it's really difficult
Lili: One group read the same people right?
Malan: Say those sitting at this table read these two, those sitting in that table
read those two, then there will be at least one peer reading about the
same person with me, right
Meiying: Yes
Malan: Right?
Meiying: Yes
Malan: Then give it five to ten minutes, or eight minutes, stop. Then those at the
same table can talk with each other, for example I don't know this word,
I don't know what this sentence means, or if they don't know they can
also ask the teacher. Then I can start talking about my story and he can
talk about his. Same for the other tables, what my story is about. Then
say to them, do you want to know more? You can switch to a different
table, [switch to a different table
Lili: [en, this is a bit like information exchange, yeah, this might work,
[this might work
Malan: [so if you want to read about stories like his or hers you can just go to
that table
Meiying: Ah yes, at this stage they can walk around

Malan: That's right. But I think the time is a bit difficult to control
 Meiying: Difficult to control. Maybe we can try it out in the next lesson and see what problems we might come across, then we can decide what to do. Now I feel we are only imaging it.
 Malan: En
 Meiying: Right?
 Lili: Yes

8.3 Discourse sample 3: *Deepening interpretation of "shared reading" (Fragrant Hill team meeting 3 - post RL2: lines 114-245)*

Meiying: Ai, I have a question, did you feel that time was sufficient for shared reading in the last lesson?
 Malan: Not sufficient=
 Meiying: =No, that was how I felt
 Lili: Yes yes yes, same here
 Meiying: En, time not sufficient, and (0.5) [then the bell rang, anyway the time
 Lili: [I felt there wasn't more in-depth discussion about the reading [materials
 Meiying: [Later during the sharing time, you kind of just stood casually in the middle back of the classroom. Wasn't quite sure at that time whether you were organizing the classroom or talking to the group next to you. I think your role at that time wasn't very clear. If you want the pupils to share you can ask the whole class to quiet down, take a stop, then you can pick individuals to share, others listen. If you give them an instruction like that it will probably be better. Wherever you stand in the classroom I think give an instruction like that. Otherwise when you were standing there I wasn't sure what you said was to the whole class or just something casual
 Malan: En
 Meiying: Yes
 (gap 1.5)
 Meiying: I feel that the lesson, in terms of the structure, is now fairly clear, but still, I think the previous part, (0.5) the course book reading took [too much time
 Malan: [yes, it took a lot of time
 Lili: I just felt that the students' discussion was still not active enough, I remember Yumei also commented on that, right? Then peer interaction was not sufficient, remember after the lesson she posed some questions to the kids. I think you can throw some more questions at the kids, either about the course book reading or about the additional reading, you can ask questions about both. Or you can set time for pupils to ask questions, this can [add some
 Malan: [en
 Meiying: The main issue is time. If the previous parts are properly attended to then there will be sufficient time to [realize that, I think they are capable of =
 Lili: [yes, time is an issue
 Meiying: = [(0.3) , they can
 Malan: [yes

Line 159-187 talking about ways of saving time and improving instruction language

Meiying: Going back to Lili's previous point, I think what we want to achieve here is, how to put it, when we ask a pupil they can have many things to say, for example what do you want to know more about these people, they may say, oh I want to know whether or not Kofi Annan [*one of the course book reading*] has any relation with Obama, like what Da Bao asked in the last lesson, [it can be as diverse as that, the key is that =

Malan: [en
Meiying: = pupils are actively thinking
Malan: Yes
Meiying: I think if these kinds of questions come up in the lesson, I mean if the lesson can light up pupils' interest then they will set their thinking free, and then they will try their best to express it in English, I think that would be pretty good

Malan: En
Lili: And if at the point of expression pupils have difficulties, for example, they want to ask questions and they know some words but can't put it into a more complete sentence, then at this time you can step in and give them a hand, would this work?
Meiying: You can just do this spontaneously
Lili: Yes, spontaneously. I think the ultimate goal is that pupils can maximally talk with each other
Meiying: I remember Teacher Wu [*a Chinese teacher, academic dean*] mentioned the other day that she observed a lesson you taught two years ago and thought that was really lively and expected to see that kind of classroom again. But I said that was a different lesson and a different lesson type. And it was third or fourth grade at that time, third or fourth grade, not exactly the same, [anyway I think so

Malan: [en
Lili: I think the enthusiasm of six-grade pupils, it's [not easy to motivate
Meiying: [en
Malan: En
Meiying: Perhaps reading as a lesson type needs a different kind of liveliness, from third and fourth grades. [In third and fourth grades, that kind =
Lili: [en
Meiying: = of classroom pupils can get hopping and jumping, this is different, [(0.3), the liveliness is in the mind, [it's the kindle of thinking, that sort =
Lili: [yes yes yes [it's thinking, pupils' thinking
Meiying: =of things, yes, if he is willing to talk, very eager, many pupils have their hands up, [(0.3) although they are not hopping or jumping, it is also =
Lili: [en
Meiying: = a kind of liveliness, [if we can get them to do that that would be great=
Lili: [en
Lili: =I think the teacher can coerce that. For example, if they ask a question, then you can say something like, you want to know the answer to that question, me too! I mean you can give this kind of reaction to their [questions
Meiying: [en, I believe Malan can do this, because this is still the lesson trial stage she needs to have a grasp of the lesson procedures and pupils' responses. But I have no doubt that you can do this, no problems at all, with your super class psychological qualities [+++++, really, not a problem [+++++

