Classroom talk and the negotiation of academic English: A linguistic analysis of collaborative text creation

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CERTIFICATE OF ORIGINAL AUTHORSHIP

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Signature of student:

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Date: June 22nd, 2015

Dedication and Acknowledgments

This thesis is dedicated to my parents and my grandparents. Mum and Dad taught me to swim in rough seas (both literally and figuratively). They have also passed on genes of perseverance, of which I never knew how much I would need! Thank you for your love, support and inspirational attitude to life. My fabulous grandparents have always been tuned in each step of the way. They have provided a frequent place of rest and many a delicious meal. PhD-land would have been so much harder without their kindness and generosity.

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Abstract

In Australia, a significant number of international students undertake intensive language instruction immediately prior to tertiary studies (Australia Education International 2014). These courses aim to prepare students for a successful university experience. Difficulties with academic writing pose a barrier to tertiary entrance and also to the completion of future studies, with emotional and financial ramifications for all those involved. With much at stake, effective support for academic writing development is an on-going concern for researchers and educators in many sectors including pre-tertiary teaching and learning contexts.

A substantial body of research has analysed the linguistic demands of texts that students are expected to write. However, fewer studies explore *how* the valued meanings of texts are negotiated through classroom interaction. In this study, I examine five lessons of a collaborative writing step, known as joint construction. In this kind of writing lesson the teacher takes a leading role as the class co-creates one communal text (Callaghan & Rothery, 1988; Rothery, 1996; Rose & Martin, 2012). Previous studies of joint construction with advanced English language learners have provided insight into the overall structure of lessons, the negotiation of social roles, and adaptations to online learning environments (Humphrey & Macnaught, 2011 who draw on Hunt, 1991, 1996; Dreyfus, Macnaught & Humphrey, 2011; Dreyfus, to appear). However, as yet, there is limited understanding of how meanings are negotiated to achieve the 'end product', i.e. the scribed text. There is also limited understanding of how language choices are related to each other as well as to future writing.

The study aims to better understand the process of co-constructing academic language. Classroom talk is analysed by using methods of qualitative phasal analysis (Gregory & Malcolm, 1995; Malcolm, 2010) and discourse semantics tools of Systemic Functional Linguistics (Martin, 1992; Martin & White, 2005; Martin and Rose, 2007). The transcripts and video recordings of joint construction lessons focus on three main aspects of collaborative text creation: what students

do; what teachers do to support student activity (without taking over); and how meanings are negotiated at the time of text creation (rather than through prospective or retrospective instruction). Findings illuminate reoccurring kinds of student activity, how classroom talk is structured to support the negotiation of meaning, and the scope of semiotic resources that teachers and students use to talk about language choices. Overall, findings provide insight into patterns of interaction that target the academic language development of students.

Chapter 1　　Introduction

1.1　Big business, big transition: International students and higher education in Australia

The education of international students is a significant part of the Australian economy. Nearly a quarter of all students enrolled in Higher Education are full-fee paying international students on student visas (Department of Education Higher Education Group, 2015; International Research Education Unit, 2015a). Approximately half of these students gain access to Higher Education through another sector. That is, they take other courses in Australia as a pathway to tertiary studies. While pathways between education sectors are seen as a strength of Australia's international education system (International Research Education Unit, 2014b), there are on-going concerns about the performance of students once they access higher education (Briguglio & Watson, 2014; Murray & Nallaya, 2014; Murray, 2013; Hawkins & Neubauer, 2011, Bretag, 2007). These concerns extend to written assessment tasks and the support that students need to control the academic discourses of their field of study (Wingate & Tribble, 2012; Hood, 2010; Humphrey & Macnaught, 2011; Jones, 2004; Schleppegrell, 2004a).

From a linguistic perspective, the progression to tertiary study involves a substantial shift in how and why students use language. They can no longer rely on personal life experiences, subjective opinion and commonsense representations of the world. They now need to develop control of language that is valued by, and used for, the social purposes of building, analysing, re-organising, and critiquing academic knowledge (Humphrey & Economou, 2015; Hood, 2010). These functions of language in academic contexts constitute a different register of language, where register refers to configurations of meanings that are specific to social situations (Halliday, 1978; Halliday & Hasan, 1989). For many international students, the registers of academic discourse are unfamiliar *and* they have to be negotiated in a second or additional language. It is therefore

unsurprising that language-related issues pose a barrier to tertiary entrance and are a potential threat to the successful completion of future studies.

The adequacy and effectiveness of English language instruction at both pre-tertiary and tertiary levels continues to receive considerable attention in media and research. In the media, for instance, the issue of plagiarism has been related to concerns with the literacy levels of the international student cohort (News Corp Australia Network, 2015). In research, the on-going interest in literacy instruction is frequently related to the internationalisation of education (e.g. Murray & Nallaya, 2014; Murray, 2013), where increasing numbers of international students are studying outside their home country and more universities are vying for a share in the international student market (Briguglio & Watson, 2014; Knight, 2011). One selling point involves providing international students with opportunities for pre-tertiary language instruction at a tertiary affiliated language centre. Such courses claim to prepare students for a successful tertiary experience.

This thesis centres on the linguistic challenges that international students face in their bid to access tertiary education in Australia. It is concerned with their pre-tertiary preparation, and, in particular, with how classroom interaction supports the development of academic language. The following section outlines this research context in more detail. This is followed by an overview of the research design, the contributions made by this study and the organisation of this thesis.

1.2 Locating this study

1.2.1 Pre-tertiary intensive English language instruction

There are two main pathways into higher education for international students. They must either pass a direct entry examination with a university affiliated language centre or sit/undertake an external English language test such as IELTS (International English Language Testing System). Success with either assessment option satisfies one of the entry requirements for tertiary study, and entitles students to apply for the appropriate study visa.

More than a quarter of all international students in higher education choose to take intensive English language instruction immediately prior to their tertiary studies. As of March 2015, approximately 65,492 international students were enrolled in pre-tertiary language instruction in Australia (International Research Education Unit, 2015b). This level of instruction is provided by what is referred to as the 'ELICOS' sector, where ELICOS stands for English Language Intensive Courses for Overseas Students. These courses have a dual focus of getting students in to university and preparing students for success in their future studies.

The high-stakes goals of intensive English language courses are accompanied by significant educational challenges. First, the time in which to achieve these goals is limited. On average, international students in Australia enrol in pre-tertiary language instruction for a period of 12.9 to 16.8 weeks, depending on their visa category (International Research Education Unit, 2014c). Second, pre-tertiary language classes typically have a linguistically and culturally diverse student body. In the inter-sector pathway of *ELICOS* to *higher education,* there is a high representation of students from China, Vietnam, Saudi Arabia, the Republic of Korea, Thailand and Indonesia. These nationalities may all be represented in a single classroom. Third, the target disciplines of future study also vary amongst students. Although there is a high concentration of enrolments in Management and Commerce (approximately half), other popular areas of study include: Information Technology, Engineering, and Health (Department of Education Higher Education Group, 2015; International Research Education Unit, 2015a). These statistics point to a greater degree of specificity in the purposes and contexts in which students will use English. In other words, students do not need to develop control of one universal 'academic' register; they need to develop understanding of how academic discourse functions in their specific field/s of study.

In recent decades, much research has focused on how disciplines 'represent themselves in their texts' (Hood 2010, p. 5). (See representative research in the edited volumes of Ravelli & Ellis, 2005; Belcher, Johns & Paltridge, 2011; and Dreyfus, Humphrey, Mahboob & Martin, forthcoming in 2015.) The teaching and

learning of academic language has benefited from an ever-increasing understanding of what students are expected to write at a tertiary level. The focus of this thesis, however, is not on academic texts themselves, but rather on classroom interaction that guides their creation. From this 'interactive' perspective, the research focus is less about extending our knowledge of academic texts and more about *how* teachers and students negotiate the meanings that are valued in academic contexts of language use.

In regard to tertiary preparation, an area of contention is the extent to which the 'gatekeeping tests' (Murray & Nallaya, 2014) of pre-tertiary assessment resemble tertiary writing tasks (e.g. Murray, 2010; Coffin & Hewings, 2005; Moore & Morton, 2005). Concerns of this nature are to be expected in light of the typically short duration of pre-tertiary language instruction and the breadth of student study pathways (as outlined above).

While this study acknowledges the limitations and inherent challenges of pre-tertiary English language instruction, its focus is on what teachers and students do within the time that they have available. In this regard, pre-tertiary English language instruction is seen as *beginning* the process of supporting students to develop knowledge of academic language use.

1.2.2   Supporting academic literacy through teacher-led collaborative writing

A wide range of practices is currently in use to support the development of academic writing with advanced English language learners. However, there is no clarity or consensus with regard to how these literacy practices contribute to writing development (Hyland & Hyland, 2006). One teaching and learning construct that has wide appeal is the notion of collaboration in writing activity (Cazden, 1996). Vygotsky's (1978) influential research into the social nature of cognitive development is often used to justify different configurations of participants in writing activity (Neumann & McDonough, 2015). (See chapter 2 for further discussion of Vygotsky's influence.) With advanced English language learners, research has, for instance, examined pair writing (e.g. Storch, 2005; Storch & Wigglesworth, 2007; Wantabe & Swain, 2007; Shehadeh, 2011, Storch

& Aldosari, 2013) as well as comparisons between the writing activity of pairs, small groups and individuals (e.g. Dobao, 2012). Rather than focus on how students write together, I focus on writing activity that is structured around the collaboration of teachers and students. Within studies of second language learning, there are relatively few accounts of collaborative writing (Wigglesworth & Storch, 2012), where collaboration involves text co-creation (as opposed to conferencing). There are even fewer studies with a focus on the teacher and students co-constructing a text. Further research is needed to understand the potential of teacher-student talk in learning about the academic registers that are crucial to student success.

In particular, I focus on one method of teacher-led collaborative writing, called *joint construction.* This methodology involves the teacher guiding students to co-create or 'jointly construct' a written text. Joint construction forms the middle step in a teaching and learning sequence, known as the Teaching and Learning Cycle (TLC) (Callaghan & Rothery, 1988; Rothery, 1996; Rose & Martin, 2012). As a middle step between analysing model texts and independent writing, it aims to create an exemplar text. The classroom interaction in this step draws on knowledge from the recent modelling and analyses of texts as well as readings about the topic for writing. Through the process of co-creating a text with a language expert and peers, joint construction aims to further prepare students for subsequent independent writing. (See chapter 2 for a more detailed account of the pedagogic model.)

A key rationale for using joint construction with advanced English language learners is to negotiate language choices at the time of writing. When the teacher and students write together, the students are not being assessed; instead they may 'try out' their newly acquired knowledge in a supportive environment. They may also raise queries about language choices. In response, teachers use their own linguistic and professional expertise to mediate contributions from students and provide explicit feedback (Humphrey & Macnaught, 2011; Dreyfus & Macnaught, 2011). In this model of teaching and learning, teachers are positioned as expert

language users who, through a designed sequence of writing instruction and 'micro-interactions around texts', explicitly share their knowledge with students (Martin, 2009, p. 11).

This approach to writing instruction contrasts with other approaches to literacy where teacher-student interaction and methods of direct instruction are not privileged in teaching and learning (Martin, 2006). (See discussion in chapter 2.) The study considers how pedagogic practices such as joint construction stem from specific theoretical orientations to the nature of language and language development. (See chapter 2.) Scholars who have been involved in the original design and on-going refinement of the TLC argue that academic writing instruction (and literacy teaching generally) should not be about isolated instances and grammatical rules (Martin, 2009; Rose, 2009b). Instead, literacy pedagogy should focus on guiding learners to understand the system of language from their experiences of texts in specific contexts of use (Rose, 2009b). Put simply, through reading and writing whole texts, learners gradually extend their knowledge of how language functions for particular social purposes. The underlying assumption behind the practice of joint construction is that deep knowledge about language is not necessarily developed through individual exploration or repeated exposure to texts: teachers play a crucial role in making unfamiliar patterns of language use accessible to students, especially to those who come from culturally and linguistically diverse backgrounds.

1.3   Introducing the research design

1.3.1   The emergence of the research design

This project is motivated by teaching and research experiences with advanced English language learners. In 2009, I was working as a language instructor on a research project at the University of Sydney, called the *Scaffolding Literacy in Adult and Tertiary Environments* (SLATE). This project included the adaptation of joint construction to online teaching and learning (see Dreyfus & Macnaught, 2013). Although the Teaching and Learning Cycle has been widely used

throughout Australia for several decades (see summative accounts in Martin, 1999a; Martin, in press), there is little documentation of *how* teachers and students write together. There is, for instance, minimal description of what students do as they contribute to the scribed text or of how teachers guide student activity without taking over text co-creation. Research and teaching resources tend to focus on areas such as: the design principles and theoretical rationale for jointly constructing texts (e.g. Rothery, 1996; Martin, 1999a; Martin & Rose, 2007a); the position of the writing methodology in relation to units of work and syllabus design (e.g. Rothery & Stenglin, 1994, 1995; Feez, 1998/2006; de Silva Joyce & Feez, 2012); new developments to integrate reading and writing (e.g. Martin & Rose, 2005, 2007b); and the lesson stage of *deconstruction* which occurs prior to joint construction (e.g. Woodward-Kron & Thomson, 2000; Jones, 2004). (See a wider representation of research in chapter 2.) At the time, we had little literature to draw on for decisions about how to engage students and manage the micro-interactions of joint construction lessons.

The lack of literature and a pressing need to provide the tertiary students in Hong Kong with writing support inspired further investigation of face-to-face joint construction lessons in both pre-tertiary and tertiary classrooms. An honours thesis by Hunt (1991) provided a detailed linguistic point of reference for past studies of joint construction. We drew on Hunt's insights to explore the staging of joint construction lessons with advanced language learners (see Humphrey & Macnaught, 2011), as well as the interpersonal relationships between teachers and their adult students (Dreyfus, Macnaught & Humphrey, 2011). In these studies, the top-down approach to discourse analysis illuminated the structure and function of lesson stages.

This thesis responds to the need to explore collaborative writing lessons from the bottom-up. While the overall organisation of joint construction lessons is important to understanding how teachers organise student activity, the analyses of smaller, 'intermediate' units of activity provides insight into the gradual creation of a whole (Macken-Horarik, 1996). In the case of this study, the investigation of classroom micro-interactions provides insight into how teacher-student talk

gradually contributes to and results in a co-created text. Such a perspective is critical to understanding how meanings are negotiated in classroom talk.

Arguably, as long as Australian universities continue to encourage international student enrolments, then there is a moral obligation to not just charge high fees, but also provide a high level of literacy support. The literacy needs of these students, for whom there is so much at stake, provides the motivation for the close analyses of classroom interaction.

1.3.2   The data and the rationale for selection

This research project focuses on joint construction in the context of pre-tertiary English language instruction. This is a suitable context in which to closely examine joint construction because teachers work closely with the same students over a period of several months. The teachers therefore have the time to provide intensive writing instruction such as co-creating a text. They can also plan support across a series of lessons. In the process of joint construction, continuity is important because it is designed to draw on what students currently know about language, whilst also attending to areas that they need to further develop.

The present study constitutes a detailed analysis of complex meaning-making in teacher-led collaborative writing activity. Data consists of five texts of classroom talk that extend for forty-five to sixty minutes each. The texts are transcribed video recordings of the Text Negotiation lesson stage, where the teacher and students write together. Each transcription is between approximately six to nine thousand words in length. The five lessons involve four different teachers, five different classes, and three language learning centres in Sydney. Each class consists of eleven to seventeen students with a highly diverse student body. The cultural and linguistic diversity of the students as well as their study pathways reflect the broad picture of international students who are enrolled in pre-tertiary language instruction in Australia (see early discussion).

Additional data that was not subject to linguistic analysis includes notes from classroom observations and the texts which were jointly constructed in the

lessons. This data is not core to understanding the enactment of text co-creation. It did, however, provide several important points of reference: the observations of activity prior to and after joint construction helped to situate the recorded lessons within curricula; and collection of the scribed texts supported transcription as well as the identification of wording that was being negotiated. Further discussion of data is provided in chapter 3.

An important aspect of data selection was that each class co-created a text without any research-related constraints on what they should write or how they should interact. These circumstances created the potential for variation in enactment across the five classes. The analysis of data aims to capture the scope of teacher and student interactions. It represents a decision to comprehensively 'map' classroom activity, as an essential first step towards better understanding of joint construction lessons. Here, I have resisted a hasty evaluation of classroom interaction and pedagogic practice. Instead, I focus on firmly establishing what students and teachers do as they write together. This decision is at the expense of longitudinal tracking of writing development and exploring the causal relationships between teaching practices and longer-term learner outcomes. Instead, the detailed findings explore the immediate impact of classroom interaction on student participation. Overall, the choice and treatment of data provides the foundation for larger scale research projects that could include tracking series of joint construction lessons and subsequent student writing.

1.3.3 The research questions

The research focus outlined above is now formulated as a set of general and more specific research questions. The over-arching question is:

How are meanings negotiated and actualised as written text in the literacy practice of teacher-led collaborative writing?

Further sets of more specific questions are as follows:

1. What is it that students do in joint construction lessons, and why?

a) What tasks do students perform and what is their function in the lesson?

b) Is there a patterning of tasks in unfolding lessons?

c) How does the teacher organise student activity to complete the writing lesson?

2. How does teacher-talk relate to the wordings proposed by students?

a) How does the teacher open up or constrain space for the students to offer meanings/wordings?

b) What is the function of post-task teacher-talk?

3. How does talk about language connect student tasks across varying timescales?

a) How does metalanguage connect one completed task to the next task?

b) How does metalanguage connect multiple completed tasks to the next task?

c) How is writing activity in the current lesson related to future writing activity?

4. What are the implications of metalanguage use for the co-construction of a text?

1.3.4   A linguistic approach to discourse analysis

An assumption of this study is that the analysis of language and other semiotic resources is central to understanding pedagogic activities and pedagogic relationships (Hammond, 2011). In collaborative writing activity, teachers and students are talking and writing about something. At the same time, they are enacting relationships with each other and organising their discourse (Dreyfus et al, 2011). Their talk is thus multi-functional and the primary means through which they make meaning together. As classroom talk is 'at the heart' of joint construction, and, in general, it dominates educational settings (Freebody, 2013, p. 6), we need an 'extravagant' theory to reveal and untangle its complexity (Halliday, 1994, p. xix)

This study investigates joint construction within the theoretical framework of Systemic Functional Linguistics (SFL). The theory is chosen because it involves a comprehensive theorisation of 'language as social process' (i.e. *how* people use language) and because it also offers specific analytical tools with which to examine texts (Eggins, 1994, p. 23). SFL thus provides the theoretical parameters for this study and, at the same time, is the source of specific analytical methods.

A systemic theorisation of language is a relational theory of language and context. It considers how and why 'we use language to interact with one another' and the semiotic resources that we have available to achieve specific social functions (Halliday & Matthiessen, 1997, p. 3). The theorisation of language use centres on relationships of similarity and difference in sets of semiotic choices. These choices are organised according to different functions and levels of language (as discussed below). The analyses of texts examines what is chosen in relation to the potential meanings that are available in the systems of language, i.e. what else could have been chosen. The inter-relationships of meanings and the structures that encode them are represented as system networks. (See further discussion and exemplification in chapter 3.)

A central tenet of SFL theory is a metafunctional perspective on meaning. That is, the resources of language and other semiotic systems have the ability to construe simultaneous kinds of meaning (Halliday, 1985; Halliday & Matthiesen, 2004). The three metafunctions encompass social action (experiential meaning), relationships between the participants who are involved in activity (interpersonal meaning), as well as the organisation, medium and physical/technological channel of the unfolding activities and relationships (textual meaning). These three perspectives provide a comprehensive interpretation of social activity.

Additionally, SFL theorises language as tri-stratal. The three strata or levels of language encompass phonological, grammatical and discourse semantic resources for making meaning. These strata relate in a hierarchy of abstraction where more abstract layers are realised by less abstract layers of meaning. Discourse semantic meanings, for instance, are realised by 'meaning in the form of wordings' at the level of grammar, and lexicogrammatical meanings are

realised by meaning in the form of soundings at the level of phonology (Halliday & Matthiessen, 1997, p. 3). This tri-stratal perspective enables a systematic and theoretically motivated analysis of the functions of language and the structures that realise or encode those functions. In this study, the stratum of discourse semantics is particularly important to exploring the flow of meanings between teachers and students. (See further detail in chapter 2 as well as other key concepts related to this study.)

1.3.5 The nature and role of linguistic theory in the research design

A systemic functional linguistic approach to discourse analysis constitutes the theoretical foundation and analytical methodology of this study. What teachers and students do is theorised as meaning-making activity. As they interact to co-create a text, they construe meanings about social activity and social relations, and they also choose resources to organise their discourse. These dimensions of meaning-making are closely examined in the recorded texts of classroom talk.

Classroom interaction is also conceptualised as consisting of selections or 'instances' of meaning from within an entire semiotic system of potential meanings. Accordingly, classroom talk is analysed with a dual perspective on language use. One perspective involves the gradual development of texts. This involves a logogenetic timeframe where speakers and writers select semiotic resources that unfold 'in the form of text' (Halliday & Matthiessen, 1999, p. 18). The second view relates meanings to systems of potential meaning choices. This perspective considers instances/meanings as types of meaning choices from within the entire meaning potential of a language, i.e. all the possible choices that we could make. In SFL theory, these two perspectives involve a cline of generality, known as 'the cline of instantiation' (Halliday & Matthiessen, 2004, Martin, 2010). Instance-system relations are further discussed in chapter 2 and 6.

In terms of methods of analysis, teacher-student interaction is investigated through phasal analysis (Gregory & Malcolm, 1995, Malcolm, 2010). I use the term 'phase' to refer to segments or 'pulses' of ideational, interpersonal and textual meanings (Rose, 2006, p. 187). Phasal analysis illuminates where and how meanings shift in

texts. It is core to this study because of its potential to 'take into account a full metafunctional spectrum of meaning' (Martin, 2002, p. 60).

In the analyses of phases of classroom discourse, I primarily draw on discourse semantic tools of analyses. These include: the system of IDEATION to investigate the actions that teachers and students perform, as well as the field or 'subject matter' of their talk; the systems of APPRAISAL (Martin & White, 2005, Hood, 2010) and NEGOTIATION (Martin, 1992; Martin & Rose, 2007a) to examine the pedagogic relationships that are enacted through classroom talk; and the systems of IDENTIFICATION and PERIODICITY to explore the organisation of discourse (Martin, 1992; Martin & Rose, 2007a; Martin & White, 2005). (See chapter 3 for further discussion and positioning of phase.)

Both the theoretical framework and analytical tools of this study provide a rigorous qualitative methodology. They are appropriate for generating insights about the nature of teacher-led collaborative writing. To date, few studies of joint construction have investigated teacher-student talk in this degree of detail, or examined both pedagogic activity *and* pedagogic relationships during text co-creation. It is thus unsurprising that we know relatively little about how teachers and students gradually co-create a written text. The detailed qualitative analyses of this study provide the foundation for mixed-method studies of a larger scale. Future studies could, for instance, quantify the patterns of interaction that are identified in this study and examine interaction in relation to longitudinal changes in student writing.

1.3.6   Approach to the analysis of the data

The study follows a 'bottom up' approach to analysing and interpreting data. It starts by examining the micro-interactions of students in order to understand how their activity gradually creates a text. It then extends the research lens to consider the flow of teacher-student talk as well as connections between periods of activity. This approach complements recent research on joint construction, which starts with a top down examination of unfolding lessons (e.g. Humphrey & Macnaught, 2011), as previously discussed.

The analysis of data follows an SFL theorisation of rank (Halliday, 1961; Halliday & Matthiessen, 2004). This concept refers to the hierarchical organisation of texts in terms of a progression of smaller to larger units. The relationship between units is one of constituency: one or smaller units are constituents of the next highest rank. Ranks are crucial to analyses because they clearly position patterns of interaction in relation to a whole lesson, i.e. smaller parts within larger parts. Along a rank scale, the criteria of constituency allow for the principled selection of data (Christie, 2002) where 'like' units are compared and interpreted in relation to a greater whole.

1.4   Significance of the thesis

This thesis makes a number of contributions to our understanding of teaching and learning academic writing. At a general level, it contributes to a better understanding of how classroom interaction supports the development of academic writing. The meanings that are valued in academic texts are revealed through the analyses of classroom interaction, rather than solely through the examination of the 'end-products' that students are expected to produce. That is, the teacher-student talk around text creation provides the basis for interpreting what students are expected to do with meaning and why. This perspective complements a wealth of existing literature that examines the range and diversity of written texts in varying disciplines of study. My investigation of classroom talk around text creation thus extends a prominent research focus on *what* kinds of meanings students need to write to *how* meanings are negotiated in the classroom. In particular, a focus on teacher-student interaction is relevant to further understanding how talk about language (i.e. metalanguage) supports students to learn about the differences between everyday and academic registers.

More specifically, the negotiation of language choices is illuminated through detailed linguistic analyses of teacher-student talk. The study thus provides a linguistic interpretation of vague terms that are often associated with writing instruction, such as 'guidance', 'mediation', 'negotiation' and 'scaffolding'. As

Kumaravadivelu (2003, p. 101) observes, terms used to describe classroom interaction are sometimes used interchangeably and sometimes differentiated from one another. The findings related to the structure of classroom talk and also to metalanguage highlight the function of specific linguistic and paralinguistic resources which teachers and students use in their classroom interactions. As practitioners, if we want to reflect on and potentially improve our interactions with students, then we need precise, detailed analysis of our classroom talk to illuminate our practices (Gibbons, 2006).

A further contribution relates to the enactment of a particular method of writing instruction to teach academic literacy. While the method of joint construction is well justified in the literature, there is very little detailed analysis of how teacher-student interaction results in a written text. The findings of this study are of potential benefit to novice teachers who may never have used this method, as well as to experienced teachers who wish to refine their use of this writing methodology.

The final area of contribution concerns methods of classroom discourse analysis. In this study, the structuring of discourse is interpreted in relation to the flow of meanings in texts (as discussed above). The method of phasal analysis contributes to a better understanding of intermediate units of analysis, i.e. those that are above the clause and below larger patterns such as lesson stages. While phasal analysis has been used to examine related pedagogic practices such as in detailed reading prior to writing (Rose, 2005; Martin & Rose, 2007b), publications have tended to present and discuss findings with limited space to reveal 'behind-the-scenes' analyses. The detailed analyses of this study highlight the flexibility and relevance of phases to the examination of classroom interaction and varied literacy practices. In particular, findings provide insight into the immediate impact of teacher-talk on the meaning-making of their students.

Additionally, the use of a rank scale positions phases in a relationship of constituency with smaller and larger units of interaction. This positioning exemplifies how data can be selected and compared in a consistent and principled way. Overall, the robust and transparent linguistic criteria for phases

and other units demonstrate a 'replicable and analytically precise way' (Malcolm, 2010, p. 23) of analysing the reoccurring and changing patterns in classroom interaction. This means that the contributions in this study can be readily critiqued, contrasted and extended in future studies.

1.5   Organisation of the thesis

While the chapter has provided an overview of this study, the remaining parts are organised into two major sections. Part one consists of two chapters, the theoretical foundations underpinning this research and the research design. **Chapter 2** positions the study in relation to theories of second language learning and development. I focus on how different theories inform contrasting writing pedagogies and I also provide detailed discussion of the writing methodology at the centre of this thesis. I then discuss relevant methods of classroom discourse analysis that examine teaching and learning practices. As these research areas are discussed, I introduce core concepts in the theoretical framework of systemic linguistics. These concepts establish the basis for the analyses of texts. In **Chapter 3,** I argue for the value of detailed linguistic analyses of classroom talk to provide insights about pedagogic activity and relationships. I introduce and justify the use of specific analytical tools with which to examine classroom interactions, and relate the methods of analyses to the representation of findings. This chapter also provides further detail of the research data, participants and ethical considerations.

Part two consists of the analysis and interpretation of data in accordance with the theoretical framework and research design. The three analytical chapters correspond to the three main steps of phasal analysis. In **Chapter 4,** I begin analysis with a focus on student activity. Here I investigate what the students do, as they incrementally co-create a text. I also examine how teachers organise and manage student activity throughout the lesson. **Chapter 5** broadens the analytical focus to more closely examine teacher activity in relation to student activity. This step aims to understand the role of teacher-talk in the co-creation of texts. **Chapter 6** further explores how classroom talk connects writing activity within the

current lesson and also to writing activity in the future. Here the focus is on the semiotic resources that teachers and students use to talk about language (i.e. metalanguage), as they write together. This chapter concludes with a discussion of the implications of metalanguage for the co-construction of a text.

The organisation of analyses and findings in chapters 4, 5 and 6 is cumulative in that each chapter draws on and extends the previous chapter. Collectively, they provide an interpretation of how classroom interaction targets the immediate goal of creating a model text and also the longer-term goal of preparing students for future independent writing.

Finally, in the concluding chapter, **Chapter 7,** I summarize the major findings of the research. I discuss their contribution to the teaching and learning of academic English and to the linguistic study of classroom interaction. I finish by discussing a number of ways in which the study can contribute to future research.

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Chapter 2   Theoretical Foundations

2.1 Introduction

This thesis examines classroom interaction during the collaborative writing methodology known as *joint construction*. The study involves analysis of writing instruction with learners for whom English is a second or additional language. It is therefore located with respect to theories of language learning and development. In this chapter, discussion focuses on how these theories interpret and explain pedagogies of writing instruction. I also attend to methods of classroom discourse analysis that examine these practices. This chapter is thus organised into two main sections: teaching and learning of advanced second language writing; and classroom discourse analysis. As these research areas are discussed, key concepts from the main theoretical framework of systemic functional linguistics are considered. Specific analytical tools are introduced in the following chapter.

2.2   Teaching and learning of advanced second language writing

The field of second language writing is generally regarded as emerging in the late 1950s/early 1960s. As a relatively new field, it closely followed trends of post war first language writing (Ramies, 1991; Warshauer, 2002; Matsuda et al, 2003). It has been described as 'pedagogically-motivated' (Belcher, 2012, 2013) and 'issue-driven…rather than theory or method driven' (Matsuda, 2013, p. 448). These descriptions highlight how scholars may share overlapping research interests and pedagogical concerns related to second language writing and writers, but they do not necessarily share the same theoretical frameworks with which to address these issues. The breadth of theoretical influences is reflected in terminology used to categorise and describe the study of writing activity: second language writing has been characterised as an 'interdisciplinary field' (Matsuda et al, 2003, p. 151), and, more recently, as a 'transdisciplinary field' (Matsuda, 2013, p. 448). These terms indicate that there are a variety of theoretical traditions

and frameworks, rather than one dominant ideology and corresponding research approach.

The term 'second language writing' is also directly related to the activity of teachers and learners. This is evident in its classification as 'both a field of study and an area of practice' (Hyland, 2013, p. 427). Such duality foregrounds the applied nature of theoretical constructs, i.e. theories are related to human activity, in some way, and vice-versa. A unifying element involves the broad parameters around the object of study, namely researching the teaching and learning of second or additional language writing.

Although defining a distinctive area of research and debating its boundaries[1] is a significant issue, this study does not explore the contested edges of disciplinary boundaries. (Some such as Canagarajah (2013) even argue that the label of 'second language writing' is now inaccurate and outdated for conceptual and historical reasons.) Instead, the most relevant exploration of theory involves theoretical models of learning and language development that influence what teachers and students do in classrooms. This section first considers how the process of learning is theorised and the influence of theory on choices about classroom writing activity.

2.2.1 Theoretical approaches to second language writing development and instruction

Three contrasting approaches have been dominant in second language (L2) writing research. These approaches are commonly identified as *formalist, cognitivist*, and *social constructivist* perspectives (Warshauer, 2002). They are often discussed in an approximate chronological sequence (e.g. Nystrand, Greene & Wiemelt, 1993). However different beliefs and practices continue to leave

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[1]In Bernstein's (1996) terms the conceptualisation of disciplinary boundaries is usefully considered in terms of the distinction between 'singulars' and 'regions'. A singular discourse involves the production of new theoretical knowledge, with few external references, e.g. theoretical constructs are related to other constructs within the same theory. Regions are discourses that select and draw on multiple singulars in practices of recontextualising knowledge. Systemic Functional Linguistics is, for example, a singular discourse whose theoretical constructs may inform pedagogic practices in the regional discourse of education.

traces beyond 'the epoch in which they influenced initial changes' (Gibbons, 1999, p. 13). For the purposes of understanding how theories of learning relate to classroom writing methodologies, broad distinctions are useful. This study distinguishes a 'structuralist lens of constructivism' with a social lens of constructivism (Nystrand et al, 1993, p. 278). The three dominant approaches will hereafter be referred to as *formalism, cognitive constructionism,* and *social constructionism.*

While the three main approaches all draw on first language (L1) research and writing instruction (Raimes, 1991; Ramanathan & Atkinson, 1999; Warshauer, 2002), each conceptualises the process of language learning very differently. As Nystrand and colleagues (1993) discuss[2], beliefs about the process of learning and making meaning have gradually shifted from an emphasis on isolated texts, to processes of individual cognition and finally to historically situated socio-cultural interaction.

2.2.1.1 A framework for positioning approaches to second language writing

One framework for understanding fundamental differences between the dominant approaches to language learning and instruction is offered in Bernstein's broad theorisation of pedagogic practices (1990, 1996). Amongst his proposals for the theorisation of social activity is a grid of 'types of pedagogy'. Following Martin (1999, 2006), these types are represented in a topology of literacy practices (see Figure 2.1). There are two dimensions that relate to what is privileged in theories of learning and instruction. The vertical dimension represents the **focus of change.** This is about whether the conditions of change are more to do with what goes on inside the individual or more related to the activity of social groups. The horizontal dimension represents the **focus of learning/pedagogy**. That axis refers to the extent to which 'the acquirer is active in regulating' their own learning and the extent to which the 'explicit effective ordering' of discourse and learning tasks (by teachers and related curricula) is considered crucial to instruction (Bernstein, 1990, p. 213-214).

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[2]Nystrand and colleagues discuss a parallel shift towards social perspectives on learning in the fields of literary studies, linguistics and composition studies.

focus of
change

intra-individual

invisible pedagogy   visible pedagogy

Progressivist/constructivist   Traditional pedagogies
pedagogies (Rousseau, Piaget,   Behaviourist theories
Chomsky, Goodman)

acquisition   liberal   conservative   transmission   focus of
                                                                       pedagogy
                     radical   subversive

Critical pedagogic theories   Social-psychological pedagogic
(Freire, Giroux, Illich,   theories (Vygotsky, Bruner,
Bourdieu)   Gray, Rothery, Martin, Rose)

inter-group

Figure 2.1: Types of pedagogy

(Martin, 2006, p. 99 after Bernstein, 1990; Rose & Martin, 2012, p. 318)

The intersection of both axes gives rise to four possible realisations of pedagogic practice: *liberal, conservative, radical* and *subversive.* Their positioning in four quadrants usefully highlights differences in what is valued or privileged in claims about theories of learning and instruction. The lower right quadrant, for instance, is most relevant to the writing methodology of joint construction. That quadrant represents types of pedagogy where theories of learning strongly relate change to social activity. It also privileges methods of instruction where student learning is strongly associated with explicit criteria and teacher selection, organisation and evaluation of learning tasks (Martin 1999a). This combination contrasts most strongly with the upper left quadrant. There the process of change is strongly related to change within individuals and the focus of learning is strongly connected to 'the procedures/ competences which all acquirers bring to the pedagogic context' (Bernstein, 1990, p. 62).

In this topology, Bernstein is particularly concerned with differences between 'invisible' and 'visible' 'modalities of pedagogic practice' (1990), as annotated on

the left and right-hand side of the quadrants. This distinction relates to the underlying rules of institutional pedagogic practices: in visible pedagogic practices the underlying rules related to social hierarchies, the sequencing of learning, and assessment criteria are all explicit; in invisible pedagogies these rules are implicit. In relation to language learning and writing instruction, different types of visible and invisible pedagogic practices have varying infrastructures for teaching and learning writing, different approaches to measuring development, and fundamental disagreements about the key factors that enable student achievement (Kalantzis & Cope, 2008). A primary concern of the writing methodology of joint construction are the culturally and linguistically marginalized students who rarely flourish when the underlying rules are implicit (Martin, 1999a, 2006).

In recent times much language learning research has been concerned with 'social interaction in the context of authentic engagement in meaning-making' and 'an explicit focus on language itself' (Schleppegrell, 2013, p. 156), i.e. the right hand side of Bernstein's topology. However, each of the three dominant approaches to second language writing (*formalism, cognitive constructionism,* and *social constructionism*) continue to influence the kinds of writing activities that teachers and students engage in, including joint construction. The following sections briefly relate the three dominant approaches to Bernstein's topology. In line with the parameters of this study, the two dimensions of the topology are related to theories of *language* learning and development (i.e. the focus of change) and beliefs about what should be privileged in *writing* instruction (i.e. the focus of learning/pedagogy).

2.2.1.2 Formalism

The formalist theoretical framework was particularly influential before the mid 1960s (Crystal, 2003; Warshauer, 2002). The focus of language learning emphasises 'the inculcation of received knowledge' (Atkinson, 2003, p. 8). That is, learning in individuals is strongly related to absorbing concepts that are provided by teachers. Additionally, a focus on change within individuals is seen

in the importance that is attributed to repetitive patterns of stimulus, response and reinforcement in learning, as popularized by behavioral psychologists (e.g. Skinner, 1968). The focus of writing instruction is on information transfer between teachers and students. As critiqued by Freire (1983) in his metaphor of 'banking education', writing instruction centres on students receiving the information that teachers 'deposit' into the minds of students.

These beliefs about language learning and instruction commonly manifest in series of teacher-structured steps that gradually increase in complexity (Gibbons, 2006). For instance, the memorisation and repetition of decontextualised and compartmentalised grammar drills/sentence level exercises is seen as a prerequisite for writing extended texts (Gibbons, 1999). These teaching and learning practices are criticised for their detachment from 'the overall rhetorical purpose and organisation of the text' (Christie 2010, p. 60). The theories of learning that underpin such practices are critiqued for their privileging of habit formation and conditioning. This precludes further interest in cognitive processing or the negotiation of meaning, as the following sections discuss.

2.2.1.3 *Cognitive constructionism*

Cognitive constructionists of late 1960s to early 1980s were concerned with the processes involved in the transmission of knowledge. In terms of writing, much psycholinguistic research focused on the mind of writer, i.e. what learners *do* when they write (Raimes, 1991). Learning is seen to occur when learners adjust existing mental representations (or schemata) of the world in relation to new experiences (Nystrand et al, 1993). The process of writing is thus regarded as translating cognitive representations into text (Flower & Hayes, 1981, 1984).

In general, the importance of language in shaping cognition is limited to a representation of some 'prior reality' (Painter 1999, p. 9). The function of language is limited to conveying concepts with suitable linguistic forms, hence Reddy's (1970) metaphor of language as a 'conduit' or a conveyor-belt for thought. It is the job of the hearer 'to *attach* the intended meanings' to these linguistic forms (Painter, 1999, p. 12, my emphasis). This view implies a

separation of form and meaning: language is conceptualised as structures that are void of meaning (Gibbons, 2006, Painter, 1999, Christie, 1990).

The insignificant role of using language to shape cognition is also supported by Piaget's influential research in the field of developmental psychology. For Piaget, language development is the result rather than the cause of cognitive development (1972). It is human biology that drives gradual cognitive change. Individual learners require adequate input from their environment for learning to gradually take place.

A privileging of change within individuals and an emphasis on learners interacting with their learning environments is evident in distinctive pedagogic practices. While the role of spoken language is acknowledged (Gibbons, 2006), respect for individual writers, individual motivation and self-expression is of central importance (Hyland, 2003; Rothery, 1986). As Feez (2002, p. 48) discusses, student-centred writing methodologies 'highlight the needs, interests, feelings, and motivations of learners and encourage learners to make their own decisions, to take risks, and to discover knowledge as they need it'.

One highly influential instructional model is the 'process writing' model of Flower and Hayes (e.g. 1980, 1981). This model emphasises the 'thinking processes and composing strategies of skilled writers' (Warshauer 2002, p. 46). Students are encouraged to choose their own writing topics, verbally articulate rhetorical goals, and emulate the planning, self-assessment and text drafting of expert writers (Galbraith, 1992). However, as Gibbons (1999) argues, what is missing from such models is:

> 'a way for teachers and students to reflect on language itself, so that teachers are guided in language planning and student assessment by an explicit model of language and can make explicit to students who are unfamiliar with the language of school how to use the registers associated with power and educational success' (p. 24).

In short, personal growth and the process of writing tend to be privileged over the explicit teaching and learning of linguistic features in texts and how these features relate to their social contexts of use. A formalist approach is particularly problematised in relation to classrooms with culturally and linguistically diverse language learners (Delpit, 1988; Rothery, 1986; Martin, 1999a; Feez, 2002; Rose, 2005; McCabe & Whittaker, 2006; Gibbons, 2009; Gebhard, Chen, Graham & Gunawan, 2013).

2.2.1.4 Social Constructivism

Social constructionists reject what they see as the 'austere asociality' of formalism and the restricted view of the social environment in cognitive constructionism (Atkinson, 2003, p. 4). Instead, using language is seen as 'central and necessary to learning and not merely ancillary' (Lemke, 2001, p. 296). The source of meaning is not seen to just involve texts, their constituent structures and individual cognitive processing. Rather, people construct meaning as they interact with each other, over time, in such contexts as their homes, formal learning institutions, workplaces and wider communities. As Johnston (2006) describes, 'the sociocultural turn defines human learning as dynamic social activity that is situated in physical and social contexts, and distributed across persons, tools and activities' (p. 237).

The influential work of psychologist Lev Vygotsky is often used to justify the privileging of social interaction in learning (Cazden, 1996). Vygotsky proposes that language plays a central role in cognitive development where individual consciousness first develops through interaction with cognitively more advanced others, such as parents, older siblings and teachers (Vygotsky, 1978, 1981). The importance of language is particularly evident in Vygotsky's concept of *semiotic mediation*. As Hasan (2005, p. 73) discusses, this concept refers to the use of sign systems that act as abstract tools in changing mental activity. In other words, our development requires tools such as language to connect social activity with processes of individual cognition.

However, Vygotsky does not theorise the nature of language further (Hasan, 2005). He also does not specify how his development theories connect to instructional practices (Tharpe & Gallimore, 1988). This has contributed to an array of divergent readings in terms of what is privileged in writing instruction (see Cazden, 1996, Daniels, 2007). These absences also create space for further theorisation of the relationship between language use and context, as well as the very nature of language itself.

A social semiotic theory such as Systemic Functional Linguistics (SFL) offers a model of how systems of language relate to contexts of language use. As Halliday (1991) elaborates:

> *'A theory of language in context is not just a theory about how people use language, important thought that is. It is a theory about the nature and evolution of language, explaining why the system works the way it does; but with the explanation making reference to its use…It is a functional explanation, based on the social-semiotic interpretation of the relations and processes of meaning'* (p. 6).

Unlike the conduit conceptualisation of language, SFL does not make a distinction between form and meaning. Rather meaning is constructed through language choices and their relationship to each other (Martin, 2014b). Human learning is thus regarded as a process of making meaning and learning about the meaning potential of language (Halliday, 1993).

The theoretical framework of Systemic Functional Linguistics (SFL) is central to this study. Within this framework, the concept of genre offers a specific theorisation of language and context. As a technical construct, genre also connects to pedagogic practices informed by Halliday's 'language-based' theory of learning, including the 'genre-based' writing pedagogy at the centre of this study (Martin, 1999a). The next section discusses the relevance of genre to the investigation of classroom interaction during the writing methodology of *joint construction*.

2.3   The concept of genre in a social semiotic theory of language and context

The construct of genre has emerged from social constructionist paradigms about the relationship between language use and context. As Christie (2008) explains, interest in genre stems from broad studies of language varieties that invigorated socio-linguistic research from the 1950s onwards. In relation to second language writing, three dominant genre traditions have generated research on wide-ranging discourse practices over several decades. These traditions are often labeled 'Sydney School', English for Specific Purposes (ESP) and New Rhetoric, following Hyon's (1996) much cited categorisation of 'three traditions'. While a number of scholars discuss a range of theoretical differences across these traditions (see for example Johns, 2002, 2011; Johns et al, 2006; Hyland, 2004; Paltridge, 2001; Christie, 2008; Bazerman et al, 2009; Bawarshi & Reiff, 2010; Hood, 2009, 2011; Martin, 2012), this section will mainly focus on the 'Sydney School' tradition. This tradition is more accurately[3] referred to by Tardy (2011) as 'SFL-oriented' work on genre. Of importance to this study is the relationship between genre and other theoretical constructs, the theoretical antecedents that contribute to the current theorisation of genre, and the way understandings about genre are recontextualised in classroom methods of writing instruction. Accordingly, this section first introduces an overall theorisation of language and context. This is followed by key theoretical concepts in SFL that are related to the conceptualisation of genre, and then specific pedagogic practices that are informed by SFL.

2.3.1   Genre in supervenient or circumvenient models of social context

This study involves theorisation of genre that has emerged from wide-ranging functional linguistic studies of discourse. As Martin (in press) records, he and his students were working with texts in a variety of contexts such as service encounters, dog breeding, dinner table conversations, doctor-patient consultations, environmental and administrative discourse and primary school

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[3]See Martin (in press) for a detailed critique on why the 'Sydney School' label is geographically, biographically and theoretically inaccurate.

classrooms. However a shared theoretical concern involved consideration of how the overall function of texts influenced configurations of types of meaning choices. In terms of the relationship between language and context, this research led to on-going developments of the respective models of Gregory (1967) and Halliday (1978). The gradual development of a third model is discussed in several key publications, including those of Martin (1984, 1992) and Christie and Martin (1997). While there are differences in each model (see Martin, in press for detailed discussion), they all theorise abstract levels of semiosis to interpret the relationship between language and context. The model proposed in Martin (1992) and Martin and Rose (2008) frames the study in this thesis.

More specifically, SFL models involve a bi-directional relationship between language and context (Hood, 2013). This means that social context is treated as an abstract level of meaning (Martin, 2009, 2013a), and not as something that is 'outside' of meaning and language (Hood, 2011, p. 9). Social contexts are brought into being through patterns of interaction, i.e. as unfolding texts. Conversely, specific patterns of meaning in unfolding texts construe identifiable kinds of social activity. From an SFL standpoint, context and language do not exist independently. Rather, context is *encoded* by language and other semiotic resources (Martin & Rose, 2007a; Martin & Rose, 2008). This is a 'supervenient' conceptualisation of language and context, in Martin's (2014a) terms.

The concept of genre in Martin (1992) and Martin and Rose (2008) is positioned as the most abstract layer of meaning that enacts 'the social practices of a given culture' (Martin & Rose 2008, p. 6). Different genres involve distinctive 'recurrent configurations of meanings' (Martin & Rose, 2008, p. 6). These configurations change as we interact in different situations for different social purposes: genres vary across different cultures, and change as cultures develop over time. As communities grow and change, 'new genres arise' (Derewianka, 2012, p. 131). With this theorisation, genres and the semiotic choices that encode them are evidence of social practices and thus provide insight into how cultures make meaning.

'Supervenient' models of language and context contrast with 'circumvenient' models. As Martin (2014b) discusses, for the New Rhetoric genre tradition context is extra-linguistic. That is, language is separated as one dimension of social activity that is embedded in social contexts. This fundamental difference means that social contexts are seen to *influence* or *shape* texts rather than being encoded as texts. In light of their circumvenient theorisation of language and context, it is not surprising that the New Rhetoric tradition is interested in studying factors that are seen to influence discourse practices, such as 'the attitudes, beliefs, values and behaviors' of discourse communities (Flowerdew, 2002, p. 91). To explore such factors, New Rhetoric scholars draw on diverse theoretical traditions, including anthropology, literary theory, philosophy and psychology. They also privilege ethnographic research methods. (For detailed discussion of influences and methods see Freedman & Medway, 1994; Coe, 1994; and Artemeva & Freedman, 2006). New Rhetoric scholars are interested in the changing and diverse nature of social action, with genres generally characterised as dynamic and unstable social activity (after Miller, 1994 and Bazerman, 1988). While the New Rhetoric tradition and the SFL-informed tradition both use the same label of 'genre', this term involves very different meanings that stem from fundamental differences in the theorisation of language and context.

A distinctive characteristic of the ESP genre tradition is that genres are often named and grouped in relation to discourse communities (Johns, 2011). From this perspective, social groups share 'rhetorical values' (Bhatia, 1993, 2002) as they communicate for different purposes. Shared values include using language for social functions, such as 'description', 'explanation', and 'evaluation' (see Bhatia 2002). These shared values drive the 'products' of social interaction, such as books, advertisements, sales letters and other text forms. Products and their relationship to rhetorical values are referred to as 'genres'. Scholars within the ESP tradition have used text analysis to explore the rhetorical values of specific discourse communities such as the research articles of academic communities (e.g. Swales, 1990, 2004; Feak & Swales, 2009).

An interest in the social purpose of texts and the use of text analysis to explore context is common to both the ESP and SFL-informed traditions. However, only SFL scholars theorise genre as part of an 'all embracing theory of language and social experience' (Christie, 2008, p. 30). In contrast, in the ESP tradition, language use and context are in a circumvenient relationship to each other. Like the New Rhetoric position, genre is not conceptualised as an abstract layer of meaning. As Swales, a prominent ESP scholar acknowledges, his theorisation of genre is <u>not</u> 'one element in a complex social semiotic system' (2009, p. 3). Rather, his theorisation of genre draws on 'eclectic traditions of scholarship', including sociolinguistics, education, and anthropology (1990, p.13). As a result of circumvenient modeling and broad theoretical influences, ESP scholars, like New Rhetoric scholars, may still look for meaning 'beyond texts' (Johns et al, 2006). In particular, they may look to what people say about the texts that they create, whereas for SFL scholars, 'beyond text data' such as interviews and focus groups are treated as additional texts that encode one or more genres.

Overall, distinctions between supervenient or circumvenient modeling of language and context correspond to incommensurable differences across the three traditions (Martin, 2014b). These differences manifest with clarity in definitions of genre and the 'legitimate' research methods that are advocated to explore language and social activity. Differences are also evident in the extent to which multiple theories are drawn upon to conceptualise genre. While EAP genre theorists like Swales write of borrowing 'profitably' from 'distinct discourse communities' (1990, p. 13), the SFL-informed model of genre looks to theoretical concepts from its home base, i.e. within the systemic functional framework and its theoretical antecedents. This is not to say that SFL genre research has an inflated sense of providing a complete picture of social activity[4]. On the contrary, SFL scholars are keenly aware of the boundaries (or to some limitations) of their theorising – an awareness that contributes to a long history of interest in the

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[4] See Hasan (2005) for discussion of the need to have linguistic, sociological and psychological perspectives on language development.

sociology of education[5]. A deeper understanding of the perspective on genre and social context proposed in Martin 1992 and Martin and Rose 2008 involves the relationship of genre to other central theoretical constructs within SFL. Together, genre and related constructs are key to understanding the theoretical framing of this study. In particular, they offer an analytical approach for making a distinction and exploring the differences between the texts that teachers and students write and the discourse that brings about their co-creation.

2.3.2 The meaning of genre in relation to other key concepts in Systemic Functional Linguistics

In SFL theory, genre is not a stand-alone concept. Rather, as Martin explains, 'the meaning of genre is its *valeur*' (in press, my italics). Expressed another way, what a genre is or is not is defined by its relationship to other theoretical concepts. This relational theorisation of meaning follows Saussure (1986) who argues that meaning lies in the differentiation of phenomena. As Saussure reasons, 'what characterises each most exactly is being whatever the others are not' (1986, p. 115). Hjelmselv (1961) famously illustrated this insight with the example of traffic lights: meaning is created in the relationships between the three colours, not in the meaning of one isolated colour. The underlying theoretical principle of valeur is relevant to the meaning of genre in relation to other core constructs in SFL, including: a stratified conceptualisation of context; the theorisation of the semiotic resources that encode genres as texts; and the relationship between instances of language use and the systems to which they belong.

2.3.2.1 Stratification

A distinctive feature of the genre theory that frames this study is that genre is positioned as the most abstract stratum, or layer of meaning (Martin 1984, Martin 1992, Martin & Rose 2008). In SFL theory, the hierarchical, multi-layered organisation of language and social context is known as *stratification* (Halliday & Mathiessen, 2004). The most abstract level of genre encompasses reoccurring,

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[5]See Martin (2012) for discussion of interdisciplinarity and SFL's history with the sociology of education.

structured cultural activity. It identifies predictable, relatively stable (after Bakhtin, 1986) and culturally established patterns of what we expect to accomplish through our use of semiotic resources (Martin 1997). From the standpoint of culture, genres involve 'shared assumptions and expectations about the way things are done' (Dwarte, 2012, p. 125). As Derewianka (2012, p. 131) reflects, 'without a certain amount of predictability, the discourse community would be in a constant state of insecurity'. The concept of genre gives prominence to the overall social purpose that drives social interaction.

Genres are related to and distinguished from each other by specific configurations of the contextual variables of *field*, *tenor* and *mode*. These three dimensions are collectively known as *register*. They refer to the general 'functional domains' of any immediate social situation (Halliday, 1978; Halliday & Hasan, 2005; Halliday & Matthiessen, 1997). The domain of *field* is concerned with the nature of social action that is taking place. In pedagogic writing activity, field includes *what* teachers and students are talking and writing about, i.e. the topics or subject matter that feature in classroom talk and learning materials. The domain of *tenor* is concerned with *who* is taking part, and the social roles and relationship between participants. Of particular relevance to this study are the social roles and power relations around knowledge about language that teachers and students enact, as they co-create a text. The third dimension of *mode* is concerned with the role of language (and other semiotic resources) in the other two dimensions. It encompasses the medium, i.e. spoken or written, and a 'continuum' of more complex categories in between (Martin, 1984). *Mode* also involves the physical and/or technological channel through which messages are created, such as face-to-face communication, text messages, email, etc. In terms of teaching academic writing, choices about *mode* are integral to choices about methods of instruction and classroom resources. Together, the three contextual variables of *field, tenor* and *mode* intertwine and vary as the immediate situations in which we interact change. While register variables outline the semiotic domains of making meaning,

[6]See Martin, (1992, 1997), Halliday (1991), Halliday and Matthiessen (1999), Rose (2010b) for discussion of the theoretical antecedents to the stratification of context, in particular the work of Malinowski (1923).

genre provides a cultural lens on typical meaning-making patterns that communities create. The layers of genre and register are represented as the outer two pairs of tangent circles in Figure 2.2.
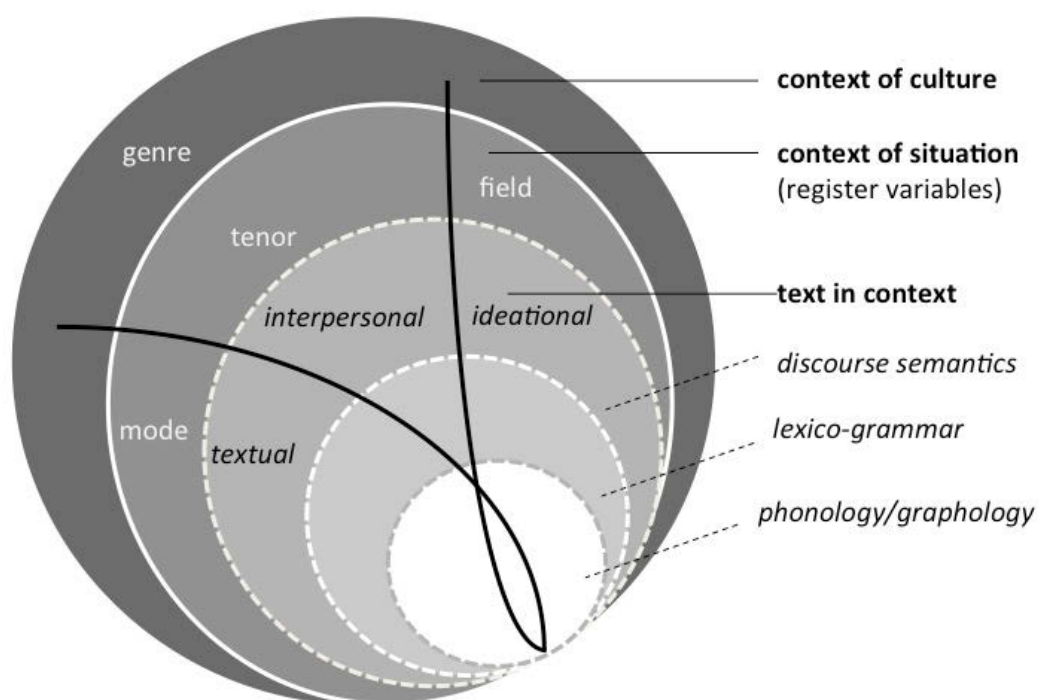
Figure 2.2: Modeling language in context
(Adapted from Martin & White, 2005)

In the modeling above, genre is a more abstract layer above register because each of the three functional domains of a social situation may vary independently. Such variation is seen as intrinsically connected to the overall goal of social interaction (Martin & Rose, 2008). As Martin (in press) explains, a key reason why genre is conceptualised as a more abstract layer of meaning is because it 'coordinates' and is a pattern of *field, tenor* and *mode.*

An important feature of this layering is that the contextual patterns of genre and register both rely on systems of language and other semiotic tools to express meaning. In Hjelmselv's (1961) terms, genre and register are 'connotative' systems realised or expressed through the 'denotative' semiotic system of language. (See

Martin, 1992, and 1999b for detailed discussion.) This semiotic relationship means that we cannot fully understand more abstract layers of meaning without a way to analyse meaning as it appears and is expressed in actual texts. In Figure 2.2, the next level below register provides a *text in context* view of meaning. This stratum (and all lower strata) focuses on the manifestation of interactive situations as unfolding texts (Martin & Rose, 2008). For example, when teachers and students interact with one another, they gradually co-create a verbal text of classroom talk. In such a text the patterns of field, tenor and mode are expressed or brought into being through specific semiotic resources.

2.3.2.2 Metafunctions

In SFL theory, Halliday articulates how text creation involves choices about three simultaneous strands of meaning. These strands are *ideational, interpersonal and textual* meanings. *Ideational* meanings are semiotic resources that construe different kinds of social actions; *interpersonal* meanings refer to semiotic resources that enact social relationships; and *textual* meanings involve resources to organise 'what part language is playing' (Martin & Rose, 2008, p. 11). These functional dimensions are known as the three *metafunctions* of language (Halliday & Matthiessen, 2004). They provide three perspectives on meaning-making activity, at the level of *text in context.*

In addition to metafunctional theorisation, *text in context* is also conceptualised with more to less abstract layers of meaning. The most abstract perspective of *text in context* is called discourse semantics (see Martin 1992; Martin & Rose, 2007a). This perspective encompasses meanings that unfold and accumulate above the level of clause. The next lower level is lexicogrammar (Halliday & Matthiessen, 2004). This level encompasses the language choices within clauses. Finally, the least abstract layer of meaning involves phonological and graphological resources that involve sounding and scribing patterns of meaning. Each of these *texts in context* layers is represented as a trio of tangent circles in Figure 2.2. Their graphical representation captures the 'patterns within patterns' conceptualisation of meaning. That is, discourse semantic meanings above the clause are encoded

by clause level lexico-grammatical patterns, and, in turn, lexicogrammar is encoded by phonological and graphological patterns. This hierarchy is important in SFL theory as it depicts how more abstract patterns of meaning are encoded by less abstract patterns of meaning. The encoding relationship between strata is described as one of 'realisation' (Martin & Rose, 2007a). The overall aim of SFL's supervenient modelling is to theorise cultural activity as semiotic activity. In this study the stratum of discourse semantics is particularly relevant to understanding the flow of meanings between teachers and students, as they write together.

The technical theorisation of genre that frames this study has clear implications for the analysis of semiotic activity. Specifically, pedagogic activity is viewed as meaning-making activity where teachers and students create and receive messages for particular social purposes. Pedagogic activity is also analysed at different strata, including the level of genre and its constituent patterns of field, tenor and mode. The language and other semiotic resources that teachers and students use are seen to construct meaning. Additionally, meaning-making resources that are chosen by teachers and students are categorised according to relational values, i.e. with criteria of similarity or difference. This principle of valeur demands clear linguistic criteria for both the functions that language is performing and the resources that encode those functions. More specifically, because concepts have relational values, any labelling or categorisation of meaning-making activity must be positioned clearly in relation to strata and metafunctions, i.e. categories of meaning are identified at both the language level and kind of meaning that is being analysed. While many scholars in the field of second language acquisition consider time-oriented cognitive processing, with key concepts such as 'input' (Krashen, 1985), 'interactionally modified input' (Long, 1980, updated in 1996) and 'output' (Swain, 1985, 2000, 2006), SFL-informed analysis focuses on the range and kind of resources that teachers and students access and deploy to make meaning.

2.3.2.3 Instantiation

The view that language users make selections from a range of possible semiotic

resources is a focal point of SFL's theory of *instantiation* (Halliday & Matthiessen, 2004; Martin, 2010). This theory provides a dual perspective on language in use: both language we choose in a given situation and the full potential of language patterns that are available to choose from. These dual perspectives are theorised as *instance* and *system*, and represented as a cline with two poles, as shown in Figure 2.3. The system end of the cline is described by Halliday & Matthiessen, 2004) as:

> *'the underlying potential of a language: its full potential as a meaning-making resource…The system in this general sense is equivalent to the totality of all the specific systems'* (p. 26).

This definition refers to all possible semiotic resources that are available in a culture. This 'big picture' view is what is meant by 'system' in relation to the theory of instantiation. Halliday and Matthiessen's definition also refers to 'systems', in plural. This second reference is about specific parts of the entire 'system'. These constituent parts or subsystems refer to more specific sets of choices at each stratum and within each metafunction. Sets of potential language choices are more technically termed 'system networks' and will be further discussed in chapter 3.

potential as overall system

genre / register

sub-potential

instance type or text type

instance as specific text

reading
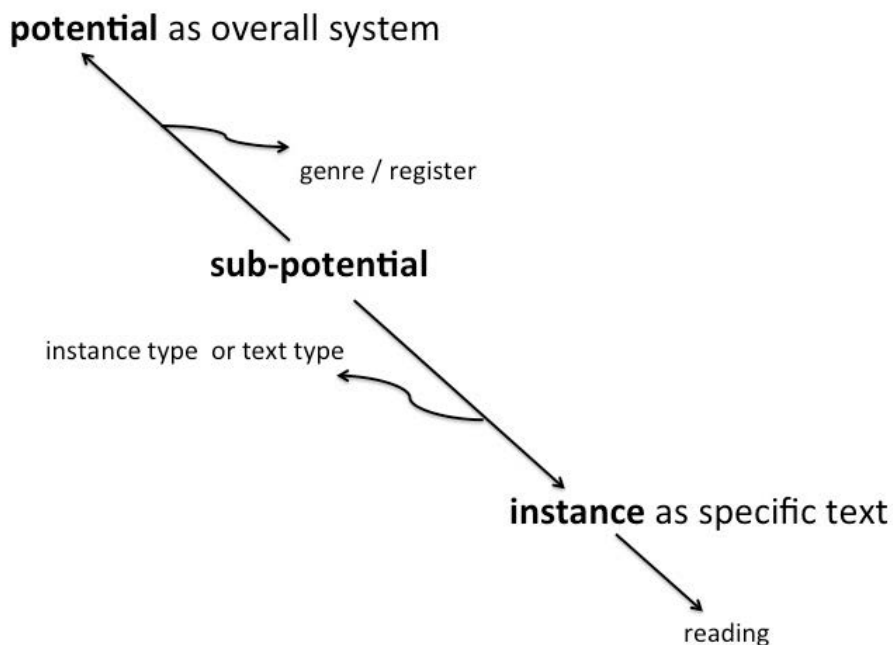
Figure 2.3: The cline of instantiation
(Adapted from Halliday & Matthiessen, 2004; Martin, 2010)

At the other end of the cline is a specific *instance* of text. The use of 'text' here does not specify an amount or size of text. Rather, it refers to specific resources that are chosen or 'instantiated' to make meaning. As introduced, SFL considers language choices from above, below or at the level of clause. At the instance end of the cline, Martin (2010) and Hood (2008) also consider individual 'readings' of instances, i.e. the specificity of meaning is further increased with individuals' subjective interpretation.

Between the poles of system and instance is an intermediary space that involves sub-potential. This refers to a narrower set of options from within the entire linguistic system. Here, SFL considers configurations of reoccurring meanings with register and genre theory where all our possible meaning making resources are constrained by the situations in which we use them. Additionally, sub-potential also relates to an instance of text in terms of a more general kind of meaning, i.e. an instance as categorical type of meaning choice, or 'text type'

(Halliday & Matthiessen, 2004). These clines and the accompanying intermediary space are central to SFL theorising because entire linguistic systems provide 'the means for producing and interpreting individual texts' (Tann, 2010, p. 76). Conversely, SFL theory makes sense of an instance in relation to its place in systems of potential language choices. In this thesis, the instance end of the *cline of instantiation* is particularly important to the analysis of classroom activity and the texts that teachers and students create. As Halliday and Matthiessen (2004) consider:

> *'If we start at the instance pole, we can study a single text and then look for other texts that are like it according to certain criteria. When we study this sample of texts, we can identify patterns that they all share and describe these in terms of a text type. By identifying a text type, we are moving along the cline of instantiation away from the text pole towards the system pole'* (p. 27)

This 'instance towards system' perspective enables identification of general, shared characteristics that a collection of instances/ meanings has in common. Recognition of instances as types of potential meaning choices is relevant to this study because students are learning to make 'academic' types of language choices. They therefore need a way to identify and talk about instances of language use as specific types of meaning-making choices. This kind of talk is more generally referred to as 'metalanguage' or talk about language (de Silva Joyce and Feez, 2012; Rose and Martin, 2012; Schleppegrell, 2013) and will be further discussed in section 3.5 of this chapter.

The connection between an instance of language use and the system to which it belongs is also relevant to theorising language development. Scholars in the field of second language acquisition (SLA) often refer to the concept of *interlanguage*, as originally proposed by Selinker (1972). This term refers to 'non-standard approximations of the target language by learners' (Feez, 2002, p. 48) that learners gradually construct 'through their experiences of the L2' (Ellis, 2012, p. 3).

Language teachers regard these efforts as valuable sources of information about learner progress. Although interlanguage is sometimes referred to as a learner's language system (Ortega 2009), the use of 'system' is not directly related to a systemic theory of language (such as Halliday's linguistic theorising). Instead, it is connected to cognitive processes that aim to illuminate processes of language learning. As Ortega (2009, p. 116) discusses, four interlanguage processes are commonly noted in SLA literature: *simplification* (learners' restricted use of language); *overgeneralisation* (when learners apply a language principle to both appropriate and inappropriate contexts of use); *restructuring* (learners' reorganise their grammar knowledge); and *u-shaped behaviour* (early appearance of new language features, attrition, then re-establishment). The concept of interlanguage connects evidence of learners' language use with distinctive types of mental processes.

In contrast, the theory of instantiation and related theoretical concepts consider the extent to which sub-systems (from within the entire system of language) are being deployed in learner texts. Writing development is thus framed as increasing students' potential to mean, i.e. increasing the kinds of meanings that students can selectively mobilise in a wide-range of social purposes (Halliday, 1993). Learners' language use is therefore examined in terms of different systems and parts of systems that they show evidence of using[7].

In SFL literature, the most in depth systematic studies of language development have been conducted with young first language learners and both first and second language learners in primary and secondary school. In particular, the studies of Halliday (1978, 1979a, 1979b, 1983, 1984), Hasan (1986), Hasan and Cloran (1990), Trevarthen (1980, 1987), Oldenburg (1986, 1990), and Painter (1984, 1993, 1999) have explored language development in early childhood. These studies have set an example for the systematic study of learner language. In primary and secondary schooling, studies, such as those of Christie (1985, 1998), Derewianka (2003), Schleppegrell (2004b), Gibbons (2006) and Christie and

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[7]See Martin (2010) for discussion of *individuation* and how individuals gradually access cultural semiotic resources over time)

Derewianka (2010) have focused on meaning-making that students are expected to develop through institutional learning. These studies have provided 'synoptic snapshots of the resources available at different stages of development' (Martin, in press).

SFL scholars have also made contributions to advanced language teaching and learning. Two notable edited volumes include: *Advanced Language Learning: The Contribution of Halliday and Vygotsky* (Byrnes, 2006)*; and *Analysing Academic Writing: Contextualised Frameworks* (Ravelli & Ellis, 2005). The SFL papers in these volumes are indicative of diverse research that considers texts that learners' are expected to produce, language features that are particularly challenging in academic discourse, and the sequencing of texts in curriculum design. As yet, few SFL studies have considered the negotiation of academic discourse in higher education through the analysis of teacher-student classroom talk. While the data collection period of this study is insufficient for a longitudinal systemic analysis of learners' academic language development, classroom talk is analysed for how instances of language use are explicitly connected to the systems in which they belong. The rationale for this approach is further considered in relation to specific pedagogic goals of teacher and student writing activity, in section 2.4.

2.4   Curriculum genres and the genres they create

In the previous section, the concept of genre was related to both a hierarchy of abstraction and a hierarchy of generalisation. The former theorises a stratified relationship between more to less abstract patterns of language; the later theorises the relationship between specific language selections and more general patterns of potential meaning. Both these theories exemplify how genre is a construct with relational value in SFL. That is, it is assigned meaning in terms of its relationship to other theoretical constructs. This section now considers genres in relation to the context of teaching and learning in institutions of education.