Malan: [+++++
Lili: Yes, especially first class, [especially strong
Meiying: [you can motivate the pupils, be coercive
Lili: The pupils are really, I think, can't do without coercion+++++
Meiying: Yes, needs some coercion
Lili: Can't do without coercion +++++
Meiying: En
Lili: I remember in the past I didn't think too much about this, I used to think more about going through the lesson procedures, like according to the lesson plan, and didn't feel that it was too hard. But actually it's about maximizing pupils' engagement, being able to heat them up in every lesson link

Malan: Ai::

8.4 Discourse sample 4: *Co-constructing knowledge about pupils and making implicit knowledge explicit (Fragrant Hill team meeting 1: Lines 56 to 141)*

- Malan: I remember this morning Lili suggested that perhaps I should do a pre-survey with my pupils.
- Meiying: Who suggested that, sorry?
- Malan: Lili did
- Meiying: Oh, Lili. Ah, pre-survey, yes yes =
- Malan: =So asking pupils who they knew as famous people, including what [categories [(0.5) such as literature, or [pop culture, or then like =
- Meiying: [en [en [arts
- Meiying: = sports=
- Malan: =sports [yes, including all these, then asking them who were their =
- Meiying: [sports yes yes
- Lili: [yes
- Malan: = favourite famous people, then try to find out which ones are the most well-known among the pupils, [then through what medium they got to =
- Meiying: [en
- Malan: = these people, why they like those people, or what they like about them, [like what qualities in those people, then trying to find out if there may =
- Meiying: [en en
- Malan: = be some commonalities in these people, [then =
- Lili: [en en
- Meiying: = I think these questions in the survey are also related to the content of the reading in the course book, ha =
- Malan: = Because I thought these people included in the course book, (0.5) are a bit far-fetched from pupils' life
- Malan: Right so ++ =
- Lili: Especially those ones such as Helen Keller, [(0.2), en Edison, [(0.2) en =
- Malan: [en [en
- Meiying: [en [en
- Lili: = Edison is probably slightly better, this Newton
- Malan: New, in fact these three, these five people, they appeared in the course book last term, [(0.2) but pupils only know their names, nationalities, =
- Meiying: [en
- Malan: = what they do, but about their detailed stories, they don't know much
- Meiying: en
(gap for 2 seconds)
- Meiying: [[yes yes yes
- Lili: [[quite limited
- Malan: Then this Deng Yaping, she is who I knew as a child, I'm not sure if pupils nowadays know anything about her at all
- Meiying: En, because she has retired from Ping Pong for a long time, [now she =
- Malan: [yes
- Meiying: = is in politics, [assuming some [kind of
- Lili [that's right
- Malan: [I think probably pupils don't know her anymore, but it's possible that some [boys might know
- Meiying: [how about Jordan, yes girls sometimes don't care too much about [sports or football
- Lili: [I think Jordan was most popular when I was at school
- Malan: En
- Meiying: But if we mention it now, for those who really like basketball they might still know him
- Lili: But now
- Malan: Those who are really into basketball probably know him=
- Lili: =but now=
- Malan: =then it's Jacky Chan, [I think in movie and entertainment what this =
- Meiying: [Jacky Chan should be all right

Malan: =generation like are probably not Jacky Chan
 Meiying: Okay
 Lili: For their age group, from their age point of view who they like is probably not Jacky Chan, [Jacky Chan may be the most famous but =
 Malan: [en
 Meiying: [en
 Lili: = who they like most, [who they are most interested in is not Jacky =
 Malan: [is not him
 Lili: =Chan, [(0.2) yes. Now in terms of basketball our kids' [favourite, =
 Malan: [yes
 Meiying: [Kobe
 Malan: [Yao Ming
 Lili: = Yao Ming and Kobe, even [Yao Ming can't get into the queue =
 Meiying: [Kobe
 Lili: = these days, now in my fifth grade almost everyone in class one, two and three likes Marbury
 Malan: Oh [yes yes yes
 Meiying: [Little Bu, Little Bu, Little Bu [they
 Lili: [they all like Mar[bury, even today =
 Malan: [Old Ma
 Lili: = I asked in [my class
 Meiying: [yes, it's the one who is quite small, his height is probably the shortest, but his ability of ball handling is probably [the best,=
 Malan: [yes
 Meiying: =Little Bu, I [remember my son keeps talking about Little Bu, Little Bu
 Lili: [I don't quite understand, because I [don't watch basketball=
 Meiying: [yes yes yes, his name is Marbury
 Lili: =very often. I asked them why you all like Marbury. They said because he is a foreign aid. Then I said but there are many foreign aids in Chinese basketball teams, why do you single out Marbury. They said first is because he plays really well, [second is because he plays for Beijing =
 Meiying: [en
 Lili: = team. [Ai, so
 Meiying: [en, yes
 Lili: This shows that these kids living in Beijing really have a feeling towards Beijing.
 Malan: Yes yes yes, [Ai, that's pretty good
 Meiying: [See, between the pupils and teachers, what we think that pupils like may not necessary be what they really [like, there can be =
 Malan: [yes
 Meiying: = a gap, [it looks like it's really necessary to have a pre-survey
 Malan: [yes
 Lili: Yes
 Malan: Yes