2.4.1 Theorisation of curriculum genres

SFL research that is specific to pedagogic contexts has extended well over three decades (see accounts in Martin, 1999a; Rose & Martin, 2012). Influential scholars argue that schools have their own registers of education (e.g. Christie, 1989; Rose, 2014). As Halliday reflects, for scholars such as Christie, 'school itself (is seen) as a context of culture' where 'special registers of education' have emerged (1991, p. 288). Like the broad theorisation of context, the social activity of schools is theorised with a stratified model of context, as illustrated in Figure 2.4. At the most abstract level of meaning is the construct of a curriculum genre (Christie, 1997, 2000, 2002). Curriculum genres represent social activity that organises and enacts institutionalised teaching and learning. In line with the theorisation of register as a configuration of field, tenor and mode, curriculum genres are encoded by the three pedagogic register variables: pedagogic activities, pedagogic relations between learners and between learners and teachers, and the modalities of learning (Rose 2014). These pedagogic register variables are encoded in texts by specific semiotic resources that construe ideational, interpersonal and textual meanings. This representation of social activity in schools is consistent with the stratified and metafunctional theorisation of meaning in SFL theory. In other words, the core theoretical principles are retained, but the parameters for where and why social activity takes place are further specified.
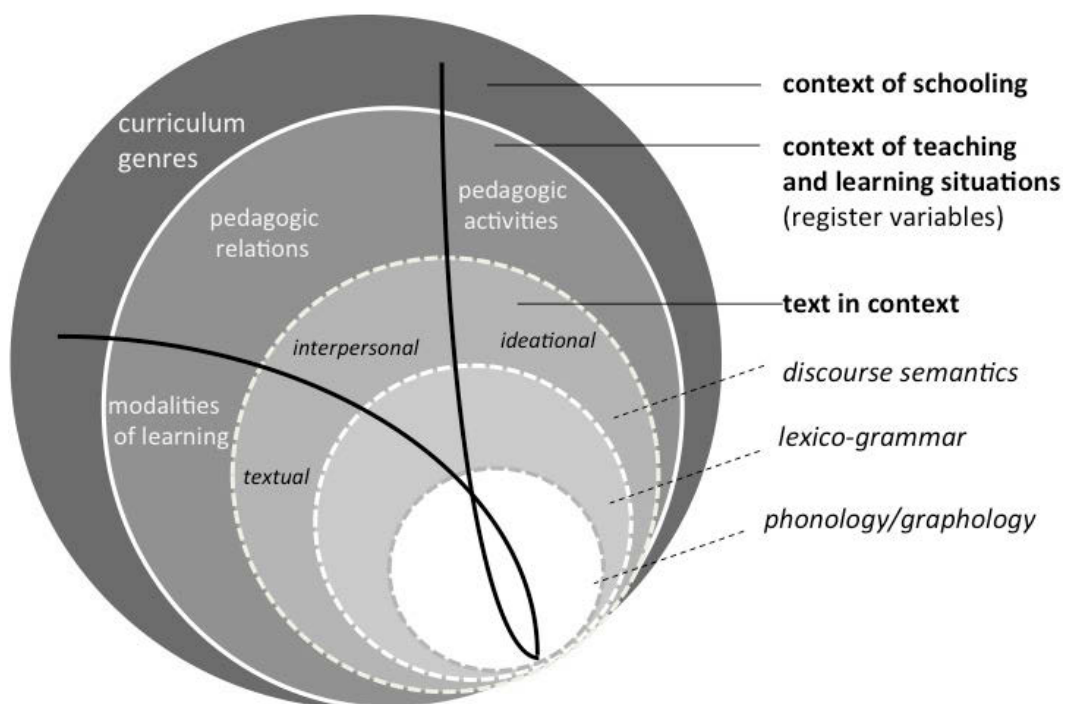
Figure 2.4: Pedagogic practice in a stratified model of context
(Adapted from Rose, 2014; Rose & Martin, 2012; Martin & White, 2005)

2.4.2 Differentiating curriculum genres from other genres

While SFL literature classifies curriculum genres in relation to contexts of teaching and learning in institutions, there is little explicit comparison between curriculum genres and the other genres that are involved in schooling. Here the 'other' relates to the social purpose and configurations of meaning in the texts that students are expected to read and construct, as opposed to the classroom talk that controls and brings about their creation. Current terminology for 'non-curricular' genres includes: 'knowledge genres' (Rose, 2014), 'common genres' (Martin & Rose, 2007a), and 'genres in school' (Rose & Martin, 2012). These terms are problematic because differences cannot be exclusively defined by contexts of use (i.e. both are created 'in school' settings), nor by their frequency of use (i.e. 'common' to which contexts and which language users?) and nor by a lack of association with 'knowledge' (i.e. how can a genre that represents the organisation of teaching and learning *not* be about knowledge?). The clearest

point of general distinction seems to be that only one class of genre organises and enacts the social process of teaching and learning (a curriculum genre). The 'other' is a semiotic artifact that is engaged with or constructed as a result of classroom interaction. In this sense, the 'other' is the target of pedagogic activity. Students might, for instance, be directed to read a report genre, write an argument, or produce a digital story. These genres represent what classroom activity is directed towards. In other words, they are the 'target genres' of institutional learning. As Rose (2014, p. 3) articulates, the genres that are the focus of teaching and learning are the means 'through which institutional knowledge is acquired' (hence his preference for 'knowledge genres'). In spite of challenges with terminology, the main point is that the enactment of a curriculum genre provides a pathway for students to engage with the 'other' target genres.

The difficulty with classifying curriculum genres in relation to other genres reflects an imbalance in current SFL literature. It is difficult to precisely encapsulate how curriculum genres vary from the target genres of schooling because there has been a far greater emphasis on researching and classifying *what* students have to read and construct. Extensive research has, for instance, culminated in typological and topological representations (see Appendices 1a and 1b) of many of the genres involved in institutional teaching and learning (see Rose & Martin, 2012; Martin & Rose, 2008). This research has been concerned with understanding the social functions of the target genres of schooling and the linguistic resources that achieve those functions. More specifically scholars have explored disciplinarity and modality, including the spoken, written, pictorial, graphical and musical elements of texts. Considerable attention has been directed towards understanding the semiotics of genres in disciplines such as (but not limited to) Science, English and History, as represented in Table 2.1. A primary motivation for extending genre research into pedagogic contexts is to increase teacher knowledge about language, as early accounts of genre analysis in school settings record (e.g. Martin, 1984, Rothery, 1986).

Discipline	Sample collection of key research publications
Science (including Biology)	Martin, 1990; Lemke, 1990; Halliday & Martin, 1993; Veel, 1997; Lemke, 1998a, 1998b; Martin & Veel, 1998; Korner, McInnes & Rose, 2007; Humphrey & Hao, 2011; Hao & Humphrey, 2012, Macnaught et al, 2013
English	Rothery & Macken-Horarik, 1991; Rothery, 1994; Christie & Dreyfus, 2007; Christie & Humphrey, 2008; Unsworth, 2008a; Christie & Macken-Horarik, 2011; Macken-Horarik & Morgan 2011; Unsworth & Thomas, 2014; Unsworth & Macken-Horarik, 2015
History	Eggins, Wignell & Martin, 1993; Coffin, 1997; Veel & Coffin, 1996; Martin, 2003; Schleppegrell, 2004a; Coffin, 2006; Martin et al, 2010; Martin & Matruglio, 2013; Matruglio, 2014

Table 2.1: A sample of the extensive research into the target genres of schooling

In contrast to extensive research on the target genres of schooling, SFL scholars have directed far less attention towards detailed linguistic analyses of curriculum genres. Research has tended to focus on the design principles and theoretical rationale behind curriculum genres (e.g. Rothery, 1996; Martin, 1999a; Martin, 2007) and their use in designing units of work and syllabi (e.g. Rothery & Stenglin, 1995; Humphrey & Takans, 1996; Feez, 1998; de Silva Joyce & Feez, 2012). However, two growing areas of linguistic analyses involve the structuring of pedagogic activity and close analyses of micro-interactions between teachers and students. Each of these areas is now briefly discussed.

As Christie (1997, p. 135) surveys, there is 'wide recognition' that social activity in schools 'has a purpose and a structure and a sequence of steps in which these are achieved'. Her analyses of curriculum genres reveal a *serial structure*. This term refers to the way curriculum genres unfold 'through a series of incremental stages' (Christie 2002, p. 126). However, Christie has also shown that some curriculum genres have an *orbital structure* (after Martin, 1996; Iedema, 1994, 1997; White, 1997, 1998). This structure is more thematically (or 'experientially'

in SFL terms) organised where *satellite* elements are 'intimately connected to' a *nuclear* element (Christie, 2002, p. 128-132). The potential for both serial and orbital structuring is a characteristic that curriculum genres share with the target genres of schooling (see Martin & Rose, 2008). However, Christie's research highlights how a distinctive feature of pedagogic activity is that it moves towards 'a culminating task' (Christie, 2002, p. 126). That is, a series of lessons all have a relationship to and prepare students for assessed (and often independent) activity.

Further differences between curriculum genres and other genres emerge in the analyses of micro-interactions between teachers and students. Linguistic analyses have shown how a distinctive feature of curriculum genres is that their enactment involves one discourse controlling and introducing and another. In Christie's terms (after Bernstein 2000) a *regulative* register introduces and manages an *instructional* register where 'content and 'specialized skills' are imparted and evaluated (2002, p. 25). A further distinctive characteristic of curriculum genres involves the iterative patterning of teacher-student interaction. While this area of research has long been the focus of classroom discourse analysis (see section 3.1), SFL research has begun to illuminate the flow of meanings in classroom talk. In particular, research has focused on shifts in interpersonal relationships between the teacher and students (e.g. M. Berry, 1981, 1987; Hunt, 1991; Martin, 1992; Love & Suherdi, 1996; Martin, 2006; Rose, 2010, 2014; Lander, 2014; Martin & Dreyfus, in press). It has also started to explore the structuring of classroom talk around the meanings that students express (e.g. Rose, 2005, 2006).

This study continues the examination of curriculum genres. It acknowledges a broad distinction between the curriculum genres that organise social activity in schooling and the target genres that are the focus of social activity. This distinction is important to this study because it separates the genres that teachers and students are writing from the discourse that is used to bring about their creation. Further examination of curriculum genres aims to increase our understanding of what makes curriculum genres distinctive.

2.5 A curriculum genre to teach writing

The analyses of curriculum genres focuses on one pedagogic model, called the Teaching and Learning Cycle (TLC) (Callaghan & Rothery, 1988; Rothery & Stenglin 1995; Rothery, 1996). This model emerged from concerns not only with *what* students were expected to read and write, but also with *how* knowledge about language could be explicitly taught.

The TLC model is commonly referred to as genre-based literacy pedagogy (Martin & Rose, 2005, 2007b). It involves 're-articulating' theoretical understandings of language and language use in linguistics to provide 'workable characterization(s)' of the target genres of schooling (Martin, in press). As Feez describes, genre pedagogy aims to identify and explicitly teach 'what people need to be able to do with language in order to be successful in education, in the community, and in employment' (2002, p. 44).

The Teaching and Learning Cycle organises writing instruction in three iterative steps. This cycle is represented in Figure 2.5 and is underpinned by at least two core pedagogic principles. First, teacher support is gradually reduced as students build knowledge about language and their writing topics across a sequence of texts. Second, support anticipates areas of literacy that students need to develop. Both these principles contrast strongly with process writing methodologies where most supportive teacher-student interaction occurs after students have drafted their text (Painter, 1986). This section describes each of three main steps in the Teaching and Learning Cycle. The theoretical influences are further discussed in the next section.
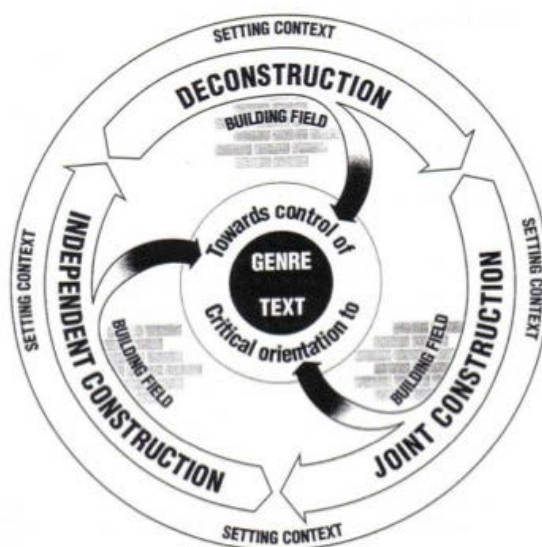
Figure 2.5: The Teaching Learning Cycle for genre-based writing pedagogy
(Rothery & Stenglin, 1994, p. 8)

In the first step of *deconstruction*[8], students are guided through the analysis of model texts. Teachers explicitly identify and describe the structure and linguistic features of texts in relation to their overall generic function. While the teacher and students may discuss individual patterns, there is also the potential to explore how combinations of linguistic features contribute to distinctive stages of unfolding meanings. That is, close text analysis can connect patterns at different strata, or levels of language, and explore the collective impact of combinations of field, tenor and mode choices. Teachers commonly use several models to show variation within a specific kind of target genre (Humphrey & Macnaught, 2011). Detailed analysis of the target genres involves developing a shared metalanguage with which to talk about texts. Such talk contributes to building critical awareness of the interaction between language selection and immediate contexts of language use. The overall goal of this step is to make visible the language choices adopted by writers for specific social purposes. In terms of writing assessment, the analysis of exemplar texts also sets clear expectations about key aspects of

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[8]Lower case is used here to label each step, following the genre labelling conventions of Martin and Rose (2008) where genres are in lower case letters and constituent stages are in capitals.

language use which students need to understand and demonstrate control of in their own future writing.

The next step in the cycle is a form of teacher-led collaborative writing called *joint construction*. This middle step is the focal point of this study. In joint construction, teachers guide students to collaboratively produce a target text or part thereof. The co-created text is commonly of the same genre as the model texts, but there may be a shift in field, i.e. content, or subject matter (Rothery, 1994; Martin & Rose, 2007b). The goal of jointly constructing a text is to carry over shared knowledge about language use from the *deconstruction* step into the process of actually crafting a new text. This step is designed with the principle of *guidance through interaction, in the context of shared experience* (Martin, 1999a, Martin 2000; after Painter 1985). In terms of teaching academic writing to advanced language learners, *guidance through interaction* involves reflecting on and talking about contextualised language choices at the time of text creation. In particular it involves negotiating differences between student engagement with English in everyday contexts, such as shopping, listening to the radio, reading and watching news, and the academic language of schooling (Martin & Rose, 2005, 2007b). *Shared experience* refers to shared textual experience. This includes both shared knowledge of the field of the topic for writing and also shared understandings about the organisation and prominent features of the target knowledge genre. As literacy educators like Cazden and Gray (1992, p. 7) reflect, without 'common ground' or a 'shared agenda', classroom interaction and student participation run into difficulty.

In the final step of *independent construction* students integrate what they have learned in prior steps and write a text by themselves. Depending on their familiarity with the writing task the class may not necessarily begin with the step of *deconstruction.* However, when writing unfamiliar linguistically challenging academic texts, teachers who are trained in this methodology usually move through at least two prior steps of support before students write without assistance (Hammond, Burns, Joyce, Brosnan & Gerot, 1992). Some practitioners extend this

step by using the independently constructed texts in further cycles of analyses and drafting (Mahboob & Yilmaz, 2013, Humphrey & Macnaught, to appear).

Collectively, each step in the Teaching and Learning Cycle forms a curriculum macro-genre (Christie, 1997, 2002, after Martin 1994). Each individual step is a curriculum genre in its own right, with distinctive configurations of field, tenor and mode. However, the serial sequencing of each genre forms a genre complex. In Christie's (2002) terms this genre complex involves the three main steps of: curriculum initiation (deconstruction), curriculum negotiation (joint construction) and curriculum closure (independent construction). In more recent modeling of this cycle, reading activities are connected to writing activities to form a more elaborate and integrated macro-genre (see Rose, 2005; Rose & Martin, 2012).

Most research on the Teaching and Learning Cycle has focused on its use in primary and secondary school teaching (e.g. Martin & Rothery, 1980; Martin & Rothery, 1981; Rothery, 1994, 1996; Derewianka, 1990; Veel, 2007; Brisk & Zisselberger 2010; Macnaught et al, 2013; Oliveria & Lan, 2014; Brisk, 2015; Polias & Forey, to appear in 2015). Additionally, there is a growing body of research that explores adapting the TLC to other teaching contexts. These contexts include, adult migrants (Feez, 1998; 2002; Hammond, 1990), indigenous children and undergraduate students (Rose et al, 2003; Rose 2005, 2010c), online language instruction for undergraduate students in an overseas university (Mahboob et al, 2010), and post-graduate classes with a high percentage of international students (Humphrey &Macnaught, 2011; Humphrey & Dreyfus, 2012). However, as Humphrey & Macnaught (2011) report, documented practices of genre pedagogy with advanced learners have tended to focus on deconstructing model texts rather than the middle step where teachers write with students (e.g. Woodward-Kron & Thomson, 2000; Drury, 2004; Jones, 2004).

One possible reason for greater documentation of deconstruction is that the process of guided text construction is not yet well enough understood. While the step of deconstruction draws on decades of research that has analysed target genres of schooling, there is far less research that discusses or exemplifies *how* a

teacher and students work together to co-create a text. Past studies of joint construction have identified common stages in joint construction lessons. In their analysis of lessons with advanced language learners, Humphrey and Macnaught (2011) draw on the work of Hunt (1991, 1994) to analyse three distinctive stages of *Bridging*, *Text Negotiation* and *Review*. The first stage of Bridging links text analysis from the *deconstruction* step to the upcoming collaborative writing task. This is achieved by revisiting shared knowledge of the genre and writing topic and also by planning the content and sequence of the forthcoming text. The next stage is *Text Negotiation* where the co-creation of a text takes place. The teacher's role is to guide students to use shared knowledge from prior lessons to construct a target text. Classroom interaction in the *Text Negotiation* stage involves pedagogic activity to create, reflect on and rework a communal text, as Dreyfus, Macnaught and Humphrey (2011) have begun to explore. In the *Review* stage, teachers and students make final modifications to their co-created text, as they assess and critique their language choices. These three stages are illustrated in Figure 2.6.
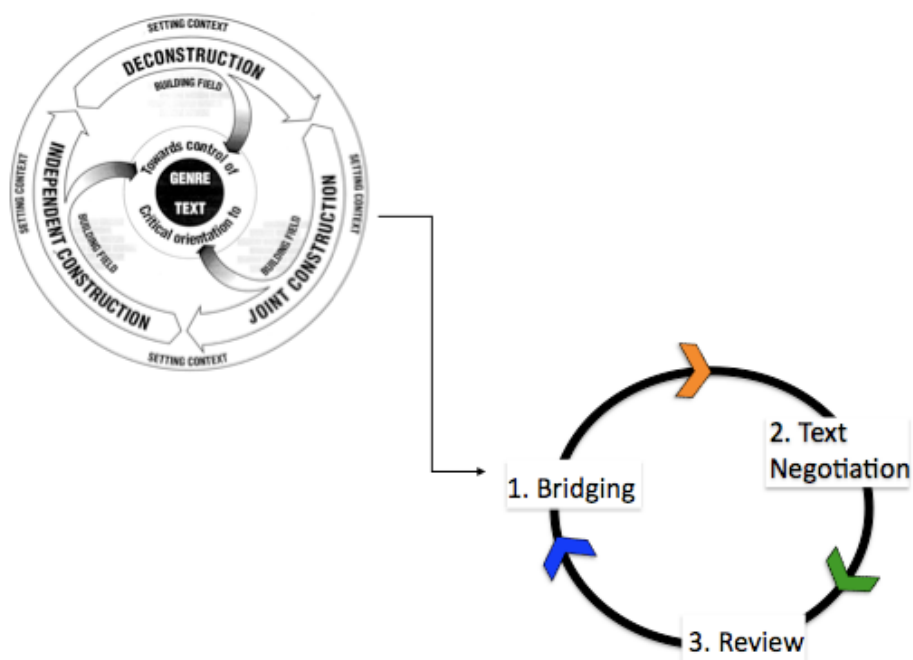
Figure 2.6: Common stages within the genre of joint construction
(Humphrey & Macnaught, 2011, p. 105)

The present study focuses on the *Text Negotiation* stage of joint construction. It aims to develop a better understanding of what 'guidance through interaction' entails (Martin, 1999a). It is particularly concerned with *how* an exemplar text is gradually co-created without teachers providing wording and taking over the writing process. A second area of interest is how writing activity in the current lesson is related to writing activity in the future. This is a focal point because joint construction is designed as a preparatory step before students make independent language choices.

2.5.1   Theoretical influences on the Teaching Learning Cycle

The pedagogic goals of jointly constructing texts need to be understood in relation to the theoretical influences behind the design of the Teaching and Learning Cycle. The TLC is inspired by longitudinal studies of parent-child interaction. In terms of theorising the nature of language learning, of particular influence is the research of Clare Painter (1984, 1985, 1999). She considers the way parents intuitively provide high-level language assistance while children are learning their mother tongue. Painter's research illuminates how parents and carers support a child's new meaning-making in a number of ways, including: modeling new language, providing the opportunity to display new knowledge, offering encouragement and praise, interpreting back their understanding for the child to confirm or clarify, negotiating new meaning with the child until shared understanding is reached, and extending children's responses so that language support is ahead of what children can currently independently produce (Painter, 1985). These findings are considered in relation to the various steps of literacy support in the TLC, as shown in Figure 2.7. *Deconstruction* involves modeling new language; *joint construction* involves interpreting back and negotiating contributions until shared understanding is reached; and *independent construction* involves the independent use of new language.
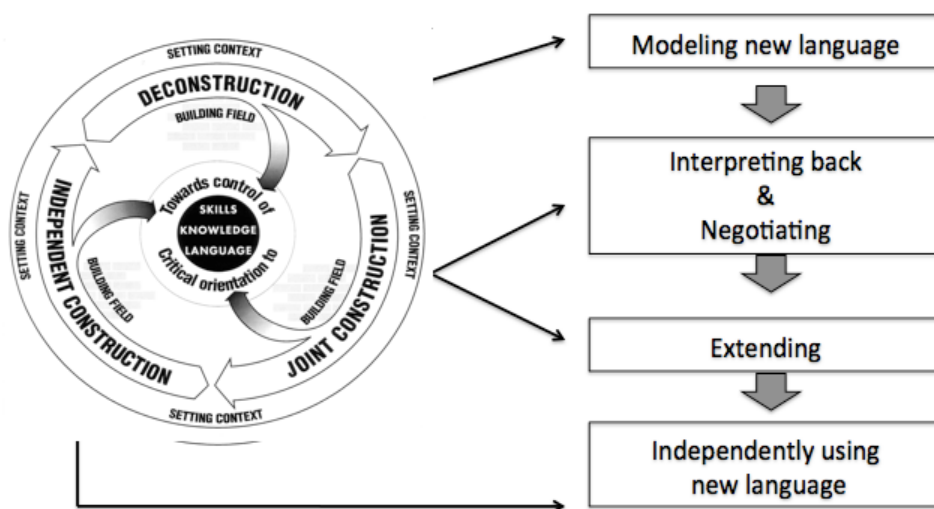
Figure 2.7: The influence of Painter's language studies on the design of the Teaching Learning Cycle

Painter's analyses draw upon Halliday's (1985) social semiotic theory of language and language learning. Her longitudinal studies contribute to a substantial body of SFL research on language development in early childhood, as outlined in section 2.3.2.3. These studies highlight the crucial role of more expert language users in a child's language development. They also stress the importance of a social environment where children learn what language is used for (French, 2013). As Painter (2006, p. 138) observes, language learning fundamentally involves engaging 'in dialogue with others'. Young learners do not (and are not expected to) produce texts in isolation. Rather, interaction is driven by interpersonal reasons to share, connect and communicate. Other interlocutors who have greater control of language participate in the creation of texts (Painter, 2006). Painter therefore reasons that it 'makes sense to devise writing tasks that have an interactional basis' rather than interacting after learners have completed the task (1986, p. 82). Inspired by this research, Rothery (1994, 1996) and colleagues explored how teaching and learning writing could involve supported interaction and explicit instruction.

2.5.2 Complementary perspectives on the role of social interaction in teaching and learning

Understanding the role of social interaction in learning is a shared concern in the fields of psychology and educational psychology. In particular, Vygotsky's (1978, 1981) studies of human development and Bruner and colleagues' (Wood, Bruner, Ross, 1976; Bruner, 1986) studies of tutoring place emphasis on the importance of interacting with more expert others in processes of learning. The relevance of these contributions is now briefly discussed in relation to the Teaching and Learning Cycle model.

2.5.2.1 The centrality of language in human development

Although Vygostky does not theorise the nature of language, he argues that learning is socially mediated over time (Gray, 2007; Hasan, 2005). A central tenent in his theorisation is that individual consciousness is first developed from the outside (i.e. through interaction with others) through what Vygostky calls the 'inter-psychological plane'. Then, over time, cognitive development is established inside the individual on the 'intra-psychological' plane (1981). From this psychological perspective, interaction with more knowledgeable others is central to processes of individual development (Vygotsky 1978). The main implication for pedagogy is that instruction is only useful when it 'marches ahead of development', rather than lagging behind it (1978, p. 89-90). Vygotsky describes the learning space where social interaction is in advance of a learner's current development as the *Zone of Proximal$_9$ Development* (ZPD) (1978, p. 86).

While there are varied readings of Vygotksy (see Cazden, 1996 and Daniels, 2007), his contribution is often cited to support pedagogic practices where teachers take an interventionist role (e.g. Martin, 1999a, 2006; Rose & Martin, 2012). The pedagogic steps of the TLC are attuned to Vygotsky's theories. The preparation for individual writing involves the interactive processes of analysing and co-creating a text with a more expert writer (i.e. the teacher) taking a leading role. Students are supported to extend their knowledge about language when they

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[9]Also referred to as the Zone of Potential Development according to Simon's (1982) translation.

analyse texts, and the jointly constructed text is ideally of a higher standard that students can currently produce alone. In this sense, the pedagogic practice of joint construction privileges the role of social interaction in language learning and also the explicit teaching of knowledge about language. It can be positioned in relation to other pedagogic practices that are underpinned by theories that privilege individual processing in learning and/or implicit knowledge about language. These relationships are illustrated in Figure 2.8.
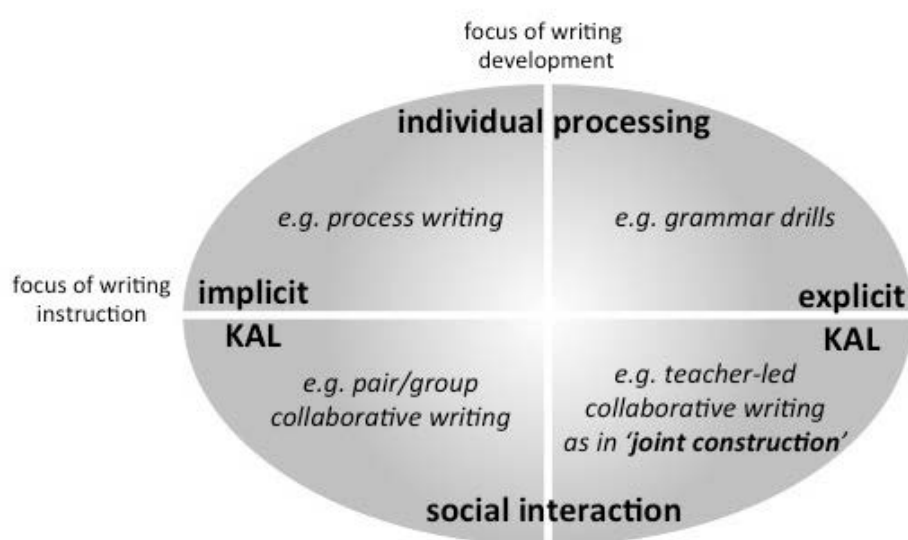
Figure 2.8: Classroom writing practices in relation to the focus of language learning and teaching

The topology in Figure 2.8 is inspired by Bernstein's (1990) more elaborate theorisation of types of pedagogy (as introduced in section 2.1). It represents classroom writing practices that are arguably aligned with the different combinations of what is privileged in writing instruction and development. The two intersecting dimensions are: the extent to which knowledge about language (KAL) is implicit or explicit in classroom writing instruction (the horizontal axis); and the extent to which the focus of writing development is seen to be an internal, individual process or one that requires social interaction (the vertical axis). An important distinction for this study is the difference between pedagogic practices in the bottom left and right quadrants, i.e. collaborative writing between

students (as in, Storch & Wigglesworth, 2007; Storch & Aldosari, 2013) and collaborative writing that is teacher-led[10] (as in Rothery, 1996; Humphrey & Macnaught, 2011; Macnaught, Maton, Martin, and Matruglio, 2013). Collaborative writing activity between students may be underpinned by theoretical reasoning that privileges social interaction in writing development, but teachers may not always explicitly share their knowledge about language. In contrast, in 'teacher-led' collaborative writing practices such as joint construction, teachers explicitly talk about language as a core part of co-constructing a text.

2.5.2.2 The principle of scaffolding

Studies in the field of educational psychology have also considered the role interaction and guidance from more expert others in the process of learning. In terms of designing pedagogy, a particularly influential construct is the principle of *scaffolding*. Originally introduced by Wood, Bruner & Ross (1976), the term scaffolding describes instructional support where learners 'carry out new tasks while learning strategies and patterns that will eventually make it possible to carry out similar tasks without external support' (Applebee & Langer, 1983, p. 169). This principle is based on analyses of interactions between tutors and children, as described by Bruner (1986):

> *'In general, what the tutor did was what the child could not do. For the rest, she made things such that the child could do <u>with</u> her what he plainly could not do <u>without</u> her. And as the tutoring proceeded, the child took over her parts of the task that he was not able to do at first, but with mastery became consciously able to do under his own control. And she gladly handed these over'* (p. 76, original emphasis).

In terms of writing instruction, the principle of scaffolding is related to a range of pedagogic practices. Practices that are relevant to the design of the Teaching and Learning Cycle include: teachers providing 'emulative models'; 'jointly constructing' texts with learners; using classroom talk to make what is important

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[10]Christie (2002) makes the distinction between 'collaboration' (where students work together) and 'negotiation' where teachers work with students and share their expertise.

explicit; and gradually withdrawing support as learners gain control of tasks (Gray & Cazden, 1992, p. 23). In such practices, the teacher's role is to develop learners' 'autonomous control over the production of the text' (Gray & Cazden, 1992, p. 23). Additionally, learning sequences and classroom interaction ideally prepare students for success rather than repairing their initial attempts (Rose, 2005).

2.5.2.3 Scaffolding in relation to the Zone of Proximal Development

The complementary constructs of the principle of scaffolding and Vygostky's Zone of Proximal Development are represented in Feez's (1998) diagram in Figure 2.9. This figure draws attention to the diminishing nature of teacher support in relation to a learner's progress.

SCAFFOLDING

Independent learner performance with no contribution from teacher

Diminishing contribution from teacher as learner's independent contribution increases

Significant contribution from teacher to support dependent contribution from learner

Learner's entry level assessed by teacher

LEARNER PROGRESS

Potential performance

Zone of Proximal Development

Existing independent functioning

Figure 2.9: The complementary concepts of the principle of scaffolding and a Vygostkian modeling of development
(Feez, 1998, p. 27)

Historically, the principle of scaffolding was explicitly linked to Vygostky's Zone of Proximal development, during Cazden's trip to the Soviet Union, in 1978

(Stone, 1988 in Daniels, 2007; Cazden, 2009 in personal correspondence). Prior to grounding the notion of scaffolding in Vygostky's theories, it was used 'in a largely pragmatic and atheoretical manner' as a general 'instructional metaphor' (Daniels, 2007, p. 317). One key reason why Vygotksy and the principle of scaffolding gained increasing interest with SFL literacy educators and researchers was through Courtney Cazden's visit to Brian Gray's Traeger Park project. Cazden and Gray share an interest in minority language education. In the early 1990s, Cazden visited the Australian rural township of Alice Springs to see the teaching program and curriculum that Gray and Cowey were developing for Aboriginal children (see Gray & Cazden, 1992). Their work is now referred to as the National Accelerated Literacy Program (see Gray, 2007). A detailed account of its development appears in Gray's PhD thesis (1998). Gray explicitly connects the concepts of scaffolding, ZPD and Cazden's (1977) concentrated encounters to create underlying principles for his literacy program. Under the PhD supervision of SFL scholar, Frances Christie, Gray also uses systemic functional theories of language in his analysis. His intervention design, analysis of classroom interactions, and informing theoretical frameworks have been of interest to TLC designers and the wider SFL community[11].

For a time, Gray and Cowey also collaborated with David Rose, another functional linguist and pedagogy designer. Rose went on to develop the *Reading to Learn* program (see www.readingtolearn.com.au). Like Gray, Rose problematises and proposes alternatives to dominant literacy practices that do little to change poor outcomes for students in linguistic and socio-economic minorities (see Rose & Martin, 2012). Rose's has extended the TLC design to integrate reading, as previously noted. His early connections to Gray and Cowey (see their co-authored publications: Gray et al, 1996; Rose et al, 1999), a keen interest in changing educational outcomes for aboriginal students, as well as decades of collaboration with prominent SFL scholars have contributed to on-going refinement of genre-based literacy pedagogy. Thus, personal relationships amongst literacy educators and researchers, as well as the circulation of literature

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[11]Martin (see 2000) also visited Gray at Traeger Park School in Alice Springs

(see especially Bruner, 1986 and Applebee & Langer, 1983) have opened a dialogue between the TLC design, the principle of scaffolding, and Vygotskian theories of language development.

2.5.2.4 Scaffolding in second language development

Scholars working more specifically with second language development and Systemic Functional Linguistics and have also drawn on Mariani's (1997) 'high challenge, high support' conceptualisation of scaffolding (see discussion in Hammond & Gibbons, 2001, 2005; Gibbons, 2006; Hammond, 2006). Mariani's conceptualisation of scaffolding promotes a future-oriented trajectory of language development, i.e. a focus on what we want students to be able to achieve over time. His central message is that the principle of scaffolding encourages teachers to set their expectations high, but also provide students with a high level of support. He reasons that this combination contributes to the extension of learning and students' capabilities. Mariani's message resonates with educators who argue that weaker students should be regarded as having greater potential to develop rather than having a greater intellectual deficit (see for example R. Alexander's (2001, p. 370) discussion of Muckle's (1990) writing). Mariani proposes that alternate combinations of degrees of challenge and support lead to undesirable educational outcomes, such as failure, low motivation, boredom, or minimal learning, as represented in Figure 2.10.
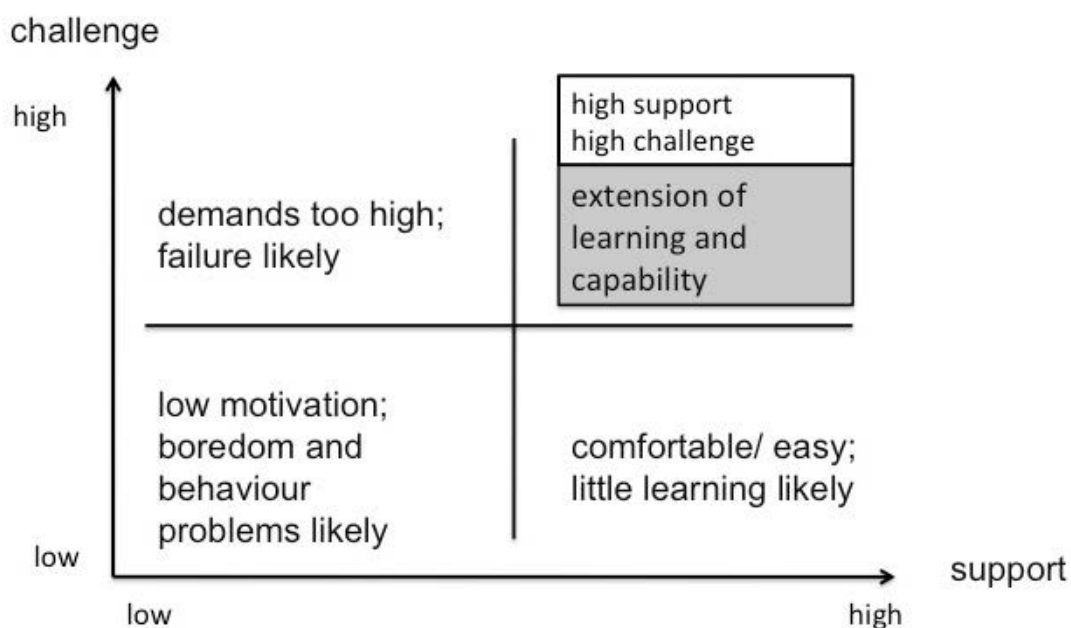
Figure 2.10: Mariani's conceptualisation of scaffolding
(Adapted from Hammond & Gibbons, 2001)

In terms of the TLC design, the principle of *high challenge and high support* has implications for the choices of texts and teacher-student talk patterns. Ideally, texts should be difficult enough to extend learners. Classroom talk should support students to analyse and create texts successfully. The combination of high challenge and high support means that pedagogic activities should be difficult but achievable with explicit guidance. A specific contribution of this study is to consider scaffolding in relation to the enactment of the joint construction. In particular it focuses on what students do and how they are supported to make successful contributions to a jointly constructed text.

2.5.3   Genre pedagogy and adult second language learning

The above discussion of the Teaching Learning Cycle makes clear that its design is primarily influenced by language studies of children in their mother tongue. In this sense, genre-based literacy pedagogy follows many other L2 pedagogic practices that commonly have roots in L1 research and writing instruction (Raimes,

1991; Ramanathan & Atkinson, 1999; Warshauer, 2002). Any significant shift in teaching contexts, such as using the TLC model with adult second language learners, raises concerns about its adaptability. Christie and colleagues (1991) have articulated this concern as follows:

> *'There have been significant critiques of the dangers inherent in universalising research findings and pedagogy from one culture or social group to all. Language teaching and practices developed with white Anglo-Saxon middle-class children can be problematic when applied to other groups…This has the effect of masking factors such as class, culture, gender and ethnicity, thereby disguising social problems and individual problems'* (p. 244).

SFL scholars and educators commonly highlight a combination of motivating factors for the use of the TLC in different teaching and learning contexts (see in particular Hammond et al, 1992a, 1992b; Burns, 1990; Hammond, 1990; Feez, 2002; Christie 1999; Christie & Unsworth, 2005). The first factor is about a reaction to prior approaches to teaching English as a second language (ESL). Prior to genre pedagogy, many popular methods 'maintained an overall focus on spoken language' development, as typical of *situational English, communicative language teaching,* and the *functional-notional approach* (Hammond et al 1992a, p. 54). The TLC also reacts to a skills-based approach where only 'special focus' lessons are dedicated to reading and writing (Hammond et al 1992, p. 9). In light of these practices, a key motivation for using genre-based pedagogy is to integrate the artificially isolated four 'macro skills'. That is listening, speaking, reading and writing activities are connected to support students with the independent construction of target texts. Such integration involves using genre theory and genre pedagogy in instructional design.

At the core of re-articulating linguistic understandings of genre theory into educational practices is using the concept of genre for 'mapping curricula' (Martin, 2009). In the adult migrant sector, for instance, 'needs-based programs' have been' re-formulated in terms of genre, by way of establishing explicit goals'

that are 'measured in relation to outcomes-based curricula' (Martin, 2009, p. 11). These outcomes have a discourse orientation where assessment focuses on what learners are expected to do with language. As Feez (2002, pp. 58-65) explains, expectations about learning are articulated in terms of general text categories and their connection to macroskills, such as 'write a description' and 'read a set of instructions'. Additionally, language features to achieve those outcomes are also identified for explicit instruction.

In curricula design, a genre lens focuses on a progression of gradually more complex texts. Learning language is contextualised according to language patterns that are prominent in each text. As texts progress in complexity, previously learned language features are subsumed and added to. This allows learners to experience repetition, increase their understanding and engage with on-going extension of their current knowledge. In Bruner's terms, such cumulative design resembles a spiral curriculum (1960). This integrated approach is a distinct alternative to segmented curriculum design, which tends to focus on covering a range of topics and language features, but without a principled approach to the sequence in which these unfold. Spiral curricula based on a succession of genres are discussed and exemplified in several key publications, including: Feez & Joyce, 1998; Hammond et al, 1992b; Martin, 2009, and Humphrey & Hao, 2011. When genre-pedagogy was first being adapted to adult second language learning, 'genre spirals' had appeal because they encouraged a principled, systematic and cumulative approach to planning the study trajectory of language learning (see discussion in Feez, 1998, 2002).

A third motivating factor focuses on using functional linguistics to articulate differences between spoken and written language. As Hammond argues, a close analysis of written texts challenges the erroneous assumption that 'writing is simply speech written down' (1992, p. 9). Hammond and colleagues encourage students to view written texts 'as crafted objects' that can be analysed for their similarities and differences with spoken texts (1992, p. 9). In the TLC steps, *deconstruction* and *joint construction* provide the opportunity to 'convert and reshape language from the spoken to written mode' (Hammond et al, 1992, p.

21). This approach contrasts with inadequately preparing students for writing just by chatting about a topic (Hammond 1992, p. 13). Teachers and students can draw on functional linguistic understandings of language to identify and then practice how spoken language changes in relation to a mode-shift to writing. This process of building knowledge about mode and other dimensions of language also involves exploring how combinations of language features work together (see exemplification in Jones et al, 1989). The teaching of clusters of language features contrasts with isolated grammar exercises.

Collectively, these factors point to the applicability of the TLC across a variety of teaching and learning contexts. At the most general level, the TLC steps and cycle iterations aim to prepare students for tasks through explicit instruction. In conjunction with functional linguistic understandings of language and genre, the TLC encourages the integration of language skills and exploration of how language choices relate to mode, function, and situations of language use. The unit of genre is also useful for long-term planning of student learning trajectories in curriculum planning. These design elements are not specific to a certain level of language proficiency or group of learners. This is primarily because the TLC steps can be adapted and 'filled-in' by teachers to suit the learning needs of their students. In her reflections, Feez (2002, p. 86) notes that a key characteristic of the TLC design is that it allows teachers to draw on a variety of classroom teaching methods that were once in vogue, but have been 'left behind in the evolution of language teaching theory and practice'. For example, Feez (1998, pp. 29-30) positions popular ESL activities, such as cloze exercises, vocabulary networks and jumbled sentences, as activities that can contribute to the modeling and *deconstruction* step of the TLC. Thus the primary steps of genre pedagogy encourage teachers to strategically relocate familiar methods into a principled teaching and learning sequence (Feez, 2002, p. 86).

As yet, research has not brought into sharp focus comparative differences between TLC use with different groups of learners. One contributing factor is that the breadth of genre-based research has perhaps been at the expense of longitudinal studies to critique and assess the impact of this method. A

contribution of this study is to lay the groundwork for future longitudinal studies that involve joint construction with second and additional language learners. By closely analysing teacher and student activity, much of this study identifies the 'moving parts', i.e. what teachers and students do and relationships between their actions. This provides a foundation upon which to more closely examine the manner in which teachers and students negotiate meaning, as chapter 6 investigates.

2.6   Research on classroom discourse analysis

As is typical, classroom discourse analysis in this study centres on interaction between teachers and students. Their interaction creates texts in classroom contexts of language use. In this study, analysis of such texts is seen as central to understanding how teachers and students enact the writing methodology *of* joint construction *(s*ee further discussion in chapter 3). As noted above, the parameters of data do not extend to 'broader social and political contexts' within which classroom discourse is located, as valued by critical discourse analysts (Hammond 2011, p. 297). However, social relations around knowledge construction are examined with SFL tools, as evidenced by the negotiation of power relations in discourse patterns. (See interpersonal analytical tools in chapter 3). In terms of alternate approaches to discourse analysis, the findings of this study provide the foundation for further critical examination and assessment of joint construction.

Classroom discourse analysis is shaped by traditions within sociology, linguistics, and applied linguistics (Hammond, 2011; Christie, 2002). These traditions have involved a range of research methods and tools of analysis, including ethnography, conversation analysis and systemic functional linguistic discourse analysis (Rampton et al, 2002; Ellis, 2012). The rise of sociolinguistics, in the late 1960s, emphasised the documentation and examination 'of relationships among speakers, contexts and educational experience' (Freebody 2003, p. 95). As Edwards and Westgate (1987, p. 1) explain, 'professional interest in classroom language has grown with the recognition of its centrality in the process of learning and its value as evidence of how relationships and meanings are organised'. In

short, how and why people create texts, not just the end products or artefacts of social activity, has become important. Key research areas that are relevant to this study's linguistic analysis include: the identification of dominant classroom talk patterns and their variation, the organisation of hierarchical units of analysis, the construct of a 'task', temporal dimensions in classroom activity, and the conceptualisation of metalanguage.

2.6.1 Dominant patterns in classroom talk and their variation

The identification of dominant tripartite teacher-student talk sequences has been an influential catalyst for detailed analysis of educational exchanges (Wells 1999). First noted by Bellack and colleagues (1966) as a *teaching cycle*, by Sinclair and Coulthard (1975) as *Initiation-Response-Feedback* (IRF) exchanges and by Mehan (1979) as *Initiation-Response-Evaluation* (IRE), this sequence has three parts: a teacher instigating interaction with students, one or more students responding and then the teacher providing feedback on students' responses (often in the form of evaluation). These tripartite IRF/ IRE sequences have been significant to classroom discourse analysis because they illuminate a discourse pattern that differentiates classroom talk with much other social activity. For example, sociological studies of conversation (e.g. Sacks et al, 1974) brought into focus the mechanics of two-part turn-taking, particularly with analysis of adjacency pairs, such as *question-answer* and *offer-accept*. However, at around the same time, the aforementioned studies of teacher-student talk have considered three successive moves as one distinctive iterating sequence. From a genre perspective, the prevalence of IRF talk patterns provides one key source of evidence that a curriculum genre (rather than another genre) is being enacted.

Early studies of classroom talk brought attention to the pervasiveness of IRF sequences in traditional classrooms. For example, in their respective primary and secondary school studies, Mehan (1979) and Sinclair and Coulthard (1975) report that approximately half of teachers' questions are part of rapid-fire IRF sequences. Subsequent studies suggest this figure could be even higher, with Nystrand (1997, p. 42) observing that up to 80% of teacher questions form IRF sequences that seek

'to elicit recall in recitation format'. Given the reported pervasiveness of IRF sequences, it is not surprising that the pedagogic purpose and value of this sequence has generated significant research interest and debate (see discussions in Dillon, 1988; Edwards & Westgate, 1987; Cazden, 2001; Tharp & Gallimore, 1991; Nystrand & Gamoran, 1991; van Lier, 1996; Wells, 1999; Nassaji & Wells, 2000; Christie, 2002; Rose, 2005; Martin & Rose, 2005; Dufficy, 2005; Gibbons, 2006, 2009; Hammond, 2011; Boyd & Markarian, 2011; Ellis, 2012; Park, 2014; Lander, 2014; Edwards-Groves et al, 2014).

The identification of IRF sequences has involved comparisons between traditional classroom interaction and modified IRF exchanges. Researchers argue that traditional IRF exchanges enable the teacher to quickly check students' current knowledge or understanding, demonstrate a sequence of steps and, if well planned, even probe students' thinking or consolidate learning (Gibbons, 2009; Christie, 2002). As van Lier (1996, p. 150) observes, 'at its highly skilled best, IRF interaction pushes the students to think critically and articulate grounds for their answers'. This pervasive talk pattern is illustrated in Table 2.2 example 1, where the teacher asks the student to recall the meaning of a key concept from a previous lesson.

Turn	Move	Example 1: A traditional IRF sequence	
1	I	Teacher	What is the circumference?
2	R	Student	All the way around.
3	F	Teacher	Right. Remember its called the perimeter of the circle.

Turn	Move	Example 2: A modified IRF sequence	
1	I	Teacher	What is the circumference?
2	R	Student 1	All the way around.
3	I	Teacher	All the way around what?
4	R	Student 1	The circle.
5	I	Teacher	Can you say that again? Remember that word we used yesterday to describe all the way around? The?
6	R	Student 1	Oh! Peri…
7	R	Student 2	Perimeter
8	R	Student 1	Perimeter
9	F	Teacher	Right.
	I		So the circumference is..?
10	R	Student 1	The perimeter of the circle.
11	F	Teacher	The circumference is the perimeter of the circle.

Table 2.2: Comparison of an IRF and modified IRF sequence

(Adapted from Gibbons 2009, p. 137. Original text retained)

The main criticisms of IRF talk patterns refer to the restricted nature of student participation. More specifically, criticism is launched at its limited potential to engage students in challenging extended classroom talk in which they can actually discuss and negotiate meaning. As Schleppegrell (2004b, p. 153-4) argues, IRF sequences can limit learning in some contexts because, amongst other factors, student responses are often single words or phrases. There is little

opportunity for more elaborate responses or responses where students' own ideas or questions can be explored. This concern is illustrated in Example 1 of Table 2.2 where the teacher asks: '*What is the circumference?*' A student replies with a short answer: '*all the way around*'. In this example, the teacher's prompt feedback or evaluation in the 3rd turn does not provide an opportunity for the student or other students to elaborate on or rework their original answer.

In contrast, modified IRF sequences involve extended interaction. In the second example of Table 2.2, the teacher delays evaluation to provide the opportunity for the student to extend and rework their initial response. In doing so, the teacher supports the student by drawing on shared knowledge of a past lesson (e.g. turn 5: *Can you say that again? Remember that word we used yesterday to describe all the way around? The?).* Additionally, in the process of reworking an answer, classroom peers also contribute (see turn 7, where student 2 says, '*perimeter*'). This example illustrates the potential for the third evaluative turn to work towards extending student responses, rather than close them down (Nassaji & Wells, 2000; Lee, 2007).

Since the identification of IRF sequences in classroom discourse, there has been growing interest in helping teachers use modified IRF sequences more frequently and deliberately (Wells & Arauz, 2006). Interest extends to literature about classroom interaction in second language development. Van Lier (1996, 2007) proposes that classroom interaction is one of three levels of pedagogic scaffolding: *micro-level scaffolding* pertains to supporting students through classroom talk; *meso-level scaffolding* involves the 'identification of classroom goals', 'organisation of the classroom', and planned sequencing and pacing of tasks in lessons (Hammond & Gibbons 2005, p. 12); and *macro-level scaffolding* describes student support in relate to overall curriculum design. While scaffolding at the *macro* and *meso* levels provide 'designed-in' support (Sharpe 2001), *micro* scaffolding refers to moment-to-moment' interactions with students (van Lier 2007, p. 60). Gibbons (2009) also refers to this level of scaffolding as 'interactional scaffolding, with 'contingent' characteristics (Hammond & Gibbons, 2005). This level focuses on dynamic interaction where teacher support is

dependent or contingent upon the nature of student contributions. It thus encompasses 'unpredictable' or 'uncertain' aspects of classroom interaction (van Lier, 1996, pp. 169-170).

With regards to working with student responses, one key area of debate is the extent to which IRF sequences can be modified spontaneously. Although van Lier suggests that 'balanced' classroom talk includes both 'planned innovation' and 'improvised innovation' (1996, 2007), he also concludes that we need 'interactional engineering' to manipulate canonised interactional structures such as the IRF sequence (1996, p. 165). His point is that teachers' patterns of interacting with students are so in-grained that a degree of planned conscious change is needed to create variation. Rose (in press-b) makes van Lier's point even more strongly. He argues that in-grained patterns of classroom talk contribute to creating and reproducing inequalities in educational outcomes. Analysis of classroom interaction, therefore, needs to bring the structures of classroom discourse to consciousness with the goal of renovating them. This section now briefly introduces the work of Rose (2005, Rose & Martin 2012) who makes a significant contribution towards specifying how to modify IRF sequences.

Rose's analysis of classroom talk structure focuses on the central task that students perform. It also considers the potential of supportive interaction before and after tasks by repositioning the tripartite structure of classroom talk in two main ways. First, Rose includes a *prepare* element to account for how teacher-talk can support students to respond successfully. Secondly, he includes an element after feedback/evaluation to extend student responses, called *elaborate*. These two elements appear either side of the IRF elements which are referred to as *focus, task* and *evaluate* (Rose, 2005). Compared to the three-part IRF structure, the addition of the *prepare* and *elaborate* elements creates a 5-part structure, as represented in Figure 2.11.
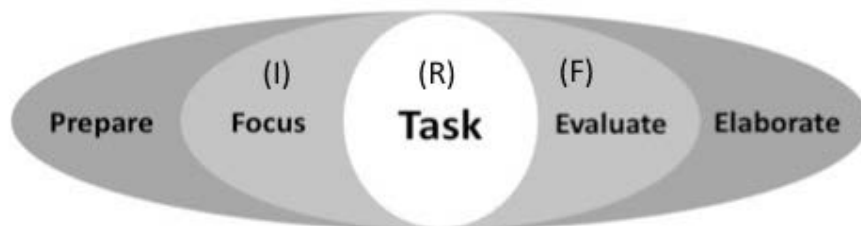
Figure 2.11: Rose's modified IRF sequence
(Adapted from Rose, 2011; Rose & Martin, 2012)

Rose argues that to more easily build on student responses, we need first to support students to create successful responses that are suitable for potential elaboration. An emphasis on preparatory elements is also a prominent feature of Gray's (2007) Accelerated Literacy pedagogy. Both Rose and Gray aim to reduce the degree to which students have to guess what the teacher wants. In terms of micro-level scaffolding, this is achieved through carefully structuring of classroom talk such as the use of a *prepare* (Rose) or *preformulation* (Gray) element before asking students to respond. This is exemplified at turn 5, in example 2 of Table 2.2, when the teacher says:

 (prepare)' *Remember that word we used yesterday to describe all the way around?*

(focus) *The?*

The effect of preparatory elements is to constrain the parameters around student responses. An emphasis on testing student knowledge is replaced by encouraging and reminding students to draw on shared knowledge from earlier interactions and lessons (as clearly demonstrated above). In Rose's literacy pedagogy, teachers aspire to work dynamically with meanings that students propose. However, they also thoughtfully consider and often pre-prepare classroom talk around tasks,

especially when learning how to modify their own teacher-talk for the first time (see examples in Rose, 2010a).

Data from this study draws on Rose's schematic structure of classroom talk to analyse joint construction. As yet, SFL studies of the TLC have not revealed the precise nature of tasks as students co-create a text. There is also minimal research about the way in which shared knowledge features in preparing and elaborating on student responses. In relation to van Lier's tiered conceptualising of scaffolding, this study focuses on the level of micro-scaffolding to examine variation in IRF sequences, such as instances where teachers guide students to rework and restate their contributions (as exemplified in Example 2 of Table 2.2). This study also considers the organisation of tasks at the level of meso-scaffolding. This contribution aims to add to research on joint construction that has studied its embedding into curricula (i.e. *macro-scaffolding*), the main stages in its enactment (i.e. *meso-scaffolding*), and interpersonal relations in teacher-student talk (i.e. one dimension of *micro-scaffolding*) (see Hunt, 1991, 1994; Humphrey & Macnaught, 2011; Dreyfus et al, 2011; Dreyfus & Macnaught, 2013; Macnaught et al, 2013).

A more specific contribution is to make visible the 'behind-the-scenes' analyses of classroom talk structure. To date Rose has tended to present and teach the structure of classroom interactions to literacy teachers and educators. This research draws on his findings to further illuminate the semiotic patterns that create shifts in classroom talk elements. Two important aspects of such an undertaking involve relating teacher and student activity to different sized units of analyses, and, within a hierarchical arrangement of classroom talk, theorising structural elements and speaker turns as phases of unfolding meaning (Rose, 2006). (See chapter 3 for detailed discussion of phase.)

2.6.2 Hierarchical units of analysis in classroom discourse

As Christie (2002, p. 3) has observed, 'one fundamental theme' which 'runs through all the work in classroom discourse analysis is the recognition it gives to behavior, including language behavior as a *structured experience'*. Early linguistic

studies of continuous classroom discourse such as the work of Sinclair and Coulthard (1975) were concerned with hierarchical units of analysis. Hierarchical units aim to show relationships of constituency and to some extent temporality: smaller units are analysed as 'parts of' larger units, with larger units representing longer stretches of classroom activity. This endeavor provides a 'systematic overview of an entire lesson, while at the same time enabling the study of finer detail of specific utterances and exchanges between participants' (Hammond 2011, p. 296).

Hierarchical units have also featured in influential sociological studies. Lesson components were related to their sequential organisation or 'the flow of the lesson as it unfolds in time' (Mehan 1979, p. 35). These developments in classroom discourse analysis represented pioneering steps towards dealing with the complexity of extended continuous classroom texts – at a time when 'short invented sentences' were 'in vogue' (Stubbs 2009). Such research is motivated by the desire to provide a flexible, transferrable system of classroom discourse analysis that is relevant across educational contexts (Coulthard, 1992).

An organisation of hierarchical units of classroom discourse involves complex relationships of constituency. From an SFL standpoint, constituent relationships are part of an experiential perspective on unfolding texts. As Martin (1992, p. 10) explains, 'experiential meaning tends to construct experience as inter-related parts of a whole'. However, a significant challenge with the analysis of classroom discourse is the extent to which constituency representation can encompass multiple perspectives on structure. In other words, when parts of lessons are identified, how does the structure of any given unit relate to different systems of meaning-making? This issue is initially discussed by Halliday (1979) and further explored by Martin (1992, 1996). Martin considers how constituency representation can be 'adapted' to interpersonal and textual and logical meanings (see Martin 1992, pp. 10-13). He supports Halliday's view that different kinds of structures are needed to represent the metafunctional nature of unfolding texts. The argument here is that part-whole relationships are just one view of structure: there is also a structural relationship between parts of the same size unit;

structures to foreground the enactment of relationships and accumulation of evaluative meanings; and peaks and troughs of prominence in information flow also form a textual kind of structure.

The challenge of articulating multiple perspectives on types of structure is visible in the early hierarchies proposed by Sinclair and Coutlhard (1975) and Mehan (1979). For example, Sinclair and Coulthard proposed lower to higher units of pedagogic discourse[12]. In ascending order, these units include: *act, move, exchange, transaction* and *lesson*. To problematise one of their units, the definition of an *act* is one free clause, plus any subordinate clauses with a recognizable discourse function. One example is a *marker,* such as *'well', 'right', 'now', 'good'.* This kind of *act* communicates a boundary in discourse such as finishing and commencing a new IRF sequence (Coulthard, 1992, p. 8). From a metafunctional perspective, this definition highlights textual meanings. However, what is exemplified structurally as a *marker* may have other simultaneous meanings. For instance *'good'* may provide a terminal move textually, but interpersonally it may offer both explicit evaluation and encouragement. This example highlights the problematic nature of assigning a single descriptive 'mono-function' to a clause or lexical item in discourse.

Similar issues can be found in Mehan's hierarchy. In ascending order, he proposes the units of *participants, organisation of sequences, type of sequence, phase,* and *event* (see his summary in 1979, p. 73). At the level of *type of sequence*, one example unit is called *topical sets.* This refers to series of IRF sequences that are connected and organised 'around topics' (1979, p. 65). Mehan also explains that *topical sets* are connected through 'dependent' relationships. He describes an initial 'basic sequence' (i.e. one IRE iteration) that is followed by successive 'conditional sequences' (p. 65). These subsequent sequences are optional and serve to 'expand' basic topics (p. 67). In SFL terms, two different kinds of meanings are being observed and analysed by Mehan. First, he relates a series of IRF sequences in terms of shared subject matter or 'topics'. In SFL terms,

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[12]See Coulthard (1992) for discussion of how their hierarchy is influenced by Halliday (1961).

this is an experiential lens focusing on *what* teachers and students are talking about. Secondly, Mehan connects IRF sequences in terms of the way they extend and build on meanings that have already been introduced. In SFL theory, building 'connectedness' (Christie 2002, p. 98) involves a logical lens on how meaning in a subsequent unit adds to, further characterises, or qualifies meanings that have been introduced in a previous unit (Halliday & Matthiessen, 2004). While units of analysis, like *acts* or *topically related sets,* analyse teacher and student interaction as units of meaning, there needs to be greater clarity about the kinds of meanings that are represented in these structures[13]. SFL linguists argue that multiple perspectives on structure are necessary because they more accurately represent the multi-functional nature of our meaning-making.

2.6.2.1 Rank in SFL theory

In SFL, the analysis of texts involves the ordering principle of *rank* (Halliday, 1961; Halliday & Matthiessen, 2004). This concept refers to the hierarchical organisation of texts in terms of a progression of smaller to larger units. Each rank consists of <u>one or more</u> units of the next lowest rank. This constituency relationship continues 'until we arrive at the units of the lowest rank, which have no internal constituent structure' (Halliday & Matthiessen, 1997, p. 26). Relationships of constituency do not specify how many units equate to 'more'. The specification for each rank is that there must be at least one lower unit. A series of successive units at the same rank is referred to as a '*complex'* (Halliday & Matthiessen, 2004). The principle of rank is used to explore relationships of constituency at different levels or strata of language use (as introduced in section 2.3.2.1). It highlights 'patterns within patterns' at each point of view of *text in context*, as illustrated in Figure 2.12. From the standpoint of discourse semantics, for instance, past research has highlighted the ranks of (in descending order) *text, stage, phase*, and *message* (Rose, 2009b).

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[13]For further critique of discussion of 'acts' see Martin (1992, pp. 51-57; 1981).
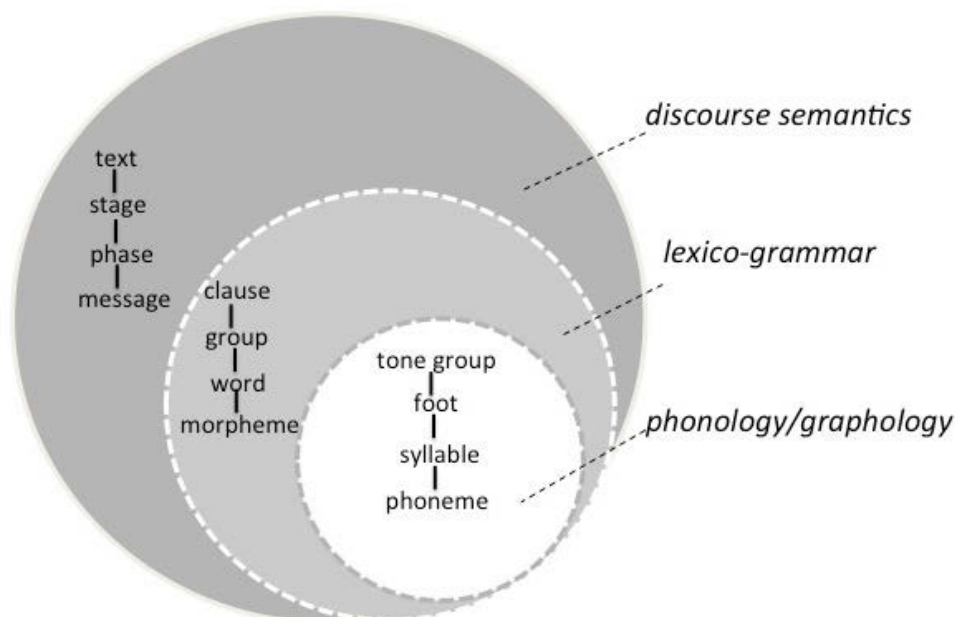
Figure 2.12: Rank scales at each strata of text in context
(Adapted from Rose, 2009b)

In terms of the analysis of classroom discourse, ranks are particularly important for principled and consistent selection of data (see discussion in Christie, 2002, pp. 22-24). This is because criteria-based ranks make clear where selected passages fit in relation to preceding and subsequent text as well as to the text as a whole. The differentiation of ranks thus pinpoints specific patterns at specific levels of language. It enables comparisons between units of the same size, where 'like' units can be compared for similarities and differences. These affordances promote consistent and replicable analyses (Malcolm, 2010).

In SFL literature, the use of rank scales is most clear in the extensive analysis of lexicogrammar (Halliday & Matthiessen, 2004). Rank scales are also integral to the detailed examination of the target genres of schooling, as represented in Figure 2.12 and seen in the research of Martin and Rose (2008). As previously discussed, there is currently a wealth of research on the structure and constituent features of genres that students are expected to read and construct. In contrast, the ranks of curriculum genres have received considerably less attention. SFL research

is still developing ways to analyse, label and talk about the hierarchical structuring of curriculum genres. A key contribution of this study is to draw on rank scale analyses to explore the structuring of micro-interactions between teachers and students. Ranks are needed to analyse how teacher and student talk gradually contributes to the greater whole. They provide a way of understanding the relationship between the entire lesson or series of lessons and their constituent parts. Of particular interest to this thesis are the intermediate ranks below the whole lesson and above the clause. As Macken-Horarik (1996, p. 40) argues, these ranks are crucial to understanding 'the linear progress of a text as it unfolds'.

A first step towards understanding collaborative writing activity focuses on what students do. In this study, the investigation of student activity involves a specific linguistic conceptualisation of tasks, as the following section discusses. (See chapter 3 for a detailed discussion of relevant research related to rank and its influence on the research design of this study.)

2.6.3   The conceptualisation of tasks

The construct of a 'task' has wide-ranging use in studies of second language learning (Ellis, 2003, 2012). An interest in tasks is often related to an interest in communicative activities in language teaching (Robinson 2011). It is also related to a general concern with 'social, purposeful learning' (Samuda & Bygate, 2008, p. 19). In the most general sense, tasks are what learners do in some kind of goal-oriented activity. To such a broad definition, language researchers and educators often add the importance of student meaning-making (Samuda & Bygate, 2008). For instance, in relation to second language writing, Hyland (1996, p. 112) suggests that 'essentially the term *language task* refers to any activity with meaning as its main focus and which is accomplished using language'.

More specifically, tasks are frequently conceptualised in three different ways. First, they are linked to (or even defined by) specific learning outcomes. These are, for instance, outcomes such as 'extract information from a written text' or

'generate word lists for writing' (Hyland, 1996, p. 114). Secondly, tasks are analysed as a criteria-bound construct that is often typologically categorised and used in the exploration of teaching and learning processes. In other words, tasks are not only related to an end product, but they are also related to the enactment of pedagogic activity (e.g. Skehan & Foster, 1997; Ellis, 2003, Robinson, 2007, 2011; Yasuda, 2011). Thirdly, tasks are related to units of instructional design in syllabi and curricula (e.g. Candlin, 1987; Skehan, 1996; Ellis, 2003; Byrnes, 2009; Rose, 2014). Each of these three conceptualisations does not necessarily preclude the other. However, efforts to define tasks remain an area of on-going challenge and debate (Ellis, 2003).

One particular area of contention concerns the relationship between tasks and the forms and meaning that are involved in them. In SLA literature, a focus on meaning-making in classroom activity is often seen as one of several key characteristics of a task (e.g. Ellis, 2003). Form, on the other hand is taken to mean linguistic structures or elements which, in of themselves, do not construct meaning (see discussion in Painter 1999). In the examination of classroom discourse, such a distinction gives rise to analyses where form and meaning tend to be considered independently. For example, the purpose or 'communicative orientation' of classroom discourse may be seen to be more 'form-focused' as opposed to 'meaning-focused' (Gurzynski-Weiss & Revesz, 2012, p. 856). In other words, classroom talk may be interpreted as having one primary focus – either form *or* meaning.

In this study, however, the construct of task does not involve tension between form and meaning. This is because the theoretical framework of SFL maintains a dual focus on the relationship between linguistic forms and the meanings that these forms construct. Language, with all its potential structures, is viewed as a meaning-making resource: to analyse the functional structures of language is to analyse how we construct meaning through our language choices. From this perspective, classroom tasks consist of meaning-making events in response to teacher requests or demands to propose meaning. The examination of tasks identifies where students propose meaning in unfolding discourse.

In addition to analyzing the inherent semiotic function of tasks, this study relates tasks to the structuring of pedagogic discourse. Following Rose (2005, 2006), a *task* is one type of linguistic unit at a specific rank of pedagogic activity. As a unit of classroom discourse, tasks are positioned in relationships of constituency to smaller and larger units along a rank scale. (See further discussion of rank in chapter 3). From this perspective, the meaning of *task* is in its relationship to other units of analyses. This use of *task* is thus highly specific and technical. It is different to other uses, because it is directly related to other constructs in the theoretical framework of Systemic Functional Linguistics.

2.6.4 Temporal analysis of classroom discourse

The temporal positioning of pedagogic events, such as tasks, is an on-going concern in the study of classroom discourse (Edwards & Mercer, 1987; Wells, 1999; R. Alexander, 2000; Lemke, 2001; Green & Dixon 2002; Christie, 2002; Mercer, 2008, Twiner, Littleton, Coffin, & Whitelock, 2014). According to Mercer (2008, p. 33) 'the process of teaching and learning has a natural long-term trajectory and cannot be understood only as a series of discrete educational events'. Following this reasoning an important part of examining classroom interaction involves understanding the relationship between current, past and future events. In this study temporal dimensions are relevant to the positioning of joint construction lessons as a middle step in the TLC design. In particular 'multiple timescales' (Lemke, 2001) are involved when teachers draw on accumulating shared knowledge (from the first step in the TLC and also past lessons) to negotiate meanings. A further temporal dimension is involved when teachers make connections between students' current and future writing activity. In light of the TLC design, the main temporal issue in joint construction lessons is about where and how knowledge about language is carried through time. This section considers SFL theorising of time scales, and also shifts in meaning from one instance of language use to another.

2.6.4.1 Semogenesis: Time frames of human activity

In SFL, the process of creating meaning or *semogenesis* (Martin, 1999a; Halliday & Matthiessen, 1999) is conceptualised along three time frames: *phylogenesis, ontogenesis*, and *logogenesis*. Phylogenesis refers to the evolutionary process of human language, and, more broadly, semiotic development. Within this expansive timescale is ontogenesis. This refers to development or growth of meaning-making resources in individuals. The third timeframe is logogenesis. This more immediate timeframe refers to the unfolding of meaning 'in the form of a text' (Halliday & Matthiessen, 1999, p. 18). This time scale focuses on what speakers and writers actually choose to say, write or instantiate multi-modally. Within this timeframe whole texts are gradually created, choice-by-choice, instance-by-instance. For example, a logogenetic perspective considers how student contributions gradually create a scribed target text in a joint construction lesson.

These time frames provide the environment and materials for each other (Halliday & Matthiessen, 1999, p. 18). For instance, students' formal studies of academic language use 'provide the environment for' the logogenetic creation of texts, such as in collaborative writing lessons where language choices and systems of meaning are instantiated as texts.

Conversely, the process of doing so targets the individual and gradual development of academic writing. In other words, lessons, like joint construction, 'provide the material for' the longer-term development of language in individuals, i.e. 'ontogenetic language change' (Martin, 1999). As this study examines separate joint construction lessons (by different teachers), the logogenetic timeframe is most relevant. Future longitudinal studies can extend these findings to consider the cumulative contribution of series of joint construction lessons to student development of academic writing. In this regard the longitudinal studies of children's language development by Halliday (1975) and Painter (1984, 1999), and Christie and Derewianka's (2008) studies of writing development in primary and secondary education provide exemplary models of SFL analyses in an ontogenetic timeframe.

In this study a logogenetic timescale lends itself to examination of micro-scaffolding (see section 3.1). In particular it promotes enquiry about how student contributions are connected to the developing text, i.e. how meanings fit in relation to what has have come before and meanings that will follow. The linguistic analyses of this study (see especially chapter 6) consider how micro-scaffolding connects instances of language use. The methods of phasal analysis (see section 3.2.2 and chapter 3) are suited to this endeavor because they illuminate shifts in interpersonal and ideational meanings as both the text of classroom talk and the scribed text unfold.

2.6.4.2 *The principle of commitment: Shifts in meaning over time*

While semogenetic timeframes usefully position the temporal focus and contribution of this study, SFL scholars have also been concerned with theorising moment-to-moment shifts in meaning. The principle of commitment (Martin 2008) has been proposed as the basis for theorising shifts in meaning from one instance of text to another. In Martin's (2008, p. 45) terms, commitment refers to 'the amount of meaning potential activated in a particular process of instantiation'. In this definition Martin refers to the theory of instantiation (see section 2.2.2.3) to conceptualise change as a shift in how much meaning potential from the entire system of language – and related subsystems – is instantiated in any given instance of text. The principle of valeur (see section 2.2.2) is also implicit, as instances are always related to other meanings that are available. The underlying assumption behind the principle of commitment is that instances of language use have the potential to vary in the extent or degree to which they specify meaning: more generalised meanings commit less meaning potential than specified meanings (Martin, 2010; Hood, 2008). For example, Martin (2008, p. 49) considers that the instance *government truck* commits less meaning than the instance *government truck from the Roads Department*. His point is that differences between these successive instances are not limited to a classification of types of truck. Rather, the second instance draws on more potential meaning from within the system of language to create a greater degree of specification.

This relatively new principle raises issues about how to use SFL constructs and tools of analyses to articulate changes in meaning over time. Hood (2008) and Tann (2013a, 2013b) provide insightful discussion and analyses of commitment. Hood uses SFL's theory of metafunctions to articulate different degrees of commitment. Her analyses consider how varying degrees of specificity can be distributed across metafunctions. She shows how ideational, interpersonal and textual meanings do not always synchronise with similar degrees of commitment, i.e. they can vary independently or combine.

In addition to examining change through the lens of metafunctions, Tann (2013c) suggests it may be useful to consider differences between syntagmatic and paradigmatic relationships in the specification of meaning. The former refers to a comparison of the sequence and number of structures. The latter refers to a comparison of change in relation to meanings that were chosen and other meanings that could have been chosen in an instance of text. For example, Martin's instances about trucks involve a comparison between nominal groups (*government truck; government truck from the Roads Department)*. Syntagmatically, there is a difference in the number and sequence of functional structures in each nominal group (i.e. two to three: Classifier + Thing in the first instance, and Classifier + Thing + Qualifier in the second instance.) However within the conventions of nominal group structure, there is also the potential for other functional structures. From a paradigmatic perspective, other options, such as Epithets (as in: <u>rundown</u> *truck from the Roads Department)* are potentially available, but were not chosen in either instance. A third instance, with an Epithet such as *rundown* could be said to commit more meaning potential: it draws on interpersonal meanings such as the system of evaluation (Martin & White, 2005) to negatively appreciate the state of the truck. In his critique of this developing principle, Tann (2013b) also emphasises that analyses need to carefully delimit the length of a text when comparing instances: longer instances of text can, by virtue of greater length, draw on more systems of meaning. His observation reinforces the importance of rank scale analyses, so that units of the same size are compared with each other. Both Hood and Tann's contributions make in-roads

with how the principle of commitment can be illustrated through linguistic analyses.

Although approaches to articulating changes in meaning over time are still developing, the principle of commitment is provocative in the analysis of classroom talk. It relates to *how*, *when* and *to what degree* teachers and students specify meaning. In excerpts from joint construction lessons, Dreyfus and colleagues (2011) consider degrees of commitment in teachers' set-up of tasks. In the first of three attempts to gain a student response the teacher says: *What are we looking at, as those issues?* After getting no immediate response from students the teacher then adds: *There are kind of negative and positive issues, aren't there?* Again the teacher receives minimal response from students and attempts her *Task* set-up for the third time: *There are sort of negative and positive consequences on health of urbanization.* According to the principle of commitment the teacher's second and third attempts have gradually specified more meaning. Analytical tools within SFL are then needed to articulate where and how meanings have changed. For instance, Dreyfus and colleagues compare the unit of a nominal group and use generic nominal group structure to articulate syntagmatic differences. Following these parameters the teacher's third task set-up specifies the most ideational meaning, by specifying more about *issues* in pre and post modification of the Head element, as illustrated in Table 2.3

Syntagmatic change in nominal group structure			
Pre-modification	Head	Post-modification	Commitment
those	issues		Less
negative and positive	issues		↑
negative and positive	consequences	on health of urbanisation	↓ More

Table 2.3: The principle of commitment in relation to nominal group structure

(Adapted from Dreyfus et al, 2011, p. 149)

While the joint construction excerpt from Table 4 (and the previous paragraph) negotiates choices about the writing topic, teachers and students also talk about and reflect on language patterns as they co-create a text (Dreyfus et al, 2011). In this study greater or lesser specificity is of particular relevance to how patterns of language use are identified during joint construction lessons. Talk about language has been given much attention in literature and is discussed in the next section.

2.6.5 Classroom talk repertoires and metalanguage

The identification of different categories of classroom talk is prominent in studies of classroom discourse. An on-going current involves what is considered as ideal classroom interaction for learning. According to R. Alexander (2008), the issue of optimal classroom talk has typically involved dichotomous positioning of different approaches such as *teacher-centred* talk verses *student-centred* talk. However, more considered standpoints stress the need for classroom talk 'repertoires' (see Cazden, 2001; R. Alexander, 2004, 2008) where teacher roles and accompanying talk patterns vary according to the nature of activity (Hammond, 1990a). The main argument is that no one type of classroom talk is universally better than others. Rather, pedagogic talk should vary according to pedagogic purpose. This section considers categorisation of classroom talk and its relevance to the pedagogic goals of joint construction.

Early studies to categorise classroom talk in relation to student learning include the work of Barnes (1976). He draws attention to *exploratory* talk, with an interest in students' incomplete attempts to formulate ideas as they speak. Barnes argues that cognitive load is evident when students are struggling to express meanings. Other studies such as those of Resnick and colleagues (1993) have been concerned with what they now refer to as *accountable talk*. (See also more recent studies in Michael, O'Connor & Resnick, 2008.) This category describes talk where students are encouraged to provide and request reasoning for arguments and evidence for claims. Many of Barnes' and Resnick's talk characteristics are features of Mercer's (2000) version of *exploratory talk*, which also includes study

of the 'ground rules' for creating a supportive and respectful 'community of enquiry' (pp. 160-162). Further to these categories, R. Alexander's (2001) renowned international study has culminated in the categorisation of five main types of classroom talk: *rote, recitation, exposition, discussion,* and *dialogue.* These types are differentiated by characteristics such as function and effect. *Rote* refers to 'the drilling of facts, ideas and routines through constant repetition'. *Recitation* involves accumulation of knowledge through test questions that stimulate recall or provide clues. *Exposition* functions to impart information and explain facts, principles and procedures'. *Discussion* involves 'the exchange of ideas with the view to share information and solve problems. *Dialogue* encompasses 'achieving common understanding through structured, cumulative questioning and discussion which guides and prompts, reduces choices, minimises risk and error, and expedites handover of concepts and principles' (R. Alexander 2008, p. 30). These five categories make up a flexible *teaching talk repertoire* (R. Alexander 2008, p. 101). Without accompanying detailed linguistic analyses[14], these categories are difficult to position in relation to in-depth linguistic studies of classroom talk.

In linguistic and psycholinguistic studies, another kind of classroom talk has featured prominently, namely a category where teachers and students talk about language and language learning. This dimension of classroom interaction is represented by a wide-range of 'meta terminology' and knowledge related constructs, i.e. constructs about constructs. Terms include: *metacognition* (e.g. Wenden, 1998), *metalinguistic awareness* (e.g. Andrews 1997), *metalinguistic talk* (Dwarte, 2012), *literary metalanguage* (e.g. Locke 2010), *linguistic metalanguage* (e.g. Hyland, 1996), *functional linguistic metalanguage* (e.g. Martin, 2006), *metalinguistic resources* (e.g. Williams, 2006), *pedagogic metalanguage* (e.g. Rose, 2014)*, metalinguistic knowledge* (e.g. Roehr, 2007), *metadiscourse* (e.g. Hyland & Tse, 2004), *discourse knowledge* (e.g. P. Alexander et al, 1991), and *explicit knowledge* (e.g. Ellis, 2006b). Scholars note that there is variation, and,

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[14]R. Alexander (2006) has also created a 'Talk for Learning' DVD with clips to illustrate classroom talk types. These clips would be suitable for linguistic analyses to show how categorical differences relate to specific patterns and structures of classroom talk.

sometimes limited precision, in how the same terms are used. For instance, terms like *metacognition* have been described as:

> *One of those critically important, frequently studied, much referred to, but seemingly ill-differentiated theoretical constructs… used liberally in the literature but without a careful regard for the theoretical assumptions underlying it* (P. Alexander et al, 1991, p. 327-334).

While R. Berry (2005) carefully examines differences and variation in many of these terms, the meaning attributed to them is ultimately determined by associated constructs and theories of language.

This study focuses on the construct of *metalanguage*. In SFL, the term metalanguage refers to language to talk about the semiotic resources of texts (de Silva Joyce and Feez, 2012; Rose and Martin, 2012). While metalanguage is commonly referred to as 'language about language' (e.g. Schleppegrell, 2013; Derewianka, 2012), in SFL it is used in two main ways: to talk about the general nature and contribution of SFL theory, and to talk about teaching and language learning practices. In terms of SFL's theorisation of language, Halliday and Matthiessen (1999) reflect that SFL's systemic approach creates:

> '…a metalanguage; in Firth's more everyday terms, it is language turned back on itself. So whereas a language is (from an ideational point of view) a resource for construing our experience of the world, a metalanguage is a resource for construing our experience of language' (p. 30).

From this perspective, SFL's on-going theorising of language and semiosis provides a 'functional linguistic metalanguage' to talk about how we make meaning (Martin 2006). With regards to understanding pedagogic practices, Rose (2014) argues that we need to keep developing a 'pedagogic metalanguage' with which to analyse and talk about the texts of curriculum genres.

In addition to describing the overall nature and contribution of SFL theory, the term metalanguage is used in studies of teaching and learning. One common area

of interest is how teachers talk about meaning-making resources with students for the benefit of student language learning (e.g. Schleppegrell, 2013; Moore & Schleppegrell, 2014; Unsworth, 2006; Derewianka, 2012; Derewianka & Jones, 2012; Jones & Chen, 2012; Gebhard et al, 2014; Palinscar & Schlepegrell, 2014). SFL metalanguage provides a framework for teachers and students to talk about the complexity of 'getting things done' with language (Martin, 1985, p. 250). From this perspective, metalanguage is a tool or 'tool kit' (Humphrey et al, 2010; Humphrey, 2013) for building knowledge about language in educational contexts.

The journey of metalanguage from academia to the classroom is not a straightforward process. This shift involves terminology from constructs that are part of creating theory in the field of linguistics and then re-articulating constructs for pedagogic purposes, i.e. in teacher training and then in classroom interactions (Martin, in press). SFL scholars frequently draw on Basil Bernstein's (2000) 'pedagogic device' to frame this challenge and associated political and social issues (e.g. Feez, 2013; Rose, 2006b, in press-b; Martin, 2006; Christie, 2002; Hasan, 2002b; Painter, 1999). Bernstein draws attention to constraints and 'rules' that influence the selection and organisation of educational knowledge in classrooms. According to Bernstein, knowledge that is 'reproduced' in classrooms has its origins in the *field of production* (academia). However, it goes through a complex *field of recontextualisation*, including policy making and curriculum and resource development (2000). At the heart of issues around 'transporting' (Feez 2013) metalanguage from academia to the classroom is not only where theoretical roots stem from, but also the scope of what counts as an instance of metalanguage.

R. Berry (2010) usefully suggests that metalanguage is both a *thing* and a *process*. As a *thing,* metalanguage consists of technical terms and lexis to identify and label language patterns. One dimension of terminology is the extent of its technicality. According to Unsworth (2006, p. 71) 'metalanguage entails systematic, technical knowledge of the ways in which the resources of language and images (and other semiotic systems) are deployed in meaning making'. Other scholars, such as Ellis

(2006b, p. 439) consider both 'technical' and 'semi-technical' aspects of metalanguage. The central issue here is how to discern degrees of technicality. *Linguistic metalanguage,* with terms from the field of production, could be considered the most technical; *folk metalanguage* (i.e. lay people's use and beliefs about language) and its constituent *folk terminology* (Preston, 2004, p. 77) could be considered the least technical. However, what about the in-between? While SFL scholars note teachers' use of *commonsense metalanguage*[15] (e.g. Martin, 2006),it is not always clear how to identify and analyse 'things' in relation to different degrees of technicality. In analysis, this problem is amplified when teachers use a mix of metalanguage from different origins (e.g. in Moore & Schleppegrell, 2014; Locke, 2010).

Following R. Berry's proposal, one potential way to explore the space between highly technical and lay people's metalanguage is to also consider *metalanguage as a process*. This view extends the focus on technical labels to also include accompanying classroom talk, i.e. the identified *thing* and talk *about* it. Additionally, as Humphrey & Macnaught (to appear) have also begun to explore, the process of talking about language may also involve body movement that enacts the function of language. In their study, for instance, they documented a teacher physically opening and closing the classroom door as she talks about the rhetorical strategies of concession and rebuttal. Such studies point to the potential multi-modal nature of metalanguage.

In relation to SFL's theorisation of language, the process of talking about language has potential to include a variety of theoretical dimensions, such as:

a) consideration of meanings in relation to other meanings, i.e. similarities and differences (the principle of valeur);

b) consideration of preceding and subsequent meanings in unfolding text (logogenesis);

c) exploration of what else could be chosen within the constraints of

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[15]'commonsense metalanguage' follows Bernstein's (1975, p. 99) broad distinction between 'uncommonsense' or 'educational knowledge' and 'commonsense…everyday community knowledge'.

context (paradigmatic relations);

d) the configuration of language classes that encode functional structures (syntagmatic relations); and

e) relationships between meanings and more general types of meaning choices (instantiation).

From an SFL perspective, the conceptualisation of metalanguage as a *process* is related to other constructs in an underlying theory of social semiosis.

Teachers in this study have different degrees of exposure to SFL theory (see chapter 3). Potential variation in how teachers identify and talk about language with students is ideal for exploring the scope of classroom metalanguage. While teachers have independently chosen to use joint construction to support their students' academic writing, it is not assumed that they will use SFL related terminology, underpinned by SFL understandings of language. It is also not assumed that the appearance of functional linguistic metalanguage in classroom talk is of undisputed and universal benefit to students. Rather, issues of accessibility and utility (Williams, 2006; Derewianka, 2012; Macken-Horarik, 2013) are considered in relation to joint construction's short and long-term goals, i.e. how metalanguage supports students to co-create the target text, and how this activity is related to their future writing. The future-oriented goals of joint construction are of particular interest because relatively little is documented about how classroom talk in this step functions to relate language choices to future writing activity.

2.7   Consolidation

Chapter 2 has introduced the foundations of this research, organised around two areas of discussion. First, theories about second language teaching and learning are discussed in relation to writing instruction and key concepts in the theoretical framework of Systemic Functional Linguistics. Discussion highlights how the writing methodology at the centre of this study, joint construction, is rooted in social semiotic theories of language and language learning. In particular, an SFL

theorisation of language and context represents a supervenient model where the context of culture and context of situation are viewed as abstract layers of meaning. This study follows a specific theorisation of genre as a theoretical linguistic construct, and its re-articulation in genre-based writing pedagogy. In the analyses of pedagogic practice, teacher and student activity is viewed as meaning-making activity: classroom interaction between teachers and students consists of messages that gradually create texts for particular social purposes.

A key contribution of this study is to examine the texts of classroom talk to consider how students are supported with academic writing. The conceptualisation of tiered levels of scaffolding (e.g. the micro-, meso and macro-scaffolding proposed by van Lier, 1996, 2007) is particularly relevant to the analyses of classroom interactions. In this study the support that teachers provide is considered in relation to the pedagogic goals of joint construction lessons. As a middle step in a curriculum macro-genre, a joint construction has both an immediate and future-oriented foci. In the short-term, the class aims to create a target text with opportunities for the teacher and students to negotiate meanings. However, this activity ultimately has a longer-term goal of building knowledge about language for the benefit of students' independent writing. Analyses in forthcoming chapters explore teacher-student talk in relation to these goals.

The second area of discussion is related to classroom discourse analysis. Influential studies of classroom talk structure highlight the need for rank scale analyses of pedagogic activity. Ranks involve precise articulation of constituency between smaller and larger units. This includes positioning a task as a specific unit of analysis. Additionally, an SFL framework considers multiple readings of function. It thus avoids some of the limitations of past pioneering studies where units of analysis were not always clearly related to systems of meaning.

Discussion also considers how this study builds on past SFL analyses to closely examine phases of meaning as they unfold and shift during classroom talk. Of particular interest is the use of metalanguage to set-up and follow-up tasks, and also to connect current tasks to future writing activity. This study's use of SFL rank

scale analyses contributes to building a pedagogic metalanguage to talk about patterns of classroom discourse. The use of rank with accompanying linguistic criteria provides a platform for future comparisons and extension of this research.

This chapter provides a relevant background with which to introduce the research design and specific tools of SFL analysis (chapter 3). Subsequent chapters then use these tools to investigate classroom talk during the teacher-led co-construction of a target text.

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Chapter 3   The research design

3.1   Introduction

The focus of this thesis is the enactment of the writing methodology known as joint construction. Although joint construction is the middle step in a widely used model of literacy instruction (Martin, 2009), there is little in-depth literature to inform educators who want to use or improve their use of this teaching method. This study is motivated by the lack of such literature. It is also motivated by the importance given to interactive guidance in the design of genre-based writing pedagogy (Martin 1999, 2000; Rose & Martin, 2012).

Joint construction is part of a literacy model where support occurs at the time of writing collaboratively, as opposed to before and/or afterwards. This 'real-time' instruction aims to guide learners 'to construe the system of language from experiences of text-in-context', rather than 'starting with drills in linguistic systems that are then applied to texts' (Rose 2009a, p. 14). However, the manner in which classroom interaction achieves this overall goal is far from clear. A starting point for building deeper understanding of joint construction lessons is to analyse what teachers and students actually do and the interpersonal relationships they create while working together. Towards this analytical goal, and to provide insights about pedagogic activity and relationships, I argue for detailed linguistic analyses of classroom talk.

The specific research questions that guide this study were presented in chapter 1. They are reproduced here as a point of reference for choices made about the research design.

The overall research question is:

How are meanings negotiated and actualised as written text in the literacy practice of teacher-led collaborative writing?

This general question is elaborated as three main questions, with specific sub-questions:

1. What is it that students do in joint construction lessons, and why?

    a) What tasks do students perform and what is their function in the lesson?

    b) Is there a patterning of tasks in unfolding lessons?

    c) How does the teacher organise student activity to complete the writing lesson?

2. How does teacher-talk relate to the wordings proposed by students?

    a) How does the teacher open up or constrain space for the students to offer meanings/wordings?

    b) What is the function of post-task teacher-talk?

3. How does talk about language connect student tasks across varying timescales?

    a) How does metalanguage connect one completed task to the next task?

    b) How does metalanguage connect multiple completed tasks to the next task?

    c) How is writing activity in the current lesson related to future writing activity?

4. What are the implications of metalanguage use for the co-construction of a text?

3.2   A qualitative research design

In general terms, the research approach taken in this study involves qualitative research. This approach involves detailed analysis to provide insights into texts that are not available in quantitative studies of large data sets. However, in the field of education when the term 'qualitative' is used to describe research practices, it is given a wide range of attributes; attributes such as 'interpretive', 'soft', 'descriptive', 'wholistic' and many more (Freebody, 2003, pp. 36-37). These variations implicate different orientations towards knowledge, i.e. what can be known and how (Maton, 2013), and also in relation to language, varying conceptualisations of the relationship between language use and context. This section outlines the specific qualitative approach taken in this study in relation to other approaches.

In terms of perspectives on how knowledge is known, qualitative approaches place varying degrees of emphasis on social actors involved in the study and on the object of study. A stronger focus on the social actors in the study, or 'knowers' in Maton's (2013) terms, sees knowledge as 'only *real* and *objective* in so far as its members define it as such and orient themselves towards the reality so defined' (Carr & Kemmis, 1986, p. 86). In other words, observers construct their own ways of knowing the world (Vidal, 2014). A 'knower' orientation towards reality is most strongly contrasted with a greater emphasis on the object of study as 'value-free' and 'detached' from social actors (Maton & Moore, 2010, p. 1). The approach in this study is attuned to the sociology of *social realism*, which argues that such a dichotomy is not only false, but has obscured the study of knowledge practices in educational contexts (Maton & Moore, 2010). A social realist view sees knowledge as a historically situated, socially and culturally constructed phenomenon, *and* as an object that can be rationally and objectively studied (Maton & Moore, 2010).

Qualitative approaches are also conducted within a range of theoretical frameworks. These frameworks vary greatly in their conceptualisation of the relationship between language use and context. While qualitative approaches

may generally agree that language and social interaction play a key role in the construction of knowledge (Mercer, 2004), fundamental differences stem from conceptualisations of language and context as either in a relationship of circumvenience or supervenience (Martin, 2014b). (See also chapter 2.) A qualitative analysis of texts with a circumvenient model of language and context would not interpret language as constitutive of context. Rather, context would be seen as non-semiotic. This distinction creates a division between semiotic texts and other sources of data. In contrast the supervenient modeling of language and context that is followed in this study interprets context as an abstract realm of meaning, i.e. as semiotic. For analyses this means that all social practices can be examined at different levels of abstraction, including from the standpoint of 'texts in context' (see chapter 2). There is no beyond-text data (Johns et al, 2006) as such, because meanings are encoded by semiotic resources in the form of one kind of text or another.

The broad aim of a qualitative approach is to 'describe a phenomenon and its characteristics' (Nassaji, 2015, p. 129). In the case of this study the phenomenon constitutes texts of classroom talk. As Nassaji (2015) argues, qualitative approaches

> '*are well suited to the study of L2* [second language] *classroom teaching, where conducting tightly controlled experimental research is hardly possible, and even if controlled experimental research is conducted in such setting, the generalizability of its findings to real classroom contexts are questionable*' (p. 129).

The texts of classroom talk in this study are examined with methods of discourse analysis. The parameters of analyses do not include broader social and political contexts within which institutional learning takes place, as valued in some critical orientations to discourse analysis (Hammond, 2011). Instead, the pedagogic focus is firmly on the social activity of teachers and students within unfolding lessons.

The data set is relatively small to facilitate a detailed linguistic study of the texts. The specific approach to discourse analysis draws on the theoretical framework of Systemic Functional Linguistics (Halliday & Matthiessen, 2004; Martin, 1992; Martin & White, 2005; Martin & Rose, 2007a). In this linguistic tradition, reality is viewed as 'unknowable; the only things that are known are our construals of it – that is, meanings' (Halliday & Matthiessen, 1999, p. 17). SFL considers the semiotic resources that 'social actors' (in social realist terms) use to express meanings in specific cultural and historic contexts. As objects of study, the texts that are created through social interaction are examined with specific analytical tools. That is, social semiotic constructs, rather than individual personal experience of the data, provide the means for analyses and interpretation.

The analytical tools of SFL are well suited to the examination of unfolding meanings 'in the form of text' (Halliday & Matthiessen, 1999, p. 18). A detailed study of instances of language use considers preceding and subsequent instances to examine 'particular logogenetic contingencies' (Martin & Rose, 2007, p. 312). In other words, analysis centres on choices that are made in relation to other possible choices, constrained by the flow of meanings in texts. The gradual development of texts is particularly relevant to understanding joint construction lessons. In this study, instances of teacher and student language use are not considered in isolation. Rather, instances are related to sets or systems of semiotic choices at different strata of language (Martin 2010). The relationship between instances and systems of meaning is explored in SFL's theory of instantiation (Halliday & Matthiessen, 2004; Martin, 2010), as discussed in the previous chapter. This thesis focuses on the stratum of discourse semantics to understand the flow of meanings as a class gradually co-creates a text.

The primary motivation for a qualitative linguistic analysis of classroom discourse is to illuminate what teachers and students do during joint construction. An underlying assumption is that the analysis of language and other semiotic resources is central to understanding pedagogic activities and pedagogic relationships (Hammond, 2011). The choice of discourse analytical methods responds to scholars in second language research who argue that there is an

'urgent practical imperative to better understand ways we can increase instructional support for novice tertiary-level writers' (Masuda et al, 2003, p. 167). In the SFL tradition, these sentiments are echoed by Gibbons (2006) who states:

> *'if the intuitive practices of effective teachers can be exemplified through instances in the classroom and analysed linguistically, then what constitutes these practices can be articulated more precisely'* (p. 41).

As there is currently minimal literature to inform the enactment of joint construction lessons, there is a pressing need for discourse analysis to examine what teachers and student do and consider how their unfolding activity relates to building knowledge about academic language.

3.3   The ordering principle of data selection: rank scale analyses

The discourse analysis of this study follows an SFL theorisation of rank (Halliday 1961/2002; Halliday & Matthiessen, 2004). Ranks order texts in terms of a progression of smaller to larger units (See chapter 2). The relationship between units is one of constituency: one or smaller units are constituents of the next highest rank. At the level of grammar, for example, the rank scale in descending order is: *clause > group/phrase > word > morpheme* (Halliday & Matthiessen, 2004, p. 20). The example in Table 3.1 illustrates these relationships of constituency. The clause, *What enables us to have thoughts and feelings*, consists of four groups: *what | enables to have | us | thoughts and feelings*. Each of these groups consists of one or more words (as indicated by commas in Table 3.1), and each word consists of one or more morphemes (as indicated by the + symbol).

Rank	Examples
clause	||What enables us to have thoughts and feelings? ||
groups-phrase	||What | enables to have | us | thoughts and feelings? ||
word	||What, | enables, to, have, | us, | thoughts, and, feelings? ||
morpheme	||What, | enable+s, to, have, | us, | thought+s, and, feel+ing+s? ||

Table 3.1: Ranks of English grammar
(Matthiessen, 1995, p. 76)

In the analysis of classroom discourse, the ordering principle of rank identifies where selected passages fit in relation to preceding or subsequent co-text and also in relation to the text as a whole. This enables consistent selection of same-sized units of data. Ranks are crucial to finding reoccurring patterns and exploring variation. However, principles of selection are not always clear in classroom discourse analysis as Christie (2002) comments:

> 'Ironically a great deal of CDA [classroom discourse analysis] *has had a lot to say about the structuring of talk in terms of the IRE* [Initiate Response Evaluate] *and related moves, but it has often neglected to look at the nature of the meanings in construction, the relative roles and responsibilities of teachers and students at the time of structuring those meanings, and the placement of such patterns in the overall larger cycle of classroom work'*
> (p. 5).

A chief undertaking of SFL rank scale analyses is to illuminate the configuration of functional structures. At each rank, systemic functional linguists ask a trio of questions about how language functions to represent reality, enact relationships and organise the flow of meanings. (See discussion of metafunctions in chapter 2

and exemplification of rank scale analyses of experiential meanings at the level of grammar in Appendix 2.) In combination, a rank scale and a metafunctional theorisation of meaning support precise analyses of student and teacher activity.

3.3.1   The analyses of rank in the target genres of schooling

The principle of rank is central to the analyses of genres that students are expected to read and construct in institutional learning. A considerable body of research has considered how these genres unfold as texts with constituent *stages*, *phases* and *messages* to achieve their social purpose (Rose & Martin, 2012; Martin & Rose, 2008; Rose, 2009b, 2006). (See discussion of genre research in chapter 2). The focus of this thesis is not on extending our knowledge of the kinds of academic texts that students construct. Instead, it is more concerned with *how* the meanings in such texts are negotiated through classroom talk. In other words, the focus is on the curriculum genre that brings about the creation of the scribed text.

3.3.2   Structural similarities in the analyses of rank in curriculum genres and the target genres of schooling

In comparison to the target genres of schooling, far less SFL research has been directed at understanding curriculum genres. Curriculum genres result in the creation of semiotic artefacts such as a jointly constructed text. In terms of constituency, curriculum genres and the target genres that they create share some structural similarities. These similarities are now briefly discussed in order to position the analytical approach and research focus of classroom discourse in this thesis.

Both the target genres and curriculum genres have *genre* as their highest rank. That is, both are conceptualised as configurations of field, tenor and mode in situations of language use. (See chapter 2 for detailed discussion of the theorisation of language and context in SFL.) Additionally, curriculum genres and target genres have the rank of *message* (Rose, 2006) with constituent *message parts* (Martin, 1992) as the smallest ranks at the discourse semantic stratum. In

general terms, a 'message' refers to 'meaning that is exchanged in a communicative event' (Malcolm, 2010, p. 5) More technically, messages are the 'smallest semantic unit that is capable of realising an element in the structure of texts (Hasan, 1995, p. 227). A message is typically encoded at the lexicogrammatical stratum as one or more clauses (Williams, 2006, p. 95). In the discourse semantic focus of this thesis messages involve configurations of unfolding actions/events, entities involved in activity, the settings in which they occur, and accompanying qualities (Martin, 1992).

A discourse semantic perspective on message creation is important to understanding how the scribed target text is gradually created. In particular, relationships between messages and message parts are analysed to understand how classroom talk relates to the co-creation of a target text. In other words, the rank of *message* provides a 'looking up' view to consider the contribution of unfolding meanings to the whole text. This generalised discourse semantic use of *message* differs to Halliday's (1994) grammatical analysis of clauses: when Halliday refers to *clause as message,* he takes a 'looking down' view to examine the textual components of clauses (i.e. constituent structure from the perspective of one of the metafunctions).

A third similarity in the hierarchical structuring of target genres and curriculum genres relates to the analyses of interpersonal meanings. Interactive roles and power relations in both genre types have been analysed using exchange structure analysis (ESA) at the rank of discourse semantics (e.g. M. Berry, 1981, 1987; Ventola, 1988, 1987; Martin & Rose, 2007a; Martin, 1992, Martin, 2006; Rose, 2010b; Lander, 2014). This analytical tool provides an interpersonal lens on rank. It has its own rank scale of *exchanges* with constituent *moves.*[16] (See also a recent proposal by Martin & Dreyfus, to appear for a higher rank of manoeuvre.) This 'interpersonal only' lens on unfolding discourse is discussed in further detail in section 3.5.3.1.

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[16]Sinclair and Coulthard (1975) originally proposed these units to explore the function of and variation in IRF patterns. (See discussion in chapter 2).

While there are structural similarities between genre types, it is in the intermediate ranks (below stage and above message) where fundamental differences emerge. These 'in between' ranks are the focal point of analyses in this thesis. Currently, little is known about how the lesson stages of the curriculum genre of joint construction are enacted. At a micro-level of analyses, research has so far predominantly focused on exchange structure analyses (e.g. Hunt 1991; Love & Suherdi, 1996; Dreyfus et al, 2011). A primary objective of this thesis is to build on past analyses to explore where and why meanings shift, as the lesson stage of Text Negotiation is enacted.

3.3.3   Phasal analysis of intermediate ranks in curriculum genres

In this study, the analyses of unfolding classroom talk focuses on the rank of *phase*. In Gregory's (1985) terms, this intermediary space refers to:

> *'Those stretches of text in which there is a significant measure of consistency in what is being selected ideationally, interpersonally, and textually'* (p. 127).

While other scholars, such as Cloran (1999, 2000) have proposed the intermediate unit of *rhetorical unit*, the concept of phase is more relevant to this study for two reasons. First, the analysis of phases does not privilege any one of the metafunctions (Martin, 2002). For instance, Cloran's analyses are highly principled, but offer a relatively narrow base for identification of a unit (Dreyfus et al, 2011, p. 140). Her criteria make *rhetorical units* difficult to apply to a wide range of texts. This issue highlights a somewhat unresolved aspect of phasal analysis: specification of language features is needed to identify and articulate consistency in 'stretches of text', but a broad base from which to specify is needed for the unit to be applicable to varied data.

A broad base of potential configurations of meaning in phases is enabled through a metafunctional and multi-level analysis of discourse. For instance, Gregory and Malcolm's phasal analysis (see Gregory & Malcolm, 1995; Gregory, 1985;

Malcolm, 2010) considers Halliday's three metafunctions[17] and also three strata which Malcolm (2010, p. 23) now refers to as: the *phonological stratum, morphosyntactic stratum,* and *semological stratum* (after Halliday's (1994) semantics, lexicogrammar and phonology/graphology). Their method of analysis thus looks for 'tri-functional' and 'tri-stratal' patterning; they emphasise that such analyses 'must be complete before phasal boundaries can be determined' (Malcolm, 2010, p. 25). The goal of looking at all possible patterns is to provide a 'replicable and analytically precise way' of analysing predictable and unpredictable 'chunks' of text (Malcolm, 2010, p. 25). Their parameters mean that criteria to identify phases are numerous and varied, but they are based in specific semiotic systems. The emphasis on specific criteria of similarity and difference means that phases are defined in relation to each other. That is, the choices from within specific systems 'give each phase a distinctive *valeur*' (Macken-Horarik, 1996, p. 41 my italics).

The second reason for choosing *phasal analysis* to explore intermediary ranks is that it has been used to differentiate curriculum genres from the target genres that they create. A key point of difference is in the representation of unfolding activity. In the target genres, SFL research has identified *activity sequences* to represent series of events (Rose & Martin, 2008). Specifically, activity sequences refer to how recurrent 'series of events are expected by a field' (Martin & Rose, 2007a, p. 101). They explore how distinctive fields often include predictable series of events that construe activity in that field. Such analyses involve the examination of the activity component in successive messages, including the kind of activity and the order in which it occurs. These findings can then be related to any reoccurring patterns with entities, qualities and settings that are involved in series of actions. The result is a representation of experience that identifies unfolding events in texts, and from this, the 'institutional purpose' (Martin, 2014b, p.313) of activity can be interpreted.

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[17]Note that their conceptualisation of generic situations (see Malcolm, 2010, pp. 9-11) still seems to differentiate the variable of tenor as personal tenor and functional tenor).

However, Rose (2005, 2014) proposes that pedagogic activities in curriculum genres often occur in predictable, iterative, cyclic configurations. He calls these configurations *learning cycles,* consisting of one or more *cycle phases.* Common cycle phases include: *prepare, focus, task, evaluate,* and *elaborate.* An example of a series of three learning cycles is illustrated in Table 3.2.

Lesson structure		Pedagogic activity	
Learning cycle	**Cycle phase**	**Participant**	**Text**
1 identify key concept	prepare	Teacher	*Then it (the text they are reading) says what the particles move through.*
	focus		*Can you see what the particles move through?*
	task	Student	*Pores in the cell membrane.*
	evaluate	Teacher	*That's right. Highlight 'pores in cell membrane.'*
2 propose 2ⁿᵈ example	elaborate/ focus		*Pores are very small holes in a covering or skin.*
			Where else do you have pores on your body?
	task	Student	*On our skin.*
	evaluate	Teacher	*Yes.*
3 expand on 2ⁿᵈ example	focus		*What do skin pores let out?*
	task	Student	*Sweat.*
	evaluate	Teacher	*That's right*
	elaborate		*The pores on our skin allow sweat to come out, to cool us down.*

Table 3.2: Learning cycles with constituent phases

(Adapted from Rose, 2009b – original classroom text retained)

In this example, a primary school science classroom is engaged in a reading activity. (The text of classroom talk is from Rose 2009b). In this kind of detailed reading activity, students' primary task is to identify wording in challenging texts. The first *learning cycle* identifies a key concept in the reading material, the second establishes an additional example of the concept, and the third expands on meanings proposed in the previous learning cycle. In the first cycle, students have

been supported to successfully identify unfamiliar wording in their reading passage. This is achieved through a *prepare* phase that highlights the function of the term students need to identify: *Then it says what the particles move through.* After students have successfully identified the wording, *pores in cell membrane,* the teacher positively evaluates their response (*yes)*. The following *elaborate* phase supports these new meanings by restating what *pores* are, in more everyday language: *pores are very small holes in a covering or skin.* This elaboration provides the platform for the second cycle of interaction where the teacher asks students to find another example of this key concept: '*Where else do you have pores on your body?'* Students reply, '*on our skin'.* As with cycle one, a student's successful response links to the next interaction cycle where the teacher asks, '*What do skin pores let out?'*

The excerpt from Table 3.2 illustrates how the rank of *cycle phase* is a constituent of the higher rank of *learning cycle.* This iterative configuration of classroom talk achieves a series of 'mini' learning objectives within the lesson. More recently, Rose (2014) has visually represented a rank above learning cycle, called *learning activity*. However, as yet, this rank has not been presented with underlying linguistic analyses.

Like Gregory and Malcolm's phasal analysis, Rose's intermediary ranks go beyond the mechanics of turn-taking to consider shifts in meaning. In Rose's terms, *phases* are broadly defined as 'waves of information carrying pulses of field and tenor' (2006, p. 187). This definition of phase is close to Gregory and Malcolm's. However, the parameters for analyses follow the modeling of language and context in Martin (1992) and Martin and Rose (2008), as introduced in the previous chapter. Additionally, Rose's parameters for the analysis of metafunctions focus on the discourse semantic tools developed in Martin (1992), Martin & White (2005) and Martin and Rose (2007a), as section3.4 introduces. While both approaches use the unit of phase in a very similar way, the conceptualisation of different levels of language use and how language functions are explicated varies.

3.3.4 The relevance of discourse semantic phasal analysis

Rose's intermediary ranks are illustrative of his endeavors to design interaction in reading activity. In this study, a key point of difference is that teachers in the recorded joint construction lessons have not been specifically trained to design teacher-student talk. The nature, purpose and context of student activity is also different. In this sense, teachers are *not* enacting lessons by following any one particular strategy for organising classroom talk such as Rose's highly structured detailed reading steps.

However Rose's approach to the phasal analysis of classroom discourse offers at least two analytical perspectives that are broadly applicable to this study. First, the intermediate ranks frame teacher and student activity as meaning-making activity. In principle, meaning-focused analysis can be applied to the examination of meanings in any text. That is, all texts have the potential to involve shifts in ideational, interpersonal and textual meanings. The flexibility of phasal analysis is evidenced in decades of research on the genres that students read and construct in schooling (as collated in Martin & Rose, 2008).

The second broadly applicable perspective is that Rose's phasal analysis of classroom talk makes student activity the focal point. The only obligatory component of a learning cycle is the task phase, completed by students. Other optional (though strongly predicted) phases set up or follow up tasks. A primary concern with representing what students are expected to do in lessons follows Christie's (2002) analysis of the way series of lessons (i.e. macro-genres) relate to what students are expected to accomplish. Rose's contribution is also to consider smaller units of activity, i.e. how components of student activity and accompanying teacher activity relate to a greater whole. This constituent perspective on student activity is not limited to specific literacy methods such as SFL genre-based writing pedagogy or particular groups of learners. By way of contrast, Vidal (2014) explores tasks and cycle phases in her analysis of critical pedagogy, in adult community education in Chile. A task-centric view of

pedagogic activity considers the impact and purpose of teacher-talk either side of tasks.

3.3.5 Consolidation of the approach to rank scale analyses

In sum, the analysis of data in this study draws on the principle of rank and methods of phasal analysis to examine classroom discourse. (See Appendix 3 for an overview of key research contributions to the rank scale analyses of curriculum genres). The rank scale that is investigated in this study appears below in descending order:

> *genre* (*as the text of lessons*)
> |
> *lesson stage*
> |
> lesson activity/ learning activity
> |
> *learning cycle*   AND *exchange*
> |
> *cycle phase*   AND   *move*
> |
> *message*
> |
> *message part*

The use of rank scales has much to offer this study. It provides a principled means of data selection, consistent comparisons between units of the same rank, and a non-fragmented view of discourse. When a rank scale is used with a metafunctional perspective on classroom talk structure, then there is the potential to provide 'an array of readings' (Martin, 2000, p. 38) about complex pedagogic interactions.

The analyses in this thesis focus on the intermediate ranks below lesson stage and above message, as proposed by Rose (2005, 2014). At this level, the analysis of shifts in meanings is expected to illuminate how teachers and students gradually co-create a scribed text. It is also expected to further illustrate the importance of

principled, criteria-based rank scale analyses of classroom discourse.

3.4 The main steps of phasal analysis

Following Rose's (2005; Martin & Rose, 2007b) identification of prominent classroom talk phases, three main steps of phasal analysis are undertaken in this study.

The first step involves identifying reoccurring student tasks. In the context of joint construction lessons, student tasks involve the individual contributions that students make as the lesson unfolds. Task analysis in this context can be understood as the process of examining the kind of student activity that results in the production of a scribed text. Student activity is an essential starting point because it illuminates what students do to achieve the lesson goal.

In phasal analysis, the centrality of tasks is evident in their conceptualization as the only obligatory phase constituting a learning cycle (Rose & Martin, 2012). In other words, other phases of interaction are optional, but tasks are always reoccurring. The step of task analysis addresses research questions about the nature of student activity during joint construction lessons. It also relates to questions about teacher strategies for organising and managing tasks throughout the lesson.

The second step examines classroom talk for pre-task and post-task phases of interaction, i.e. teacher activity before and after students perform tasks. This step relates to research questions about how teacher-talk supports students to accomplish tasks.

The final step focuses on semiotic resources to connect tasks, including the use of metalanguage. The focus is on identifying and understanding instances where writing tasks are related to each other and also to future writing.

Collectively, these three steps provide an interpretation of where and how pedagogic activity targets the shorter and longer term goals of joint construction,

i.e. co-creating a model text by drawing on shared knowledge, and in doing so, preparing students for future independent writing. Findings of each step correspond to the three analyses and discussion chapters. The three analytical steps are outlined in Table 3.3.

The main steps of phasal analysis		
#	Focus/Parameters	Analysis and discussion of findings
1	**Student tasks** teacher organisation of tasks	Chapter 4
2	**Teacher talk** either side of tasks (pre-task and post-task interaction)	Chapter 5
3	**Classroom talk to connect tasks** (including metalanguage)	Chapter 6

Table 3.3: The main steps of phasal analysis

3.5   Specific discourse semantic tools for phasal analysis

This section introduces and briefly exemplifies specific theoretical tools with which to conduct phasal analysis of classroom discourse. Following an SFL theorisation of metafunctions and rank, this study primarily focuses on the discourse semantic ranks of *cycle phase*. Phasal analysis examines shifts in meaning-making patterns in one or more metafunctions. The nature of the change provides evidence for the interpretation of phase functions. SFL tools are thus selectively used to examine logical, experiential, interpersonal and textual meanings in classroom talk. This enables simultaneous and multiple dimensions of classroom talk to be considered. Such an approach is suited to capturing the complexity of teacher and student interaction during collaborative text creation. A key aim of using tools that are predominantly at the level of discourse semantics is to understand how unfolding classroom talk relates to the gradual co-creation of a target text.

This section focuses on the selection and rationale for specific SFL tools. Tools are grouped in relation to metafunctions (with ideational meanings categorised into experiential and logical meanings). Where possible, tools that have been used in past studies of joint construction lessons will be related to this study. However, as noted in the previous chapter, these studies are few and have tended to focus on interpersonal meanings.

3.5.1 Analysis of experiential meanings

The analysis of 'what' teachers and students are doing and talking about is central to understanding joint construction lessons. This perspective involves experiential meanings. This system of meaning involves the construal of reality with a focus on how social activity is represented in configurations of: actions/events, the entities involved in those events, the settings in which they occur, and accompanying qualities (Martin & Rose, 2007a). In the analyses of pedagogic activity, this section focuses on representations of entities in lexis and their role in kinds of taxonomies and taxonomic relations. The concept of lexical relations in this sense makes a significant contribution to this study, particularly in: the identification of tasks (i.e. what students do); understanding how teachers structure classroom talk to support student activity; and in the analysis of talk about language.

3.5.1.1 Entities: classes of things

The analysis of entity types is important in the examination of metalanguage. In this study metalanguage involves teachers and students talking about language during the process of co-creating a scribed text. As this study adopts R. Berry's (2005) view that metalanguage encompasses technical terms and other lexis, the analysis of *message parts* that constitute metalanguage is significant. In particular, different classes of *entities* provide evidence of how language is used to identify types of meaning choices in a text. Martin and Rose (2007, p. 144) propose nine main kinds of entities, with four common classes, as exemplified in Table 3.4.

Kind of entity	Instances
everyday	hands, apple, computer
generic	way, kind, part
semiotic	question, essay, issue
technical	gene, metafunction, inflation

Table 3.4: Examples of entities
(Adapted from Martin & Rose, 2007a, p. 114)

Although SFL theory is still developing criteria to differentiate entity types (see in particular Hao, 2015), a key distinction is the extent to which things in discourse relate to everyday community experiences or educational knowledge from institutional learning experiences (Martin & Rose, 2007a[18]). For example, concrete everyday entities such as hands, apple or computer are usually known through common sensate experiences (such as seeing, consuming or using objects in one's home and community environment). Everyday entities contrast most strongly with technical entities that relate to more abstract, field-specific meanings such as gene (biology), metafunction (linguistics) and inflation (economics). Other classes of entities represent things that are not strongly located in a one specific field of discourse. For instance, generic entities such as way, kind, and part are found in a variety of fields. Similarly, semiotic entities (i.e. abstract 'features of language') such as sentence, question, and essay may be prominent in linguistic fields, but may be found in other fields as well (Martin & Rose, 2007a, p. 113).

Types of entities are of interest because they involve choices about degrees of technicality in metalanguage. Some SLA research on metalanguage proposes 'technical and non-technical' categorization (e.g. Basturkman et al, 2002), with other research also including a further 'semi-technical' category (e.g. Ellis, 2006b). However, it is not always clear how to discern degrees of technicality.

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[18]After Bernstein's (1975, p. 99) 'commonsense' and 'uncommonsense' knowledge.

Similarly in SFL studies suggestions of a 'commonsense' and 'uncommonsense' metalanguage (e.g. Martin 2006a; Rose 2014) do not always provide robust criteria – other than the presence or absence of technical terms – to discern different metalanguage categories. Entity classes make a contribution to this problem by identifying different classes of 'things' (technical or otherwise) that are used to talk about language. While entity classes are central to the analysis of metalanguage, SFL theory argues that meanings that are attributed to terms are ultimately created through their relationship to other entities, i.e. surrounding co-text and related constructs. (This is arguably why categorising isolated instances/terminology can be so problematic.)

3.5.1.2 Lexical and taxonomic relations between message parts

Lexical relations, including taxonomic relations interpret connections between text participants, as they appear in unfolding text (Martin & Rose 2007a). In SFL theory, identifying lexical relations follows a long history of cohesion analysis, starting with the pioneering work of Halliday and Hasan (1976, 1985). This study draws on Martin's (1992) description of five key lexical relations that are relevant to the construal of experiential meanings within and across messages. These lexical relations include: repetition, synonym, contrast, meronymy, and class-member, as exemplified in Table 3.5. The lexical relation of repetition is where the same lexical item is repeated[19] as in social networking–social networking. Synonymy involves words with a similar meanings appearing one after the other e.g. disadvantages–limitations. The lexical relation of contrast involves lexical items that have the opposite meaning, e.g. advantages–disadvantages. Meronymy describes whole-part taxonomic relations, e.g. paragraph-topic sentence. It also includes co-part relations such as topic sentence–concluding sentence. Finally, class-member taxonomic relations establish hierarchical relationships of superordination between lexical items, e.g. disadvantages of social networking – wasting time (where wasting time is type of disadvantage).

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[19]Martin (1992) includes complete repetition or partial repetition as exemplified in the morphological changes of inflection (e.g. *disadvantage–disadvantages*) or derivation (e.g. *write-writing)*.

Lexical relation	Examples
repetition	social networking | social networking
synonymy	disadvantages | limitations
contrast	disadvantages | advantages
meronymy (whole-part, part-part)	paragraph | topic sentence
class-member (class-sub-class)	disadvantages of social networking | wasting time

Table 3.5: Lexical relations in discourse

Lexical relations are significant in the analysis of metalanguage because terms are not isolated from co-text. Rather, meanings are considered in relation to other meanings as the text of classroom talk unfolds. An examination of entities also affords potential assessment of the impact of particular entity choices and accompanying lexical relations on the completion of tasks, i.e. whether certain entities and lexical relations result in more appropriate student contributions to the scribed text.

3.5.1.3 *Taxonomies*

While lexical relations focus on 'meaning-to-next-meaning' relationships, lexical items throughout a text also relate to each other. More technically put, lexical relations construe taxonomies in specific fields of discourse. SFL recognizes two main types of taxonomies: classifying taxonomies and compositional taxonomies (Martin 1992, Martin & Rose 2007a). Classifying taxonomies position multiple entities in class–subclass (or type–subtype) relations. For example, students may organise their argument genre in relation to a superordinate concept, such as disadvantages of diary farming. They may then elaborate on this concept in their

text with particular types and subtypes of disadvantages such as environmental damage and polluted waterways, as illustrated in Figure 3.1. Classifying taxonomies thus represent a hierarchical arrangement of entities across a text.
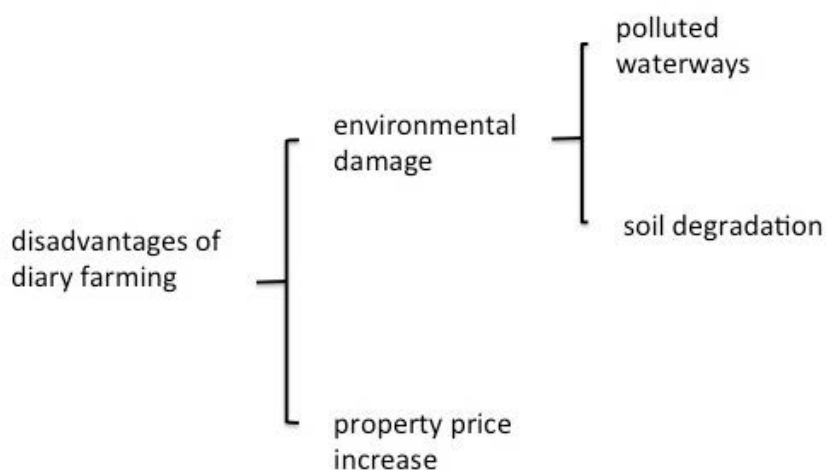
Figure 3.1: A classifying taxonomy

The second taxonomy type is compositional taxonomy. It arranges part-whole relations in fields of discourse i.e. relationships of constituency. For example, in a text that highlights problems of soil degradation and diary farming, changes in soil structure may be discussed. Entities such as *solid particles* and *pore space* may be chosen to explain parts of *soil aggregates* that are negatively impacted by farming practices. Such part-whole relations are rendered in Figure 3.2.
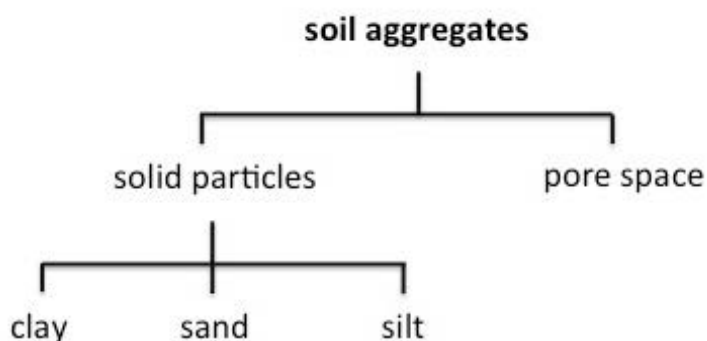
Figure 3.2: A compositional taxonomy
(Content sourced from Plant & Soil Sciences eLibrary, 2015)

Both classifying and compositional taxonomies provide a 'big picture' view of how entities throughout a text relate to each other. In the analyses of classroom talk, a change in taxonomic relations is a key indication of a shift in field. Fields of discourse are particularly relevant to this study in terms of differentiating the topics for writing (i.e. the subject matter of the scribed text) and classroom talk about the writing process.

3.5.2   Analysis of logical relationships

From a discourse semantic perspective, the teacher and students create a series of *messages* as they gradually co-construct a scribed text. A primary pedagogic concern is to understand how *messages* relate to each other. This calls for tools to examine connections and boundaries between structural elements. In SFL theory, analysis of connections between units in a text involves[20] systems of TAXIS and LOGICO-SEMANTICS (Halliday, 1985). The system of TAXIS highlights relationships of interdependency between units that form a complex, i.e. two or more successive units at the same rank. Of greater relevance to this thesis is the system of LOGICO-SEMANTICS. It explores linguistic resources that build 'connectedness' (Christie

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[20]See also conjunctive relations in Martin & Rose, 2007a; Martin, 1992.

2002, p. 98) between units such as the messages that teachers and students create.

The system of LOGICO-SEMANTICS involves relationships of *projection* or *expansion*. *Projection* is a metaphor to describe how a secondary unit is brought into being through the primary unit. In SFL this is most frequently demonstrated at the rank of clause where a 'secondary clause is projected through the primary clause' (Halliday & Matthiessen, 2004, p. 377) as a locution (e.g. *The teacher said, 'put your phones away'*) or as an idea ('*That's so strict', he thought*[21]). Additionally, the dimension of *expansion* considers how meanings are further developed in three specific ways: *elaboration* involves 'further characterisation' of meanings that have already been proposed; *extension* involves adding new meanings; and *enhancement* involves qualifying introduced meanings in a number of possible ways such as reference to time, place, manner, cause and condition (Halliday & Matthiessen 2004, pp. 396-410). In analyses these relationships are represented by the following symbols: '=' for *elaboration*; '+' for *extension*; and 'x' for *enhancement*. Table 3.6 (below) illustrates logico-semantic relationships in teacher-talk. It consists of two clauses of equal status. The first clause (*Ahh we'll start with our introduction*) is followed by a second clause (*and we need a good introduction*). The meanings in the second clause expand on the first through a logico-semantic relationship of elaboration. (The activity of writing an *introduction* is further specified with a quality *good introduction*).

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[21] For clause level annotation of projection, see conventions in Halliday & Matthissen 2004, ch 7.

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TAXIS & LOGICO-SEMANTICS	Text
1	*Ahh we'll start with our introduction*
=2	*and we need a good introduction.*
KEY: 1…..2 (parataxis/ equal status); = (*elaboration*)	

Table 3.6: Relationships of taxis and expansion

Past research has shown that such connections between structural elements can be examined at any rank. At the rank of genre, for instance, Christie (1997, 2002) has considered how initiating curriculum genres are typically followed by genres that elaborate on introduced meanings. This study is particular interested in articulating precise connections between teacher and student messages, in order to understand how classroom talk results in one communal scribed text.

3.5.3   Analysis of interpersonal meanings

The previous sections have considered tools to analyse experiential and logical meanings. This study also includes an interpersonal perspective on classroom talk. An interpersonal lens considers how linguistic resources create relationships between speakers and writers and their interlocutors/audience. This perspective is important to gaining a better understanding of how teachers and students manage interpersonal roles as they write together. In particular, analysis draws on the system of NEGOTIATION (Martin & Rose, 2007a) and APPRAISAL (Martin & White, 2005). To a lesser extent it also includes features of modalisation (Halliday & Matthiessen, 2004) and the intonation system of TONE (Halliday & Greaves, 2008).

3.5.3.1   *Exchange structure: interactive roles and power relations around knowledge*

An interpersonal perspective on phases of classroom talk involves a specific theorisation of ranks below *lesson stage* and above the unit of *message*. In ascending order these ranks are *move* (including *move complex*) and *exchange*.

These units stem from the work of Ventola (1987, 1998) who uses Halliday's (1985) theorisation of mood and speech functions to explore the structure of service encounters. Ventola's research and the work of others (see discussion below) has been integrated into the system of NEGOTIATION (Martin 1992). This system makes a significant contribution to understanding the structure of classroom talk phases around tasks. It is discussed at length here because it provides an exemplary model of using linguistic criteria to define and differentiate ranks.

In the system of NEGOTIATION, the smallest interpersonal unit above a message is a *move*. This unit is defined as a clause (and associated hypotactic, or dependent clause complexes) that is involved in the speech function of an offer, command, statement or question. Speech functions arise from a cross-classification of the commodity being exchanged and the general role of the interlocutors, as illustrated in Table 3.7. In the function of giving goods and services the teacher might offer students more time to complete a task, e.g. *Shall I give you more time to write?* If the teacher were to demand goods or services, including student engagement with pedagogic tasks, the teacher might say, '*Start writing*'. Alternately, to give information the teacher could state: '*We have five minutes left for writing*. Finally, to demand information the teacher could pose a question such as, '*How shall we start writing our conclusion?*' Each of these options provides an interpersonal perspective on initiating *moves* in pedagogic activity.

Role in exchange	Commodity exchanged	
	Goods & services	**Information**
giving	**Offer** *Shall I give you more time to write?*	**Statement** *We have five minutes left for writing.*
demanding	**Command** *Start writing!*	**Question** *How shall we start writing our conclusion?*

Table 3.7: Initiating moves in speech functions

(Adapted from Halliday & Matthiessen, 2004, p. 107)

Initiating *moves* are paired with preferred and 'dispreferred' responses (Halliday, 1994). In Table 3.8, for example, the teacher demands information with a *move* that corresponds to the speech function of a question: *At the bottom of the page, who talks about jobs?* This question pairs with a student's answer: *Kristina Keneally*. Then there is a new *move* as the teacher provides a statement (*Yes. That's right, Kristina Keneally. She's no longer premier, but she was recently*). The student acknowledges this statement by saying, '*Mmm*'. Thus, in this example there are a total of four moves (in two pairs) that correspond to two different specific speech functions.

Interpersonal structures		Text of classroom talk		
Move number	**Initiating and responding speech functions**	**Speaker**	**Text**	
1	**Question**	Teacher	*At the bottom of the page, who talks about jobs?*	
2	Answer	Student	*Kristina Keneally.*	
3 (move complex)	**Statement**	Teacher	1	*Yes, that's right, Kristina Keneally.*
	Statement		+2α	*She's no longer premier,*
			xβ	*but she was recently.*
4	Acknowledgement	Student		*Mmm*
Key α = dominant clause β = dependent clause + logico-semantic addition x logico-semantic enhancement				

Table 3.8: The unit of a *move* and *move complex* in a pedagogic exchange

Ventola also theorises extended interaction from one speaker. She argues that analyses need to avoid 'a fragmentary view' of interaction where moves are in danger of being attributed to every clause (1989, p. 59). She introduces the concept of a *move complex* to account for two or more *moves* of the same type in succession. As a unit of analysis, moves are not limited by clause boundaries. They may contain one or more clauses. The criteria that Ventola uses to identify a *move complex* include logico-semantic relationships (Halliday, 1985), as introduced in section 3.4.2. Where a move is the unit of analyses then logico-semantic relations hold between clause complexes and also across series of clauses. In move 3, for example, the teacher says:

Statement 1   *Yes, that's right, Kristina Keneally.*

Statement 2   She's no longer premier, but she was recently.

(**Move complex)**

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Here she is providing two statements: she affirms the identity of a person (*Yes, that's right, Kristina Keneally*) and provides additional information about her career (*She's no longer premier, but she was recently.*) In this example, the second statement is in a logico-semantic relationship of extension with the first, as it adds something new to what has already been introduced. Additionally, within the second statement there is a logico-semantic relationship of extension, which includes a further temporal dimension about the timing of Keneally's career change: *but she was recently.* Thus, the teacher's response consists of two statements with three constituent clauses. It can be understood as a *move complex* because of the logical connections between units at the same rank. In the analysis of interpersonal meanings *move complexes* are important because they provide a way of dealing with the frequent occurrence where one speaker's contribution enacts the same speech function, but extends beyond a single clause (Martin, 1992).

Above the rank of move complex is the unit of an *exchange.* The boundaries around exchanges are marked by the start of one initiating speech function and the end of any subsequent negotiations to complete that function (Martin, 1992). When the speech function shifts, for example from a command to a question, then a new exchange begins. Similarly, if the same type of speech function appears, but the commodity being exchanged or the person involved in the exchange shifts, then this also marks the beginning of an exchange. Exchange boundaries are annotated in excerpts of classroom talk in chapter 5.

While the criteria of speech functions provide important boundaries for interpersonal units of analysis, they do not highlight more specific roles that interlocutors take as they negotiate knowledge. A concern with the negotiation of knowledge is central to the work of M. Berry (1981, 1987). She observes that when a hierarchy exists between interlocutors in the classroom, combined with a knowledge/expertise differential, then there are predictable patterns in discourse roles and exchange structure. These interpersonal roles vary depending on whether the pedagogic exchange is about action (such as putting mobile phones

away) or about knowledge (such as proposing wording/meanings for a topic sentence).

Table 3.9 (below) exemplifies one predictable sequence of several interpersonal moves. The central *move* is a knowledge exchange and labelled K1. The K1 coding stands for the interactive role of *primary knower* in the exchange. In pedagogic contexts, the primary knower is the interlocutor who is positioned as having more authority to verify knowledge than the other participants in the exchange. A K1 move complex is exemplified in Table 3.9 when the teacher provides two statements: *Reduce, reuse, recycle, Great! You remember those.* This K1 move is the only core obligatory move: for an exchange to be about knowledge, some information must be proposed.

Interpersonal structures			Text of classroom talk	
exchange	move type	Initiating and responding Speech Functions	Speaker	Text
1.Give information	K1	Statement	Teacher	*This morning we talked a lot about, umm things that we need to learn about the environment*
2.Demand information	dK1 move complex	Question	Teacher	*And what was the thing we used?*
				Three?
	K2	Answer	Student 1	*Rs*
	K1 move complex	Statement	Teacher	*Reduce, reuse, recycle.*
				Great! You remember those.
	K2f	Acknowledgement	Student 2	*We're smart!*
	backchannel		Students+	*(laugh)*

Table 3.9: Interactive roles in a traditional classroom knowledge exchange

When one of the interlocutors is positioned (or positions themselves) as the more expert primary knower, other interlocutors are thereby positioned as *secondary knowers*. This interpersonal move type is coded as K2. It occurs in Table 3.9 when the student responds to the teacher's question by saying: (*three) Rs.* Any other moves which follow the first K1 move are labeled with an additional *f*, for 'follow'. Students might, for instance, make a remark after the teacher's K1 move such as when student 2 responds to praise by saying: *We're smart!* The final move type that is exemplified in Table 3.9 is a *delayed primary knower* (dK1) move. It involves the primary knower demanding information that they already know. In this move type the primary knower is not yet providing or evaluating information, but asking less expert interlocutors for it. This move is exemplified when the teacher asks a question that she knows the answer to: *And what was the thing we used?*

This excerpt exemplifies common synoptic moves, i.e. the relatively stable and consistent structures in exchanges. It illustrates M. Berry's observations about predicable move sequences around the obligatory K1 move, such as:

((dK1) ^ (K2) ^ **K1** ^ (K2f))

Analysis of power relations can be extended to include dynamic elements in unfolding discourse. Dynamic moves (Ventola 1987, Martin 1992) highlight flexible and less predictable moves that extend and interrupt exchanges. In the example from Table 3.9, there is a benign extension of the exchange after the K2f move. Student laughter represents the dynamic move of a *backchannel* as they engage with student 2's cheeky comment.

Other dynamic moves extend an exchange in different ways. A *challenge* move, for instance, may contest the *primary knower's* status, while a *clarification request* checks the interpretation of meanings (Martin 1992). Although dynamic elements of exchange structure involve some of the most interesting aspects of negotiating interactive roles and power relations around knowledge, this study focuses on the

core synoptic moves. This is primarily for three reasons. First, theorisation of dynamic moves has mostly involved discourse other than classroom interaction, including in-depth studies such of those of Eggins and Slade (1996) and Dreyfus (2007). Second, where studies have extended the categorisation of dynamic moves (such as Eggins and Slade's networks for casual conversation) they have not been linked to Martin's (1992) earlier networks; it is therefore difficult to know how the use and adaptation of theory differs. Third, the phasal analysis of this study focuses on the most frequent sequences of meaning-making, rather than focusing on variation and anomalies. The absence of robust criteria and detailed exemplification of dynamic moves in classroom discourse makes this aspect of NEGOTIATION theory problematic to apply to this study. The complexity and importance of dynamic moves warrants further detailed investigation in future studies.

Overall, the synoptic moves in exchange structure analysis are significant because they provide a consistent way to analyse shifting interpersonal roles around knowledge, i.e. who gets to be the *primary knower* and how this affects the structure of unfolding classroom talk. Previous studies of joint construction lessons (in particular Hunt, 1991; Dreyfus et al, 2011) have used the system of NEGOTIATION to examine changing interpersonal roles, however those analyses are not related to the ranks of *cycle phase* and *learning cycle.*[22] This means that the tools of NEGOTIATION have not yet been used in combination with other discourse semantic tools to differentiate and interpret the function of phases. In this study, changes in synoptic interpersonal moves contribute to understanding how teachers and students negotiate power relations around language expertise, during iterative configurations of classroom interaction. They provide an interpersonal perspective on the function of *cycle phases* and thereby contribute to an interpretation of how teacher talk relates to student activity.

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[22]See Martin 2006a, Rose 2010b, 2014 for analyses of exchange moves in relation to phases of reading activity.

3.5.3.2   *The language of evaluation*

The analysis of interpersonal meaning also extends to evaluative meanings that are construed during joint construction. In particular, this study draws on the APPRAISAL system (Martin & White, 2005). This system is concerned with subjective interpersonal meanings in texts, as writers and speakers 'adopt stances' towards other interlocutors and their audience, as well as 'the material they present' (Martin & White, 2005, p. 1). More specifically, the systems of ATTITUDE and GRADUATION are used to illuminate where, how, and to what degree evaluation features in talk about language choices. They thus provide key insights into how valued patterns of meaning are made explicit through classroom talk. Like other discourse semantic tools, APPRAISAL resources are also a potential source of evidence to discern distinctive features and shifts in phases of classroom talk.

The system of ATTITUDE encompasses three dimensions: *affect, appreciation* and *judgment.* The dimension of affect involves resources to express emotional reactions/feelings such as <u>worry, anger</u>, and <u>love</u>; *appreciation* values things such as <u>beautiful</u> sunset or <u>complex</u> problem; and *judgment* values behavior according to social norms, values and expectations, e.g. an <u>eccentric</u> outfit, an <u>immature</u> remark, or a <u>dishonest</u> report. These kinds of evaluative meanings can be graded to adjust to the degree (or force) to which they are expressed. Resources of GRADUATION amplify or diminish evaluation, e.g. <u>very</u> happy or <u>slightly</u> annoyed. Evaluation also involves adjustments through sharpening or softening the boundaries around a category (referred to as 'focus') such as <u>real</u> food or <u>sort of</u> clear. In data from this study, resources of ATTITUDE and GRADUATION are used to investigate how student activity is appraised.

3.5.3.3   *Modalisation*

A further interpersonal resource is *modalisation.* This resource explores different degrees of probability and usuality in propositions (Halliday & Matthiessen, 2004). Modalisation includes lexicogrammar choices in Finite elements (encoded by modal verbs) and Mood Adjuncts (encoded by adverbs). Probability is about

how likely something is, e.g. something *might/could/will* occur, or *possibly/probably/certainly won't.* Usuality is about our expectations around something's occurrence, e.g. something *could, would, should, usually, sometimes, seldom, always* occurs. Both these resources explore the meaning space that lies between the polarity of 'yes' and no' choices (Halliday & Matthiessen, 2004, p. 147).

At the level of discourse semantics, resources of modalisation function to grade the modality of activity (Martin & White, 2005). They may also combine with resources of APPRAISAL, as teachers and students talk about language. For example in their analysis of a joint construction lesson, Dreyfus and colleagues (2011) note that teachers and students often reflect on language use. In one such instance the teacher talks about gathering alternate language choices to avoid plagiarism:

> T: *'And you've, you've got a sentence that you want to use form the textbook but you don't want to plagiarize. You don't want to take it word for word. It's* <u>*always good*</u> *to know what your choices are'* (p. 146).

In this example APPRAISAL and modalisation resources combine (*always good)* to affirm the applicability of a writing strategy beyond the immediate context of the lesson. This thesis considers such patterns in relation to the analyses of metalanguage.

3.5.4 Analysis of textual meanings: tracking resources

This thesis also considers how participants and things in discourse are identified in lexis. In SFL, the system of IDENTIFICATION considers how resources are used to introduce and the keep track of participants in discourse (Martin 1992). This system includes the concept of phoricity (Halliday & Hasan, 1976), i.e. the recoverability of lexical items. As Martin (1992, p. 98) explains, 'every time a participant is mentioned, English codes the identity of that participant as explicitly recoverable from the context or not'. When phoric textual references are used in discourse the assumption is that the addressee can retrieve the information. English uses resources to direct attention to either inside or outside the verbal text.

For example, anaphoric references point backwards to the introduced referent, as in: *What did you say? Can you say <u>it</u> again?* In contrast an exphoric reference points outside of the spoken text, as in: *Did you see <u>the</u> news last night*? Such resources are relevant to how teachers and students keep track of each other's contributions for the scribed text. This study considers their role in the identification of parts of the scribed text as well as types of meaning choices.

3.5.5   Intonation resources to express textual and interpersonal meanings

In a general sense, intonation 'refers to the rise and fall of pitch of the voice in spoken language' (Tench 1996, p. 1). More technically, Halliday proposes that intonation comprises of three systems that are conceptualised separately, but work together to create meaning: TONALITY, TONICITY, and TONE (1967, Halliday & Greaves, 2008). These systems of are interest in the analysis of joint construction lessons because they consider how meanings are created through the manner in which we say them, i.e. not just our choice of lexis, but also *how* we say things.

As yet, no studies of joint construction have included the study of intonation. However, other SFL studies (e.g. Zappavigna et al, 2010) have found that intonation makes a significant contribution to the negotiation of interpersonal meanings. This study considers the role of intonation in expressing textual and interpersonal meanings, as teachers and students write together.

3.6   Systemic representation of findings from phasal analysis

So far, this chapter has described a number of analytical tools that are used in phasal analysis. These tools are predominantly at the level of discourse semantics. They involve all three metafunctions to consider teacher and student meaning-making. The findings of analyses will, where possible, follow the tradition of system network writing in SFL. System networks that show inter-relationships between meanings. *System networks* focus on paradigmatic and syntactic relationships in sets or 'systems' of semiotic choices. Paradigmatic relationships consider 'what could go instead of what' and syntagmatic relationships consider 'what goes with what' (Halliday & Matthiessen, 2004, p. 22). In any given system,

these relationships establish either/or meaning-making choices and the structures that encode those choices.

System networks are central to SFL analyses because they encompass potential meaning-making options, insofar as one's data can illuminate. They also specify the order and sequence of structural components that make each choice distinctive, and thereby provide linguistic criteria of similarity and difference. From an SFL perspective, paradigmatic and syntagmatic relationships create meaning, i.e. features in system networks mean in relation to each other. In this study, system networks are particularly important to the identification and differentiation of tasks. Rather than presenting findings of student activity as a list of options, system networks necessitate linguistic criteria of similarity and difference in any categorisation.

3.7   Data of the research

This section outlines the data of this research project. It introduces the sites of data collection, data types, means of collection, and participants.

3.7.1   Sites of data collection

This study involves three pre-tertiary learning institutions. These institutions are English language learning centres that are affiliated with Australian universities. The pre-tertiary literacy instruction in these institutions is designed to assist and prepare students for the academic literacy demands of their future tertiary studies. This university affiliation provides students with two pathways for university entrance: an external IELTS test or an internal Direct Entry assessment. The writing methodology of joint construction is used by teachers to support students with academic writing prior to internal or external means of assessment. The three institutions from metropolitan Sydney are referred to as centres A, B and C. Each was chosen for their willingness to participate in research and for the considerable experience of their teachers (as detailed below).

3.7.2 Data types and means of collection

The aim in data collection was to capture a broad scope of classroom interaction during the Text Negotiation stage of joint construction. The primary data source involves videos of lessons. In total, one lesson from five different groups of students and four different teachers were collected – a total of five lessons. These lessons are approximately forty-five minutes to one hour in length. They centre on writing prompts for collaborative writing activity. The lessons each result in texts of classroom talk for discourse analysis. The five texts are detailed in Table 3.10.

Institution	Texts of classroom talk	Writing prompt for the Text Negotiation lesson stage
Centre A	Class 1	*Advances in technology have resulted in many benefits but have also been problematic. What kinds of concerns have transpired? How could they be dealt with?*
Centre A	Class 2	*How important is the cashmere industry in Mongolia? How has it been changed since globalisation? What are the consequences?*
Centre A	Class 3	***Critically evaluate the Barangaroo development proposal in terms of social, economic and environmental sustainability.***
Centre B	Class 4	*What are the disadvantages of using social networking sites?*
Centre C	Class 5	*The responsibility for the environment rests with the individual and not only with the government. Do you agree?*
TOTAL TEXTS	5	

Table 3.10: Summary of texts for classroom discourse analysis

Each lesson was recorded during normal class time. One video camera used to record data was placed at the back of the classroom. A second camera was

present as a back up. Additionally, three MP3 players also provided simultaneous audio recordings. These devices were placed at the front, back and middle of the classroom. They were used to cross-check/confirm spoken speech. Where possible, different student voices were identified as student 1, student 2, etc. All video recordings were transcribed with transcription software (Inqscribe). These transcriptions resulted in texts of classroom talk that were each between approximately 4,500 – 8,000 words in length. The total data set constituted approximately 32,000 words of classroom discourse.

Approaches to the transcription of spoken data vary with the methodological approach, underlying theory and specific questions to be explored.

The conventions for transcription are shown in Table 3.11 below.

Notation	Meaning
T	Teacher
S1 (2, 3, etc.)	Individual student contributions – as identified by voice
S+	Multiple students' simultaneous responses
S?	Unidentified student
(?)	Inaudible speech or un-identified field
?	un-identifiable field (in relation to field analysis)
~~	Overlapping speech
* 6 seconds silence *	Silent period counted in seconds (as per the software program's time automation)
[*nodding and smiling*]	Description of physical movement
(said quietly)	Description of voice qualities
'for local people'	Quotation marks identify that the speaker is reading out <u>scribed text</u> from the whiteboard. (This convention is to distinguish the text of classroom talk from the scribed text).

Table 3.11: Transcription notation

The data transcription in this study primarily focuses on wording. Additional semiotic resources such as body movement or speech qualities are included in

square and standard brackets respectively. Such annotation provides a point of reference for potential further analyses, as required. In general, the annotation and subsequent analyses of these paralinguistic semiotic resources relate to instances where students are asked to modify meanings – as per the research focus on the negotiation of meaning in this study.

In SFL, specific analytical tools are applied to the transcribed text. If spoken features like loudness or hesitation are a focal point of meaning, then the video/ audio recording is analysed according to specific semiotic systems such as the intonation systems of TONICITY, TONE and TONALITY. Each of these systems has its own conventions for representing different aspects of meaning making. The application of such tools resulted in an annotated transcription. Hence the analysis of meaning is not part of the original transcription process.

Additional data included the scribed text that was created during the lesson, i.e. the written answer to each writing prompt. This was collected through video stills. These written texts appear in Appendices 4a-4e. In analysis they are used as a point of reference to identify wording that was negotiated and eventually scribed during the lessons. As separate texts, they are not analysed linguistically, because the focus of this thesis is on understanding the enactment of a curriculum genre, rather than analysis of genres that are created through classroom interaction.

Other forms of data were also collected to contextualise the recorded lessons. These included notes from classroom observations, prior, during and after recorded lessons, and teaching programs. Data other than the recorded lessons were not subject to linguistic analysis. Rather, they were collected to support transcription and to situate the recorded lessons within curricula. As Christie (2002, p. 23) has advised, 'extract selection needs to be understood for its status in the much longer stretch of classroom activity', i.e. the prior activities which 'must have heralded it, and which presumably contribute' to its logogenesis (unfolding development). The main reason for collecting these additional data sources was to enable the researcher to trace the roots of any shared metalanguage that featured in classroom talk, i.e. to understand whether terms

and talk about language had been previously introduced or not. This was important in interpreting whether an interaction expected students to recall past learning or not.

3.7.3 Participants: teachers and students in this study

Participants in this study were all involved with advanced academic English teaching and learning. The four teachers in this study were selected on the basis of three criteria. First, they had obtained a Masters in applied linguistics or TESOL at a Sydney-based university, in which genre pedagogy was a component. Second, they were already incorporating the method of joint construction as a regular part of their teaching. Third, they each had ten or more years experience in pre-tertiary academic literacy and had participated in on-going professional learning in this field. These criteria increased the likelihood that participating teachers would be comfortable with the observations of their classrooms. Their common post-graduate qualifications meant that there was a common understanding of what the methodology of joint construction entailed, i.e. that it entailed the teacher leading the students in the co-creation of a target text.

The criteria for the participating students were two fold. Firstly, they were international students for whom English was a second or additional language. Secondly they were attending an ELICOS course with the view to continuing studies in the Australian higher education sector. These criteria meant that participating students were within the target group of pre-tertiary students who required assistance with their academic writing.

Each class consisted of between 11 and 17 students. The nationality of students varied, with the largest representation of students coming from China. Courses included students from the following countries: Brazil, Palestine, Philippines, Iran, Lebanon, India, China, Vietnam, Nepal Saudi Arabia, Thailand, Peru, Switzerland, South Korea, Poland, Bangladesh, India, and Colombia. Students in each course were aiming for undergraduate or postgraduate study in different faculties. The most common fields of study included business and commerce as

well as medical and health services. Students' target tertiary courses included information technology, public health, pharmacy, occupational therapy, education, commerce, engineering, nutrition, economics, biotechnology, project management, environmental science, psychology, accounting, human resource management. The diversity of the student body and the range of target tertiary courses mirrored nation-wide statistics for international students in the ELICOS sector (Department of Education Higher Education Group, 2015; International Research Education Unit, 2015a).

3.8   Ethical considerations

There were a number of ethical considerations involved in this study. For teachers, considerations included: (1) their normal teaching routine, (2) normal classroom interaction, (3) demands on time, (4) emotional responses to sharing data, (5) additional stress. The main considerations for participating students were (6) normal classroom interaction (7) demands on time, (8) understanding the project, (9) issues of coercion/ obligation. These considerations required university human research ethics clearance, as well as approval from the participating institutions. A summary of action taken to address these considerations is detailed below.

Issues regarding disruption to the teaching routine (1 & 7), demands on time (3) and additional stress (5) were carefully considered. Teachers and students were not asked to undertake additional tasks or activities for the purposes of data collection. Teachers were selected on the basis that they already included the target methodology in their teaching practice as an accepted method with which to enact their teaching programs. There was no expectation that teachers would engage in discussions during data collection. After the recorded lesson, brief informal discussions only occurred in a spirit of reciprocity if initiated by the teacher. For students the target methodology was an expected part of preparation for assessed writing tasks. These factors reduced the likelihood of additional stress, time demands or disruption caused by data collection.

To minimise intrusion into normal classroom interaction (2 & 6), there were four important considerations. The first consideration involved the *position of the video camera and choice of room*. At the sites of data collection, there are several large-sized rooms where a camera could be placed on a tripod, unobtrusively at the rear of the room. This ensured minimal intrusion into the students' and teacher's physical space, with participating teachers deciding on the final position of the camera and tripod. This positioning meant that the video footage focused on the teacher and whiteboard, without being in the way of participants' movements. The second consideration involved the *position of the audio recorders*. Small recording devices were placed at the front, back and middle of classrooms. These devices were not in the way of students' working space. Apart from placing the recording devices on tables and collecting them at the end of the activity, the researcher remained at the back of the room. The third consideration involved *creating a video blind spot* for students who potentially did not wish to appear in video footage. By adjusting the focal range of the video camera, a blind spot was created to the left or the right of the room, or above the rear most tables of the classroom. In this way, normal furniture arrangements were maintained, but students could choose to sit in the blind spot. The final consideration involved *the position and role of the researcher*. The researcher operated the video camera at the back of the room and wrote observation notes in silence. The actions taken thus minimised issues of potential disruption.

In terms of sharing data for research purposes the main consideration was the emotional discomfort of the teachers (4). To address this concern two strategies were adopted: *the predominant use of de-identified transcribed excerpts;* and *teacher's preview and approval of video samples*. These strategies apply to the on-going use of research data. In the presentation and discussion of research data (e.g. at research seminars, conferences, and in future publications) video excerpts are used minimally. Instead, excerpts of interaction are transcribed with standard de-identification conventions. Data is then presented and discussed in written form. When video footage is used, the clips that are intended for sharing are first sent to teachers for approval. Such clips are used to discuss exemplary or thought

provoking dimensions of teaching, and do not include negative critique of teaching practices. In this way, teacher's institutional identities are treated with care and respect at all times.

Finally, English literacy issues about students' understanding of the project (8) and concern about perceived coercion/ obligation (9) were addressed. The main strategy to ensure that students understood the project and nature of data collection was to conduct a power point presentation with a sample video of similar data, prior to asking for consent. This video involved joint construction footage from a previous research project[23]. This footage and presentation made clear the extent to which students would appear in the video, the purpose of data collection, transcription conventions, and intended data sharing avenues. In addition to the sample video, a written explanation was provided via an information sheet. Consent forms were in simple English, large font, contained a transcript sample, and time was allocated for both literacy and project related queries. Students were also physically shown where cameras would be set up in their actual classrooms and where the 'blind spots' were located. Before recording, students were reminded of the blind spot option and given time to move, as necessary. Although all students agreed to participate, these actions ensured that students who may have changed their minds could still be present in the class, without being in video view.

3.9   Consolidation

The research design involves relating instances of data to social semiotic understandings of language systems, and vice versa. Bi-directional relationships between actual instances of classroom discourse and generalised systems of meaning are analysed with specific tools in the framework of Systemic Functional Linguistics. This approach involves a detailed qualitative examination of classroom talk during joint construction lessons. A number of SFL tools are used

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[23]Video data was from The Embedded Literacy Support (ELS) research project at the University of Sydney. This project and use of related data was approved by the university's human ethics committee. Footage showed how the position and focal range of the camera resulted in primarily capturing the frontal plane of the teacher, and the back of students' heads.

to understand instance-system relations. The primary focus is on discourse semantic systems to consider the flow of meanings in teacher-student classroom talk. Methods of phasal analysis provide insights into what teachers and students do in the target writing methodology as well as the relationships they enact. Analyses follow the ordering principle of rank to enable consistent and criteria-bound selections of data.

Overall, the research design aims to provide findings that further our understanding of what joint construction entails. In particular the analysis of unfolding discourse considers how classroom interaction aims to achieve joint construction's shorter and longer-term pedagogic goals, i.e. to co-create another model text using shared understandings about language and to prepare students for future writing tasks. More broadly, detailed analysis of complex curriculum genres aims to build on a growing body of literature that considers how curriculum genres differ from knowledge genres.

In the following chapter, I commence the first step of phasal analysis by examining tasks. The central question of chapter 4 is: *What is it that students do in* joint construction lessons*, and why?* This step provides the basis from which to then analyse teacher-talk around student tasks in the following chapters.

Chapter 4   Student activity

4.1   Introduction

The exploration of pedagogic practice in teacher-led collaborative writing begins with a focus on students. What is it that students do in joint construction lessons, and why? While past studies have provided insight into the structure of pedagogic relationships, as yet there is limited understanding of how student activity results in a scribed text.

The analyses of student activity centre on the construct of task. In studies of second language learning, the term 'task' is often used without a high degree of specificity. It often broadly refers to student activity and the pedagogic goals that such activity accomplishes (Samuda & Bygate, 2008). For empirical analyses, 'task' is a problematic term, particularly because it can be used across different timescales. For example, a task can refer to what is accomplished in series of lessons, a single lesson, part of a one lesson, or the momentary actions of one student (e.g. Rose, 2014). What is meant by a task therefore needs to be carefully positioned in relation to unfolding activity. In this chapter, I examine what students do in relation to a hierarchy of part-whole structures of activity. With this approach, the 'whole' is interpreted as the entire activity of a Text Negotiation lesson stage.

I start with a micro perspective on student activity and the goals of their actions. At this micro level, I use discourse semantic tools of IDEATION (Martin, 1992; Martin & Rose, 2007a) and APPRAISAL (Martin & White, 2005; Hood, 2010) to study individual contributions from students and interpret how each contribution relates to the whole lesson stage. The second section of this chapter then moves up from the smallest parts of student activity to consider possible connections between smaller parts. Here I draw on theory about connections within social activity and in particular on logical relationships (Halliday & Matthiessen, 2004) and the structuring of unfolding ideational meaning in texts (Martin 1996, 2000). Thirdly, I consider the teacher's role in managing student activity. In the final

section, I position findings in relation to accumulating research about relationships of constituency in unfolding pedagogic discourse.

4.2   Tasks in the Text Negotiation lesson stage

The concept of 'task', which constitutes the frame for an investigation of student activity in this chapter, needs further explanation. Here it is used as a technical category for types of student activity, as defined by certain criteria or principles. The criteria in this case refer to kinds of meanings. A task involves a distinctive 'pulse' of ideational and interpersonal meaning that students create (Rose, 2006, p. 187) (see chapter 2). The primary concern of this section is to understand what students do as meaning-making activity, and to interpret how those meanings relate to the lesson. The central question is: *what tasks do students perform and what is their function in the lesson?* This question takes analyses to a micro-level where contributions from individual students are examined in unfolding classroom talk. This perspective begins the exploration of lesson structure by considering how the smallest parts of the lesson contribute to the whole.

4.2.1   The main task types in Text Negotiation lesson stages

Student activity in Text Negotiation involves students making contributions in spoken language. They propose instances of wording that could become part of the scribed text. Although many students may contribute, just one communal text is scribed. An example is provided in Table 4.1. In this excerpt, the class is writing a 'problems and solutions essay' in preparation for an external written examination (an IELTS test). Their writing topic is about advances in technology. The first part of their co-created text is consequential explanation about the positive and negative impact of technology on society. (For a version of their full scribed text see Appendix4a.) The excerpt begins with students continuing to generate their text and complete the sentence that begins thus:

The advent of the internet has contributed substantially to…

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The first student contribution (turn 2) involves a query about meanings for the scribed text. (See chapter 5 and 6 for further discussion on queries.) Then student 8 proposes *our daily life.* His contribution extends the scribed text by adding new meanings to it. That is, he is proposing wording/meanings that have not been proposed before. His contribution exemplifies how students propose wording for the relevant genre and writing topic. This kind of task is categorised as *initiating wording.*

Pedagogic activity		
Turn	**Sp.**	**Text**
1	T	*[scribed text:* **The advent of the internet has contributed substantially to***]* You want to mention something about our life?
2	S8	But can you mention detail about education and health?
3	T	We're going to, we're going to save that to the preview
4	S2	**Our life, our daily life**
5	T	Ahh. Ok. To 'our daily life' *[scribes: our daily life].* Now I wonder *[underlines 'our daily life']* if we can make this more interesting? Something more sophisticated perhaps. Same idea but we'll use different language.
6	S2	**Routine**
7	T	Routine. *[erases 'to our daily life' but doesn't scribe suggestion]* When we are talking about technology, it is not only the internet, is it? It's all kinds of technology. We've got washing machines, we've got dishwashers, we've got cars, we've got, ahh vacuum cleaners. We've got all kinds of umm, devices that save us time and make our lives easier. So how could we put that all together in one little *[gesture: extended thumb and index finger, an inch apart]* expression? ** 9 seconds silence ** It makes our life good. How can we make this more academic? We've got three ways we could talk about this. When we, when

		we compare different countries, for example, some countries, developed countries where people have a very good life in terms of, ahh, the way they live. Comfortable, very comfortable life. And then other countries where it is much less comfortable.
8	S9	**You mean lifestyle?**
9	T	Lifestyle. Now we are on the right track. So we can use words like 'lifestyle',
		Or?
10	S8	**Quality of life**
11	T	Why, why do so many people from poor countries want to come and move to a rich country?
		* 4 seconds silence *
		Why?
12	S9	**Because, they basic needs.**
13	T	They want a better lifestyle
14	S9	**Better lifestyle yeah.**
15	T	So how can we say this in a more academic way? What are they looking for?
16	S1	**Higher standard (? Inaudible)**
17	S9	**Luxury**
18	T	Nearly
19	S1	**Higher s~~tandard**
20	T	~~Higher standard of?
21	S1	**Lifestyle.**
22	T	No we never say 'standard of life'.
23	S8	**Living**
24	T	Of?
25	S8	**Living**
26	T	**Living. Standard of living.**
KEY (See full key in Appendix 5)		

~~   overlapping speech

' __ 'Quotation marks identify that the speaker is reading out <u>scribed text</u> from the whiteboard

S+ Simultaneous responses from multiple students

Table 4.1: Student tasks in the Text Negotiation lesson stage

(Class 1, Excerpt 1)

Although students propose wording to extend the scribed text, they may also work with initial suggestions. In other words the class may choose *not* to move on to constructing a new part of the scribed text, but rather to attend to the ideational or interpersonal meanings of a prior message. This is illustrated in contributions after turn 4 where the class continues to work with the initial suggestion. Here the teacher asks students to propose wording that is *more sophisticated* (turn 5) and *more academic* (turn 7 and 15). Their subsequent contributions eventually replace *our daily life* with *higher standard of living*. When students work with existing proposed wording, they are performing a second category of task, namely *attending to wording.*

The excerpt in Table 4.1 is indicative of how collaborative writing is not just a matter of continuously proposing new wording for the scribed text. Classroom talk also attends to and negotiates meanings that have already been proposed. This might involve, for example, replacing one previously proposed lexical item for another, as exemplified above. In combination, student activity to initiate and attend to wording eventually results in one co-created text.

Throughout text creation, proposed wording shares a common point of reference in the scribed text. As students have a communal 'target', classroom talk does not involve a series of random disconnected meanings. Instead, the teacher and students are creating messages that progressively contribute to a greater whole, i.e. the scribed text. In general terms, a 'message' refers to 'meaning that is exchanged in a communicative event' (Malcolm, 2010, p. 5). In this case the teacher and

students construct messages for each other to interpret, as they co-create a scribed text.

More technically, messages involve configurations of meaning. While a grammatical perspective examines messages as a 'non-dependent, non-projected clause, together with dependent and projected clauses' (Rose, 2006, p. 187), a discourse semantic lens considers relationships between messages and their parts. Unfolding messages consist of 'actions configuring with people, places and things, all four of which components may be configured with qualities' (Martin, 1992, p. 324). The minimal unit of a message is one message part.

From a discourse semantic perspective, the student activity in Table 4.1 involves a series of messages that generate and make changes to one part of the scribed text. Specifically, students propose and then make changes to one class of thing or entity *(our daily life)*. Other proposed wording does not change: the first entity (*the advent of the internet,* the action/event (*has contributed…to*) and the quality related to activity (*substantially*) all remain the same. The series of messages and changes to one message part are illustrated in Table 4.2.

Message #	Messages for the scribed text		
	entity	**action/ event + quality**	**entity**
1	*The advent of the internet*	*has contributed substantially to*	*our daily life*
			| *synonymy*
2			*(our) routine*
			| *meronymy*
3			*(our) lifestyle*
			| *meronymy*
4			*(our) quality of life*

Table 4.2: Student messages for the scribed text

The first change, from *our daily life* to *routine,* involves a lexical relationship of synonymy. This category of relation broadly involves similarities in meaning. It is

a problematic lexical relation for analyses because two instances of wording, unless repeated, do not have a complete overlap of meanings.[24] (See discussion in Hood, 2008 and analyses of changes in specificity in chapter 6). However, as a general class of lexical relation, *synonymy* identifies that two instances share a degree of similarity. The lexical relations between entities continue as *routine* changes to *lifestyle* and then to *quality of life.* One interpretation of these additional changes is that *routine* is re-expressed as a contributing part of our general *lifestyle,* and in turn, *lifestyle* contributes to or is a part of our overall *quality of life.* Here relations of meronymy (parts of) connect meanings in one entity to the next. These incremental changes exemplify on-going relationships that extend beyond the boundaries of individual clauses. A discourse semantic perspective is essential to understanding text co-creation because it is concerned with where new meanings are introduced, how they change, and how meanings relate to a greater whole.

To summarize, student activity involves creating messages for the scribed text. Students propose wording in two main kinds of task types: *initiating wording* and *attending to wording.* These tasks are distinguished by the meanings that are created. The *initiating wording* type proposes a new message/ message part to generate a new part of the scribed text. In contrast, the *attending to wording* type works with an existing message in some way, such as changing one message part. These task choices are represented as a PROPOSED WORDING system network in Figure 4.1. The entry condition for this system is a student contribution during the Text Negotiation lesson stage. Before text co-creation begins only one task is possible: initial wording must be proposed for the lesson to commence. However, after the first contribution two categories of task emerge. Students either propose a message with new meanings to keep constructing the scribed text (*initiating wording*), or they work with an existing message (*attending to wording*). These two task choices have two different functions. *Initiating wording* is focused on the

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[24] For instance, *daily life* and *routine* share meanings about regular events. However, *daily* classifies a dimension of *life* and *routine* specifies that events are reoccurring.

on-going construction of the scribed text, while *attending to wording* puts forward momentum on hold to work with meanings that have already been proposed.
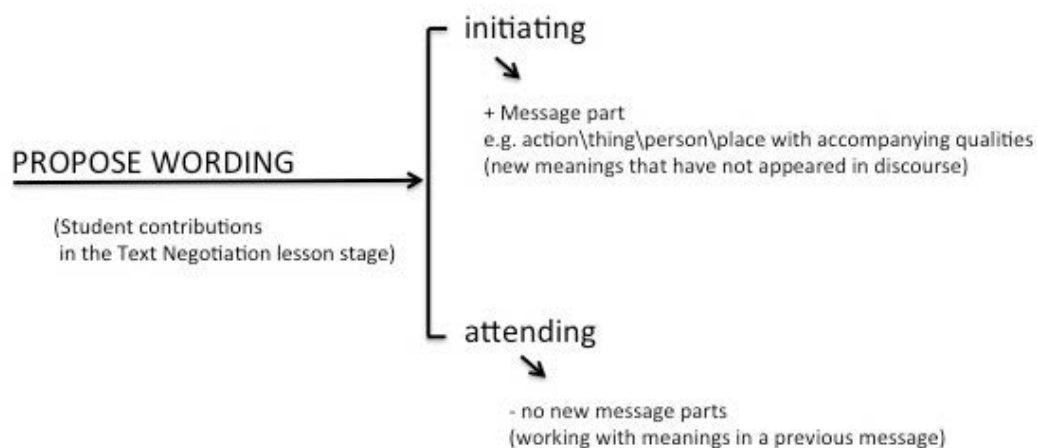
Figure 4.1: Towards a network of task types

4.2.2   Determining boundaries between tasks

Before continuing to analyse tasks the issue of task boundaries needs to be addressed. If tasks relate to what students do with meaning then when does one task finish and the next begin? The excerpt in Table 4.1 includes tasks where students propose different amounts of wording. While some students propose one word (as in *routine* and *luxury*), other students propose a word group (as in *quality of life*), and others attempt a whole message (as in *Because, they basic needs)*. These differences highlight that a task is not determined by the quantity of what students propose, i.e. 'how much' of a message they create. Rather, task boundaries are created when teachers talk either side of student contributions. For example, in the annotation of the second excerpt in Table 4.3 there are two tasks. At turn 1, the teacher says something about the first task. At the most general level this talk functions to set up the task. Then at turn 2, a student performs a task by proposing wording. The teacher responds by saying something about what was proposed. This post-task talk can be interpreted in general terms as following up the task. In this case, the task follow-up indicates that different proposed wording

is required (*I know, I want to avoid 'people'*). It therefore serves a dual function of also setting up the next task. Following the criterion of teacher-talk boundaries, student activity in Table 4.3 is analysed as a series of two tasks.

Pedagogic activity			Lesson structure
Turn	**Sp.**	**Text**	**Tasks** & talk around tasks
1	T	'Individuals should reduce the excessive use of their own cars, use environmentally friendly products and prevent the causes of forest fires.*' [Reading out scribed text]* Can I just umm. Think about 'individuals'. Can you think about another word for 'individual' and 'public'?	task set-up
2	S?	People ~~ *[laugh]*	**task 1**
3	S+	~~*[laugh]*	
4	T	I know, I want to avoid 'people'.	task follow-up/ task set-up
5	S?	Citizens.	**task 2**
6	S?	Ahh!	task follow-up
7	T	Citizens *[Smiling. Erasing 'individuals' and scribing, 'Citizens'.]*	

Table 4.3: Teacher-talk creating boundaries between tasks

(Class 5, Excerpt 1) (See the full scribed text in Appendix 4b)

While teacher-talk either side of tasks provides the primary criteria, task boundaries are not simply a manner of turn-taking. The following chapter examines the set-up and follow-up of tasks in terms of their function in the flow of

classroom talk. For example, instances such as a student saying, *'Ahh!'* (turn 6) in response to proposed wording and the teacher also smiling (turn 7) are examined for the kinds of shifts in meaning that they create. At this stage of analysis, the main point is that student tasks may involve as little as one message part or as much as one or more whole messages.

4.2.3 Sub-types of tasks

Further investigation of tasks reveals that the two main categories of *initiating* and *attending* tasks have sub-types. In the realm of initiating proposed wording, analyses show that students do not always propose wording *for* scribing. Sometimes they propose wording that is not intended to extend the construction of the scribed text at all. Instead, they propose wording *about* language choices. Additionally, a shift in momentum to attend to previously proposed wording has a range of more specific functions in text creation. Forthcoming findings about task variation contribute to a more complete picture of the range of tasks that students perform. These variations are now discussed in turn.

4.2.3.1   Types of initiating tasks

So far, *initiating* tasks have been differentiated from other tasks because they introduce 'new' ideational and/or interpersonal meanings that have not appeared in classroom discourse. In terms of task variation, greater complexity arises when what students are talking and writing about is examined more closely. In SFL, the *what* of discourse functions in the construal of the contextual or register variable of field (Halliday, 1978; Martin, 1992; Halliday & Matthiessen, 1999). (See chapter 2). Analyses have exemplified how fields manifest in unfolding texts as messages with message parts that construe social activity as entities (things, people), events or actions, and settings (places etc.). One key finding is that there are two prominent fields in the classroom interactions: the field of the topic for writing (TFW) and the field of knowledge about language (KAL).

One main source of evidence for the differentiation of fields relates to the organisation of entities (Halliday, 1998). By way of example, in Table 4.4 the

class is writing an explanation about the disadvantages of social networking. (For the full scribed text, see Appendix 4c). In relation to the field of the topic for writing (TFW), student 2 proposes the wording of: *Disadvantages of social networking sites are wasting time and stealing personal information*. His message contains three entities: 1) *disadvantages of social networking*, 2) wasting time and 3) stealing personal information. These entities are related in a classifying taxonomy (Martin, 1992; Martin & Rose, 2007). The superordinate class or category is *disadvantages of social networking*. The other two entities are subclasses of the superordinate category (*wasting time* and *stealing personal information*). These class-subclass relationships highlight the organisation of entities in discourse to create field-specific meanings. They are illustrated here to show that one of the fields involved in *initiating* tasks is the field of the topic for writing.

Pedagogic activity			Lesson structure		Field
Turn	Sp.	Text	Task #	Task type	
1	T	So, how do we start?	set-up		? (un-identified)
2	S2	Disadvantages of social networking sites are wasting time	**task 1**	**initiating**	TFW
3	T	Ah thank-you very much [*scribing: 'Disadvantages of social networking sites are wasting time.'*]	follow-up		
4	S2	and stealing personal information	**task 2**	**initiating**	
5	T	[*scribing: 'and stealing personal information'*] Alright….	follow-up		

Table 4.4: Initiating tasks in the field of the topic for writing

(Class 4, Excerpt 1)

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Additionally, students propose wording in the field of knowledge about language (KAL). In this field, their messages are *about* language choices. This difference in field is exemplified in Table 4.5. At turns 2 and 3 in Table 4.5, students propose the wording of *topic sentence.* Here they are introducing new ideational meanings into classroom talk. However, this is not for scribing. Instead, wording is about language use. Their classroom talk identifies and labels a type of meaning choice. In this case, they name a paragraph part.

Pedagogic activity			Lesson structure		Field
Turn	Sp.	Text	Task #	Task type	
1	T	We'll start ahh, we'll start with our introduction now. So, as usual we need a good introduction. We want to make a good impression. So, umm, what kinds of things do we need to include in our introduction?	set-up		KAL
		Same as before? What's the best way to start?			? un-identified)
		* 6 seconds silence *	(task)		
		Preview first? No.	set-up		KAL
2	S8	topic sentence	**task 1**	**initiating**	KAL
3	S+	~~ topic sentence		**initiating**	KAL
4	T	~~Ah topic sentence on this topic.	follow-up		KAL
		So the key word from the essay, 'advances in technology'	set-up		KAL/ TFW
		Who can figure that out an idea for the topic sentence?			KAL

		Can we paraphrase? The word 'technology' would be difficult to paraphrase			
		Ahh, we could use another word in that family. We could use the adjective for example. What's the adjective? Technology's the noun.			
5	S+	technological	**task 2**	**initiating**	TFW
6	T	Good.	follow-up		

Table 4.5: Initiating tasks in the field of knowledge about language and the topic for writing

(Class 1, Excerpt 2)

The student wording is in response to the teacher's identification of a paragraph part that is not appropriate (see the end of turn 1: *preview first? No.*). From a taxonomic perspective, the labelling of paragraph parts involves a compositional taxonomy in the field of KAL, as illustrated in Figure 4.2. In this example, the class is talking about paragraph structure. They identify the next text part before proposing wording to create it. (See turn 5 where generating the scribed text begins). This example illustrates that *initiating* tasks may also involve a second field, namely the field of the topic for writing.

Paragraph structure (for introductions)

topic
sentence   preview

Figure 4.2: A compositional taxonomy of part whole relations in an introductory paragraph

In *initiating* tasks, the expected field and shifts between fields may not always be clear for students. In the excerpt from Table 4.5, this is evident in students' initial silence after the task set-up of: *What's the best way to start?* Once the technical term *preview* identifies the field of KAL, students then respond quickly (see *topic sentence* at turn 2 and 3). This example highlights how the performance of tasks involves interpreting both the task type and the expected field.

The presence of two fields also illuminates that two texts are being simultaneously constructed: a text of classroom talk and the scribed text. All the messages created by the teacher and students construct a text of classroom talk. This text involves messages *for* and *about* the scribed text; the former relates to the field of the writing topic and the latter the field of knowledge about language. The second text that the class constructs is the scribed text. It only consists of meanings in the field of the topic for writing. These meanings first appear in classroom talk and they are then re-instantiated as scribed text, as represented in Figure 4.3.
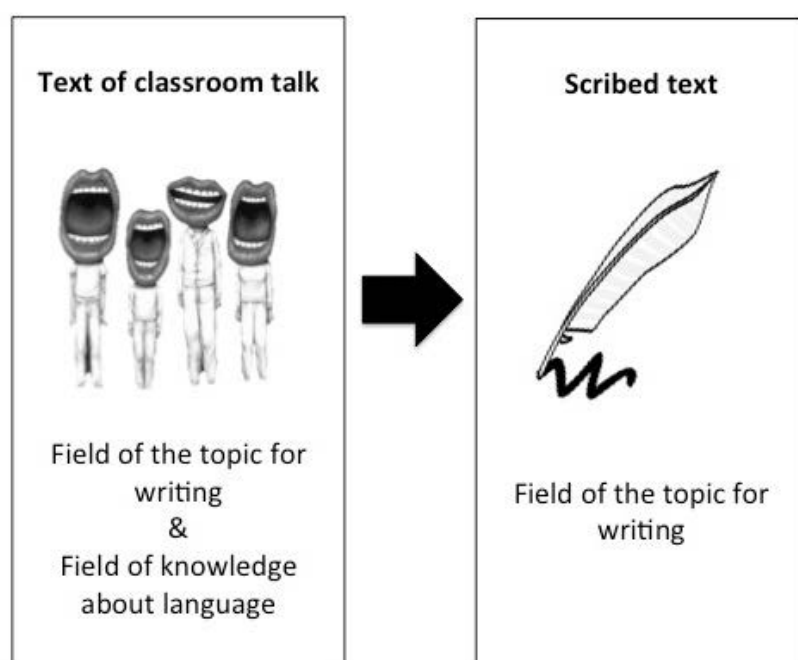
Figure 4.3: Constructing two texts with two fields of discourse

From the perspective of genre, texts of classroom talk are enacting a curriculum genre (Christie, 1997, 2002), in this case the curriculum genre of joint construction. As the teacher and students interact, the pedagogic activity and pedagogic relationships are encoded in their language choices. Through this talk, another semiotic artefact is created, i.e. another text. In this sense, the curriculum genre provides a pathway through which the class can negotiate the co-creation of another genre such as an explanation or exposition. This finding draws attention to how the field of KAL is used in some way to negotiate wording for the scribed text, i.e. that which gets to be re-instantiated from classroom talk to the scribed text.

4.2.3.2 The function of initiating wording in the field of knowledge about language

While *initiating* tasks in the field of topic for writing (TFW) function to construct text, their function in the field of KAL requires some further explanation. Analysis

shows that *initiating* tasks in the field of KAL involve talking about language choices. In particular, this task type functions to relate instances of meaning to a general type of meaning choice and also to assess wording. For instance in the previous excerpt in Table 4.5, students identify a component part of a paragraph (*topic sentence*). Here they are relating forthcoming meanings to a type of meaning choice that organises the predictive thematic layers in a text. This type of meaning choice relates to the system of PERIODICITY in SFL terms (Martin, 1992; Martin & Rose, 2007a).

By way of further example, in Table 4.6 the class is writing a critical response genre about a re-development project. (For a version of their full scribed text see Appendix4d). The students have just constructed one part of their text, and the teacher asks: *Ok. What do you think of that?* Student 1 responds by saying: *But I think it's a little bit weird because… .* In this task, the student is negatively evaluating their scribed text. Specifically she uses resources in the system of APPRECIATION (Martin & White, 2005) to react to the quality of wording (*weird*). She also uses resources in the system of GRADUATION to moderate the intensity of this quality (Hood, 2010), e.g. *little bit* weird. Other students soon join in to assess the text and problematise logical relationships, which they categorise as '*reason'* and '*result'* (see turn 3-5). They eventually decide that they need to make changes to their text, and *attending* tasks ensue.

Pedagogic activity			Lesson structure		Field
Turn	Sp.	Text	Task	Task type	
		[Scribed text: *However with approximately 9,000 new job opportunities created, Sydney's economy will also grow due to the new investments that the project will attract. Sydney's economy will also receive a strong boost*.]			TFW
1	T	**Ok. What do you think of that?**	set-up		KAL
2	S1	But I think it's **a little bit weird** because we talk about the reason here is about the 'job opportunities' but then suddenly because of 'new investment'.	**task 1**	**initiating**	KAL TFW*
3	S2	It's like reason, result and then reason again.			KAL
4	S3	Yeah			
5	S4	But that is different ~~ from the reason we mentioned before.			
6	T	~~So here's a reason. Job opportunities. [*highlighting text on the projected screen*] Here's the result	follow-up		KAL TFW* KAL
7	S?	Strong boost	task 2	repeating	TFW
8	T	[*highlighting 'strong boost'*]. And then you've got another reason.	follow-up		KAL
9	S2	So if you want to them in this 'new investment', probably, ahh,	task 3	attending	TFW
10	S3	With 'the opportunities'.			TFW
11	S1	Ya. With 'the opportunities'.			TFW
12	T	We'd have to move this reason	follow-up		KAL

Table 4.6: Assessing wording with initiating tasks in the field of KAL

(Class 3, Excerpt 1)

As Table 4.6 illustrates, the meanings that students propose about language use only contribute to classroom talk. As meanings are negotiated students may repeat wording about the TFW (e.g. see *job opportunities* and *new investment,* in turn 2). However these meanings are not new to the scribed text. (Hence the asterisks in the field column of Table 4.6.) Instead they are involved in identifying what to negotiate and change. (See more about student queries in chapters 5 and 6, and more about identifying wording in chapter 6.)

The choice of creating messages *for* or *about* the scribed text highlights that students construct text *and* talk about it. The knowledge about language that the teacher and students share enables them to express relationships of generalisation. Such relationships involve relating meanings to a more general type of meaning choice. In SFL, generalisation allows for 'the development of extended taxonomic hierarchies' (Halliday and Matthiessen, 1999, p. 615). These taxonomies include relationships of meronomy (part-whole) and hyponymy (type-subtype) between entities (Martin, 1992). In the excerpts so far, student talk has included meronymic relations for paragraph parts (e.g. *topic sentence–paragraph*) and co-hyponymic relations for phases of meaning (*reason–result*). The use of KAL to create relationships of generalisation provides criteria with which to assess wording. In Table 4.6 this is evident when students critique wording as being *a little bit weird* (turn 2) because *it's like reason, result and then reason again* (turn 3). Here proposed wording is related to kinds of logical relationships in their text. (See chapter 6 for further theorisation about the relationships between meanings and types of meaning choices.)

Further investigation of *initiating* tasks is summarised as a system network in Figure 4.4. *Initiating* tasks involve two fields of discourse. Students either propose new meanings *for* the topic of writing or *about* the topic of language use. This set

of choices is represented as the two alternate features in the INITIATING system of in Figure 4.4. I use the term 'topic' here to focus attention on the immediate and frequently changing subject matter of classroom talk, i.e. on shifts in content as various meanings are proposed and negotiated. The choice of topic is only relevant to *initiating* tasks. *Attending* tasks do not involve a choice of topic, because students are working with meanings where the topic of proposed wording has already been selected.
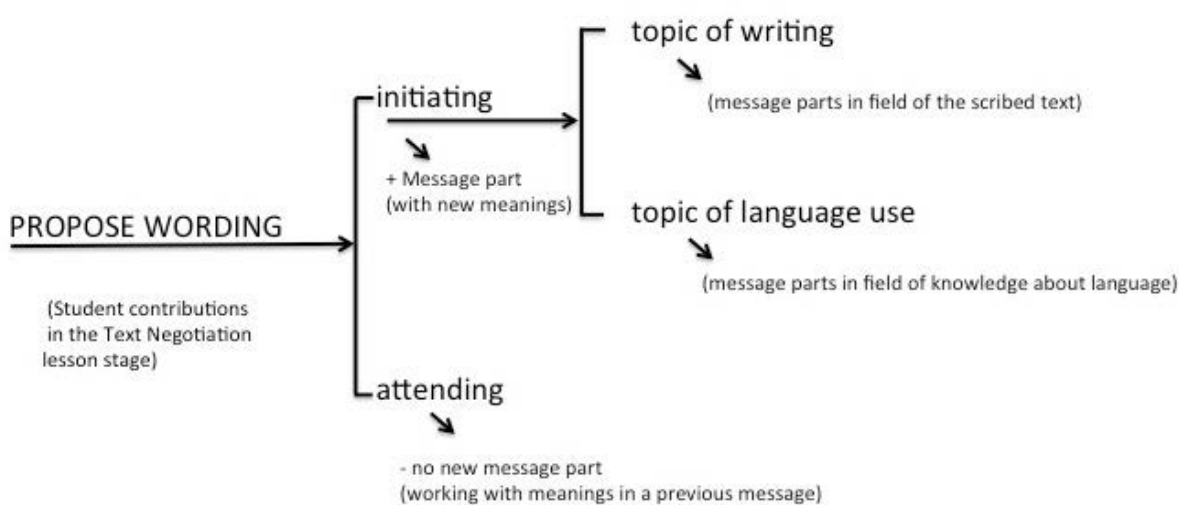
Figure 4.4: The choice of topic in the INITIATING system

4.2.3.3 Types of attending tasks

Up to this point tasks have been differentiated as either *attending* or *initiating* according to two criteria. First, *attending* tasks do not involve students creating a message with new meanings to extend the scribed text. Instead they work with the ideational or interpersonal meanings in a prior message. Second, *attending* tasks do not involve a choice about topic. This is because the topic of proposed wording was already chosen in a previous *initiating* task. The function of *attending* tasks has been described in broad terms as 'working with' proposed meanings, rather than continuing to construct a new part of the scribed text. This section examines their function more closely.

Further investigation shows that *attending tasks* function either to repeat or to modify proposed wording. In the first choice, *attending by repeating,* wording is repeated without change from one task to the next. For example, in Table 4.7 students repeat the wording *networking on social sites.* Such lexical repetition supports scribing the text, i.e. students repeat proposed wording so that it can be scribed accurately on the whiteboard (See also *for the local people–for the local people* at turn 6 in Table 4.1.)

Pedagogic activity			Lesson structure		Field
Turn	Sp.	Text	Task #	Task type	
1	T	And, What did you say? (looking at S9)	set-up		
2	S9	Networking ~~ on social sites.	task 1	**attending by repeating**	
3	S6	~~ social sites.			
4	T	Say it again.	set-up		TFW
5	S9	Networking on social sites.	**task 2**	**attending by repeating**	
6	T	Networking on ~~ social sites. Networking on social website. Yeah. That should do. [scribing]	follow-up		

Table 4.7: Attending by repeating tasks – example 1

(Class 4, Excerpt 2)

However, in other examples lexical repetition appears to be involved when students rehearse wording from the previous task. For example, in Table 4.8 at turns 5 and 7 students repeat wording without changing it (*production–production)*. This repetition is not for the benefit of scribing, but rather appears to be an opportunity for students to rehearse a successful language choice. This

second example highlights that *attending by repeating* tasks may serve a range of purposes depending on where they occur in unfolding interaction. (See also Table 4.11 where repetition is involved in selecting one option of wording from a list of potential options.)

Pedagogic activity			Lesson structure		Field
Turn	**Sp.**	**Text**	**Task #**	**Task type**	
1	T	Very good ok. 'Producing'. I can use the gerund, 'producing,' ' *[Scribes: (for) 'producing' (clothes)]*	follow-up		TFW
		Or whenever I use the gerund, of course, I always have the option of using a noun.	set-up		KAL
2	S6	Product, production	task 1	modifying: transforming	TFW
3	S2	Production			
4	T	[nodding]	follow-up		TFW KAL
		Produce, producing. And what is the noun?	set-up		
5	S+	**Production**	**task 2**	**attending by repeating**	TFW
6	T	Product and?	set-up		
7	S+	~~**Production**	**task 2**	**attending by repeating**	TFW
8	T	~~ Production	follow-up		TFW

Table 4.8: Attending by repeating tasks – example 2

(Class 2, Excerpt 2) (See the full scribed text in Appendix 4e)

The second type of *attending* task involves modifying proposed wording. This category shows *how* meanings change after they have been initially proposed, i.e. what students do to improve their text. Changes to wording usually occur within one message part and often involve just one word or word group. There are four main reoccurring ways in which students modify wording. These are categorised as *transforming, specifying, alternating* and *referencing*. Each of these types is important to understanding how interaction targets academic language development, i.e. what is it about initial wording that needs to be changed and why?

Analysis identifies that modifications to initial wording either involve a change to a different type of message part or not. In Table 4.9 for example, initial wording changes from *protect* to *protection*. Here an action/event is changed to an entity, i.e. from something that people *do* to a *thing*. In this type of change one type of message part is transformed into another, hence its labelling as *modifying by transforming*. The transformation of a message part is a distinctive feature of negotiating meaning. It retains the initial choice of meaning (such as a particular kind of action) but reconfigures how this social activity is construed. In this case the teacher makes the desired change explicit, as she sets up the task: *So we can make it more nominalised?*

Pedagogic activity			Lesson structure		Field
Turn	Sp.	Text	Task #	Task type	
1	T	To?	set-up		TFW
2	S1	**Protect** the environment.	task 1	initiating	TFW
3	T	So we can make it more nominalised ?	set-up		KAL
4	S1	**protection**	task 2	**modifying by transforming**	TFW
5	T	Ok	follow-up		

Table 4.9: A modifying by transforming task

(Class 5, Excerpt 2)

This kind of modification is significant because it provides evidence of the teacher and students negotiating a shift in register. In SFL the term register refers to the configuration of meanings in relation to situations of use (Halliday, 1978; Halliday & Hasan, 1985; Martin, 1992; Halliday & Matthiessen, 1997). In this context, students are learning about differences between everyday and academic registers. As the excerpt in Table 4.9 exemplifies, one fundamental difference between the two involves how actions/events are construed in messages. (See chapter 6 for further examples and elaboration of register.). In this case, the transformation of an action (*protect*) to an entity (*protection*) also involves an experiential grammatical metaphor (Halliday, 1985; Martin, 1992). As Martin (2013, p. 27) explains, meanings are described as 'metaphoric' when there are two layers of meaning, one symbolising the other'. (This is technically referred to 'stratal tension' in relation to SFL's stratified conceptualisation of discourse semantics and lexicogrammar (Martin, 1992). For example, *protection* is a participant within a clause, but at a discourse level it encapsulates meanings that involve 'both entities and the actions engaging them' (Martin, 2013a, p. 27). This

is evident in the meanings that follow *protection* where students 'unpack' this element; *protection* is elaborated in their scribed text as follows:

> *It is not only the responsibility of the government but also of the public to ensure **the protection of the environment**. <u>Citizens</u> should <u>reduce</u> the excessive use of their own private vehicles, <u>use</u> environmentally friendly products and <u>prevent</u> the causes of forest fires.* (See Appendix 4b.)

In the example above, people and actions are related to the entity of *protection*, i.e. *citizens* are involved in a series of specific social actions that protect the environment (*reduce… ; use… ; prevent…*). In Martin's terms (2013, p. 28), the entity of *protection* symbolises a 'semantic sequence', where meanings that are regularly expressed across a series of clauses are encapsulated in one clause element.

Grammatical metaphors are powerful in academic discourse, as much research has shown (e.g. Halliday, 1999; Mohan & Beckett, 2001; Derewianka, 2003; Colombi, 2006; Christie & Derewianka, 2008; Byrnes, 2009; Ryshina-Pankova, 2010; Schleppegrell, 2004a, 2011). In joint construction, *modifying by transforming tasks* may be involved in the creation of grammatical metaphors. They therefore play a crucial role in identifying a type of meaning choice that is valued in academic writing. However the extent to which changes to meaning are made explicit depends on classroom talk around the task, as chapter 6 further explores.

So far analyses have identified that *attending* tasks either repeat or modify wording. One significant form of modifying wording involves transforming one type of message part to a different type of message part. Alternately, there is no change to the initial type of message part, e.g. an *action* is still represented as an *action* and an *entity* is still represented as an *entity*. However students also make adjustments to the initial message part. The adjustments to wording are of three reoccurring types across the data set. The first involves further *specifying* initial wording. Table 4.10 provides two examples: *pollution* is changed to *air pollution*

(the first excerpt) and *clothes* is changed to *expensive clothes* (the second excerpt). Here a new element is added to each nominal group, e.g.

Thing (*pollution)* to Classifier + Thing (<u>*air*</u> *pollution);*

Thing (*clothes)* to Epithet + Thing (<u>*expensive*</u> *clothes);*

In the first example ideational meanings classify a type of *pollution*. The added specification in a Classifier element creates a relation of class – sub-class (hyponymy) between initial and modified wording. In the first example above, *pollution* is the superordinate class and *air pollution* is the sub-class. In the second example, the addition of an Epithet connects a quality (*expensive)* to the Thing element (*clothes*). This quality involves evaluating the entity of *clothes* with interpersonal resources of APPRECIATION (Martin & White, 2005).

The addition of structures to word groups demonstrates how changes to wording involve further specification. Put crudely, students are improving initial wording by adding meanings to it. More technically, the relationship between initial and modified wording involves a greater degree of commitment/ degree of specificity of meaning (Martin, 2008; Hood, 2008; Martin, 2010); the second instance expresses greater specificity than the first. In these examples, greater specificity is achieved through the addition of a structural element to the initial word group.

Pedagogic activity			Lesson structure		Text Field
T.	Sp.	Text	Task #	Task type	
Class 5, Excerpt 3					
1	T	What [*tapping whiteboard*] are these environmental issues?	set-up		TFW
2	S1	Global warming	task 1	initiating	
3	T	Global warming. Good.	follow-up		
		What else?	set-up		
4	S2	Environmental changes	task 2	initiating	

5	T	Environment changes	follow-up		
6	S3	Climate ~~change	task 3	initiating	
7	S4	~~ Pollution			
8	T	What kind of pollution?	set-up		
9	S4	Air ~~ pollution	**task 4**	**modifying by specifying**	
10	S+	~~Air pollution			
11	T	Air pollution	follow-up		
12	S5	Water	task 5	replacing by alternating	
13	S+	~~ water pollution			
14	T	~~ water pollution Ok Air pollution. I'll just write it again.	follow-up		
Class 2, Excerpt 3					
1	T	'widely used for clothes.' Can we improve this? 'widely used for clothes'? Can we make this more academic?	set-up		KAL
2	S5	for producing (clothes)	**task 1**	**modifying by specifying**	
3	T	producing	follow-up		TFW
4	S5	expensive clothes	**task 2**	**modifying by specifying**	
5	T	Very good ok….	follow-up		

Table 4.10: Modifying by specifying tasks

The remaining two types of adjustments do not involve adding elements to word groups. Instead, they involve replacing one word/ word group for another. One function of replacing wording is to use initial ideational or interpersonal meanings as a point of reference for swapping or alternating lexis. In other words, students explore other wording that is appropriate to the same 'slot'. This function is exemplified in Table 4.11. Here the initial wording of *produced* is replaced with *resulted in, lead to, cause,* and more problematically for *evoke* (see tasks 5 to 9). Each instance of alternate wording exemplifies a *replacing by alternating* task. The lexical relations between initial wording and one of more instances of alternate wording involve synonymy. In this case, synonymic relations connect wording that expresses causation, e.g.

> *produced*
>
> | synonymy
>
> *resulted in*
>
> | synonymy
>
> *lead to*
>
> | synonymy
>
> *cause.*

The exploration of alternate wording is classified as a kind of replacement because it could be swapped with initial wording. For instance, in Table 4.11 one student is asked to choose one of the alternatives. He first chooses the least related instance (*evoke*) and then is asked to choose again. His final choice is the initial instance. However, other alternatives could have also been scribed. As the teacher states, the purpose of exploring alternate instances is to create '*a list of options'* (turn 2). While only one instance is needed for the scribed text, the others are gathered for the benefit of future writing. (See further discussion in section 4.3.)

Pedagogic activity			Lesson structure		Text Field
Turn	Sp.	Text	Task #	Task type	
1	T	Produced good.	follow-up		TFW
2	T	Another suggestion? We should have, this is a very common structure for cause and effect. We should have a long list of options for this.	set-up		KAL
3	S9	Mmm, produced, ahh	task 1	attending by repeating	
4	T	Produced, resulted in	follow-up		
5	S4	Lead to.	**task 2**	**replacing by alternating**	
6	T	Lead to.	follow-up		
7	S?	Cause.	**task 3**	**replacing by alternating**	
8	T	Cause.	follow-up		TFW
9	S9	Evoke (said quietly)	**task 4**	**replacing by alternating**	
10	T	*[ignore]* Would you like to choose one James (S3)?	set-up		
11	S3	Evoke	task 5	attending by repeating	
12	T	Choose one from the list we've just heard	set-up		
13	S3	Produced	task 6	attending by repeating	
14	T	Ok. *[scribing 'produced']*	follow-up		

Table 4.11: Replacing by alternating tasks

(Class 1, Excerpt 3)

Less frequently, replacing one lexical item for another involves resources to reference an initial entity. In this kind of adjustment, the focus is not on lexical similarity but rather on tracking an entity. That is, referring to an entity without repeating the initial lexis[25]. In Table 4.12 for instance, the class appears to be concerned about unnecessary lexical repetition in their text of:

Cashmere <u>industry</u> is most significant <u>industry</u> for the local people.

Student 2 proposes the change from *(significant) industry* to *(significant) <u>one</u>* (turn 5). Here he is proposing a textual reference (*one*) that points back to an entity that was already introduced (*industry*). This kind of textual reference, called anaphoric reference, presumes the recoverability of the entity (Martin & Rose 2007). Although it is used here in relation to concerns about repetition, textual references are powerful discourse semantic resources; they can be used to 'contract' meanings so that other meanings can be related to the referenced entity (See discussion in Martin & Rose, 2007a). In Table 4.12 for instance, negotiations continue (see Appendix 6) until student 2's textual reference is repositioned to appraise an entity, e.g. *cashmere industry* is described as <u>*one*</u> *of the most significant.*

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[25] From the perspective of cohesive relations in grammar, this kind of change involves grammatical 'substitution' (Halliday & Hasan, 1976), where one word is substituted for another more general word.

Pedagogic activity			Lesson structure		Text Field
Turn	**Sp.**	**Text**	**Task #**	**Task type**	
1	T	*[Scribed text: Cashmere industry is most significant industry for the local people.]* So what do you think of this sentence everybody?	set-up		KAL
2	S+	*[shoulder shrugs] * 2 seconds silence **	(task 1)		
3	T	Ahh, is it accurate? The grammar ~~ accurate?	set-up		KAL
4	S5	~~ The most. The most.	task 2	modifying by specifying	TFW
5	S2	I think 'industry' repeating. It can be replaced by 'one'	**task 3**	**modifying by specifying**	KAL TFW
6	T	Ok.	follow-up		KAL/ TFW
		So, because we've already mentioned the word 'industry', do we need to mention the word 'industry' again?	set-up		
7	S2	Mmm. *[shaking head]*	task 4	initiating	KAL
8	T	So Simon is suggesting we could take that out and?	set-up		KAL
9	S6	~~one	task 5	attending by repeating	TFW
10	S2	~~one			TFW
11	T	'Most significant' one.	follow-up		TFW

Table 4.12: A modifying by replacing task with relations of textual referencing

(Class 2, Excerpt 4)

The five types of variation in *attending* tasks are represented as a system network of alternate choices in Figure 4.5. The first 'choice point' (Halliday, 2013) is whether meanings are repeated or modified. *Attending by repeating* tasks function to re-vocalise wording. They are realised by relationships of lexical repetition between initial wording and subsequent wording. There is no change of any kind to wording between tasks. Repetition serves more specific functions that depend on the flow of discourse. These include: assisting accurate scribing, rehearsing the wording of a suitable language choice, or selecting one instance of wording from a list of options.
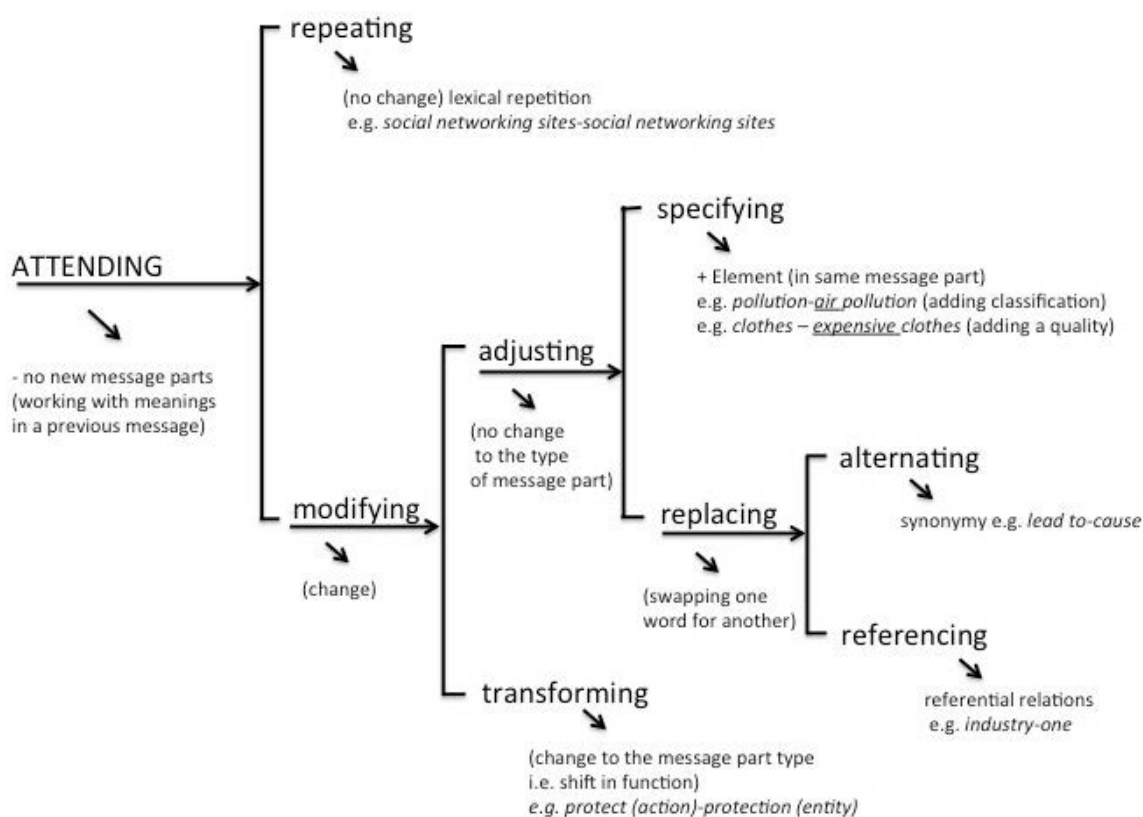
Figure 4.5: A systemic representation of attending tasks

The alternate choice to *repeating* involves *modifying* initial wording in some way. While repeating and modifying could be explored along a scale of similarity and difference (see discussion in Martin, 1992, pp. 301-302), in co-constructing a text the fundamental choice is about leaving wording as it is or changing it.

Modifications to wording either involve keeping the same type of message part or changing the initial message part to a different type. These two choices are represented by the *adjusting* and *transforming* features. The core difference is that the *transforming* type involves a different configuration of meanings in the message, such as changing an *action* in initial wording to an *entity* in the modified wording. In contrast the *adjusting* type retains the initial configuration of components, e.g. an *entity* is still represented as an *entity*.

The adjustments to a message part either involve adding an element to the initial word/word group (the *specifying* type) or swapping one word for another (the *replacing* type). In the *specifying* type the modified wording has a greater degree of specificity than initial wording. This is commonly achieved through expanding word groups so that they contain an additional element, such as a Classifer or an Epithet in a nominal group. In the *replacing* type of adjustment no new element is added to word groups. Instead, changes either involve using ideational and interpersonal meanings as a point of reference from which to propose similar wording (the *alternating* type), or an initial entity is replaced with a textual reference. Collectively, *attending* tasks represent a choice not to continue the extension of the scribed text. Rather, students work with meanings in messages that have already been proposed.

4.2.4 Consolidation

The different categories of tasks and their sub-types identify what students do as they co-construct a text. The task type of *initiating* accounts for how students start and extend their scribed text. Additionally, when initial wording is in the field of the knowledge about language (KAL), students assess and make generalisations about proposed wording. Here assessment involves reacting to the quality of wording and generalisation involves relating individual instances of meaning in the scribed text to a more general type of meaning choice. As forthcoming chapters continue to explore, generalisations are crucial to joint construction because they 'transcend' the instance (Martin, 2006b). They express knowledge about the general characteristics of an instance, which means that language

choices are not 'stuck' in a single co-created text. Overall, the analyses of *initiating* tasks reveals that the Text Negotiation lesson stage involves students co-constructing a model text and also talking about language choices at the time of text creation.

The alternate category of *attending* tasks accounts for what happens to meanings after they are initially proposed. If wording is not repeated then it is modified in specific ways. Without task types to modify wording, there would be little 'negotiation' in collaborative text creation. In other words, students would just continuously extend the text without communal efforts to reflect on and improve it. In the analyses of classroom interaction, *modifying* tasks highlight each incremental change to the scribed text. They are particularly important to understanding joint construction because changes to meaning are not always specified in teacher-talk. For instance, what does *more sophisticated* and *more academic* (Table 4.1) mean in terms of changes to meanings? The examples of modifying tasks have begun to highlight that a shift into an 'academic' register involves much negotiation of the nominal group structures that realise entities. They provide insight into the types of meaning choices that students are learning to master.

A central issue to arise from the analyses of tasks concerns the demands on students to interpret both the task type and the expected field. This challenge draws attention to the set up of tasks and the expectations that they create about student activity. This issue is addressed in chapter 5, where teacher-talk around tasks is analysed closely. The next section of this chapter uses analyses of task types to consider the patterning of tasks in the unfolding lesson.

4.3   The patterning of successive tasks in co-creating text

The previous section has analysed the scope of task types. This section considers how tasks unfold across a lesson. A logogenetic perspective marks a shift from the analysing and interpreting individual tasks to a focus on a succession of tasks. As classroom discourse analysts have long argued (see in particular Lemke, 2001 and

Mercer, 2008), a temporal perspective on unfolding activity is important because it considers pedagogic events in relation to each other, rather than viewing them as isolated instances. In terms of co-creating a text, the central issue is the extent to which tasks occur in a random order or if there is a patterning of tasks.

There is one patterning of tasks that is common to all five joint construction lessons. It involves students first proposing wording to construct a new part of the scribed text. They then propose alternate wording that is appropriate to the same text part. For example, in Table 4.13, students first propose: *several ways*. The teacher then elicits two instances of alternate wording (see turns 4 and 6) and students propose *different ways* and *various ways*. This patterning of tasks functions to collect multiple instances of appropriate wording. In analyses it is referred to as *gathering* writing activity. An extended version of this patterning can also be found in Table 4.11. As Humphrey and Macnaught (2011) have noted, the creation of alternate wording is an integral part of co-creating a text. In particular, it targets future writing, i.e. only one instance of wording is needed for scribing, but students can potentially draw from the alternatives when writing similar texts.

Pedagogic activity			Lesson structure		Text Field
Turn	Sp.	Text	Task #	Task type	
1	T	Will it impact in just one way or in several ways?	set-up		TFW
2	S	Several ways.	task 1	initiating	TFW
3	S+	Several ways.			
4	T	[*scribes 'in several ways'*]	follow-up		TFW
		What's another way of saying 'several ways'?	set-up		KAL/ TFW
5	S?	different	**Task 2**	**replacing by alternating**	TFW
6	T	Different ways.	follow-up		

		Another word?	set-up		KAL
7	S?	Various	**Task 3**	**replacing by alternating**	TFW
8	T	Various ways	follow-up		
		A variety of ways.			
		So there are lots of things you could put there.			KAL

Table 4.13: Gathering writing activity

(Class 3, Excerpt 2)

In terms of task types, the gathering of alternate language choices first involves an *initiating* task in the field of the topic for writing (TFW). Importantly, proposed wording in this initial task is affirmed by the teacher. (See turn 4 of Table 4.13 above where the teacher scribes wording and Table 4.11 where the teacher says '*good*'.) This positive task follow-up is critical because it indicates there is no problem with initial wording. The subsequent tasks function to gather more 'like' instances.

From a temporal perspective, the tasks in a gathering activity unfold one after the other, e.g. *initiating TFW ^ replacing by alternating ^ replacing by alternating*. However, there is a connection between meanings in each task: the first *replacing by alternating* task restates initial meanings, and in turn these meanings are restated in the second *replacing by alternating* task. In SFL, this kind of connection involves a logical relationship of elaboration between meanings (Halliday & Matthiessen, 2004). New meanings are not added to wording in the first task but reformulated in some way. In this case, they are restated with alternate lexis. This kind of logical connection between meanings unfolds in a serial structure (Martin, 1996, 2000), as represented in Figure 4.6. In this figure the '=' symbol represents logical relationships of elaboration.
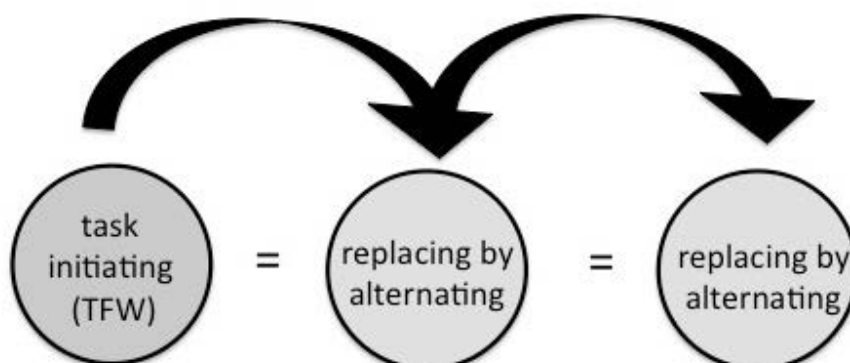
Figure 4.6: The serial structure of logical relationships between tasks in gathering lesson activity

An alternate perspective on the patterning of tasks arises when experiential meanings are considered. While there is a relationship from one task to the next, there is also a relationship between both *replacing by alternating* tasks and the first *initiating TFW* task. Wording in the second and third tasks both provide alternatives for the wording in the initial task. From this perspective, ideational meanings in the *initiating TFW* task are nuclear. Tasks to substitute wording exist because there is already one successful instance of wording that can be used as a point of reference. They are thus in a relationship of dependency to initial meanings. This kind of patterning is categorised as 'orbital', with one obligatory or 'nuclear' segment (in this case a 'task') and other peripheral or 'satellite' segments (Martin & Rose, 2008, pp. 24-25). The orbital structuring of experiential meanings in tasks is represented in Figure 4.7. While a serial structure focuses on the relationship from one task to the next, an orbital structure illustrates how multiple tasks relate to one core task.
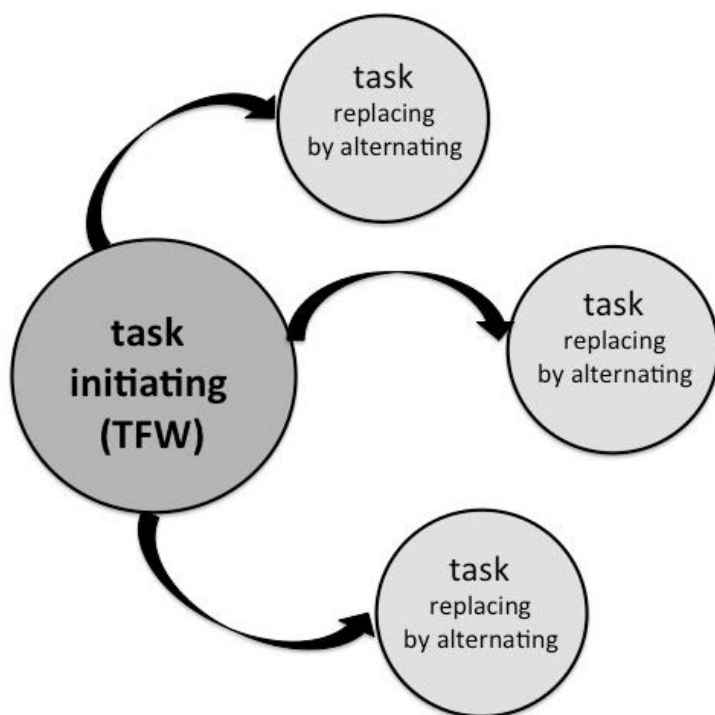
Figure 4.7: The orbital structure of experiential relationships between tasks in gathering activity

Findings about gathering writing activity draw attention to the teacher's role in the patterning of tasks. That is, there is some evidence that tasks do not occur in a random order. Arguably, the gathering writing activity involves a degree of design in the unfolding student activity. From the perspective of serial and orbital structure, the teacher is 'engineering' certain kinds of relationships between tasks. That is, the teacher is managing student activity for particular pedagogic purposes such as creating lists of alternate wording. The analysis of task patterns contributes to understanding how such pedagogic goals are achieved. More broadly, it points to the potential for organising successive tasks to achieve 'sub-goals' within an entire lesson stage. These pedagogic goals have the potential to attend to the instance and beyond the instance, e.g. guiding students to create meanings for the scribed text and also gathering alternatives for future writing.

4.4   Task management across the whole lesson stage

There is little evidence of other distinctive patterns in successive tasks. Across the data set, *initiating* and *attending* tasks and their subtypes occur in highly variable sequences. However, a further finding common to all lessons is the organisation of tasks into hierarchies of wholes and parts. Specifically, teachers break down the co-constructing a whole scribed text into smaller constituent parts. These parts coordinate the gradual construction of one communal scribed text.

Analysis shows that part-whole structures centre on the construct of a paragraph with constituent paragraph phases. Paragraph phases are either organised around shared knowledge of the topic for writing or shared knowledge of the genre structure. In terms of shared knowledge of the writing topic, teachers direct attention to specific aspects of the writing topic. For instance, the teacher of Class 2 created a list of topic-oriented paragraph phases before the writing lesson. These phases are illustrated in Figure 4.8. During the lesson, this phase list was stuck on the whiteboard and students also each had a printed copy. Each phase relates to one aspect of their topic for writing such as defining cashmere (see phase 1: *What is cashmere?)*. The teacher uses these topic-oriented phase prompts to narrow the parameters of *what* students should propose. For example, in the extended excerpt in Appendix 6 (see turn 109), the teacher says:

> *Ok. Let's have a look at our list of phases here. So Tim what's the first question?*

The student then reads out the phase (*What is cashmere?*).In subsequent tasks students are expected to propose meanings that only relate to that paragraph phase. When the next paragraph phase begins, new ideational parameters come into play. In this way, writing the whole scribed text is broken down into smaller parts that relate to different aspects of the topic for writing.

Topic-oriented paragraph phases
Class 2: Printed notes (stuck on whiteboard and as individual class handouts)
Phases: *1. What is cashmere?* *2. How significant is it in M's economy?* (M = Mongolia) *3. How many people are affected?* *4. How valuable is the industry?* *5. Summarise importance*

Figure 4.8: Co-ordinating student activity with topic-oriented paragraph parts (Class 2)

Teachers and students also organise paragraph phases based on shared genre knowledge. Rather than a content-oriented sequence of parts, they focus on the text function of parts. Common terms for naming the function of paragraph phases include *topic sentence* (Table 4.1, turn 1; Table 4.6, turn 4) and *concluding sentence* (see Figure 4.9 below). These function-oriented labels connect parts of the scribed text to the flow of meanings in the text, i.e. the role of parts in relation to the greater whole. While *topic sentence* and *concluding sentence* are not genre-specific, there is evidence of other labels that relate more closely to the

social purpose of the whole text. For example, prior to the Text Negotiation lesson stage, students in class 4 have participated in creating an 'outline' of paragraph phases for their explanation genre. These phases are displayed on the whiteboard, during text co-creation, as illustrated in Figure 4.9. Their list includes phases such as, *Introducing 1ˢᵗ (point), Explaining 1ˢᵗ (point)* and *linking example to the 1ˢᵗ point.*
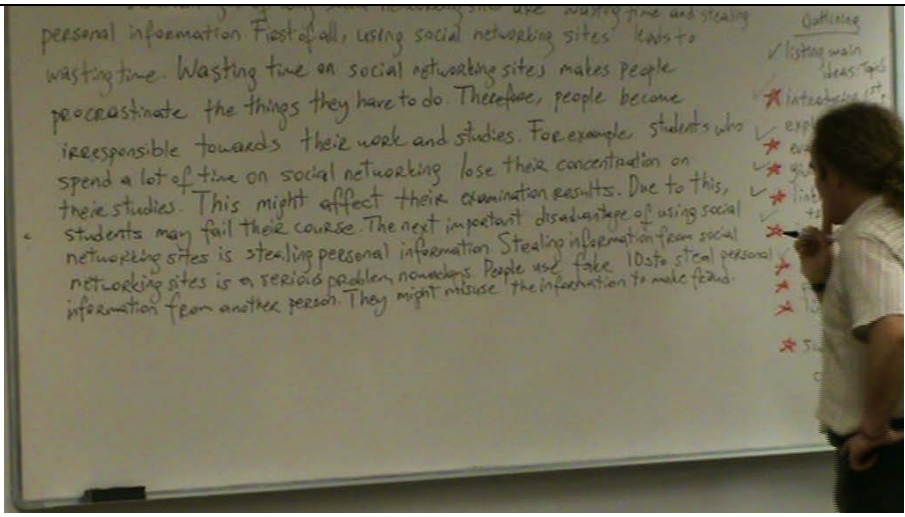
Function-oriented paragraph phases
Class 4: Whiteboard notes
Outlining   Listing main ideas: topics   *Introducing 1ˢᵗ*   *Explaining 1st*   *Evaluating 1ˢᵗ*   *Giving an example*   *Linking example to 1st point*   *Introducing 2nd*   *Explaining 2nd*   *Evaluating 2nd*   *Giving an example*   *Linking example to 2nd point*   *Summarizing main points/ Concluding sentence*

Figure 4.9: Paragraph parts identified with functional labels

Like the teacher of class 2, the teacher of class 4 uses their paragraph phase list to manage student contributions. He physically 'ticks off' each paragraph part as it is completed, as the video still in Figure 4.9 captures. Additionally, he points to or taps new paragraph parts to direct students to new writing activity. For instance, at turn 1 in Table 4.14 the teacher points to the label of *'introducing 1st'* and says, *'Let's introduce the first point'*. Student 1 then proposes, *'First of all'*. He also identifies his wording as a type of meaning choice (*signal word*) that is appropriate to starting the paragraph phase.

Other students then make incremental contributions to the same paragraph phase, with their suggestions sometimes competing (see turns 4-6). They may even engage with one task set-up, but contribute a range of meanings. For instance, at turn 8, student 6 repeats part of an earlier suggestion, changes some wording, and also initiates new wording. All these meanings are in response to one task set-up of: *Ok. Say it again* (turn 7). Although the student starts with a *repeating* task, he is changing the kind of task that he performs as he performs it. In effect, he is creating a *task complex* where one message involves a range of meanings in relation to one task set-up, e.g. some repetition, some substitution and some initiation of new wording. This complexity highlights the fragmented nature of gradually co-creating one paragraph part. It draws attention to the necessity of the teacher and students having a shared understanding of the texts' development or 'logogenesis' (Halliday & Matthiessen, 1999, p. 18). This provides a common point of reference for the expected scope of meanings in tasks. This point of reference is not only evident in the set-up of tasks, but also in their follow-up, as exemplified at turn 11. There the teacher says: *But it's more like explanation of the time, rather than introducing the time. We just need to introduce it now*.

Pedagogic activity			Lesson structure		Text Field
T.	Sp.	Text	Task	Task type	
1	T	**Let's introduce the first point.** *[pointing to paragraph phase list on the whiteboard].*	set-up		KAL
2	S1	First of all.	**task 1**	initiating	TFW
		Signal word. Ahh.		initiating	KAL
3	T	Ok *[scribes: 'First of all']*	follow-up		TFW
4	S1	Wasting time.	**task 2**	initiating	TFW
5	S6	First of all, people spend more time, ahh, sitting ~~at their computers working (? inaudible).			
6	S2	~~ spending more time on social.			
7	T	Just a minute Penny (Telling S2).	follow-up		
		Ok. Say it again *[Looking at S6].*	set-up		
8	S6	First of all, people, nowadays, the people	**task 3**	attending by repeating	TFW
		use computers		initiating	
		more time		attending by repeating	
		that that one became before.		initiating	
9	T	Ok.	follow-up		
10	S6	Right?	query[26]		

---

[26]This thesis analyses student initiated questions about language choices as 'queries'. See chapter 5 for their inclusion in the analyses of phases. See also dynamic moves in the system of NEGOTIATION (Martin, 1992) for an interpersonal perspective on interaction.

| 11 | T | **But it's more like explanation of the time, rather than introducing the time. We just need to introduce it now.** | response to query/ follow-up cont. | | KAL |

Table 4.14: Managing student activity as 'tasks within tasks'

(Class 4, excerpt 3)

Task management around paragraph phases directs activity to achieve a series of smaller goals within the lesson stage. The completion of the whole scribed text or designated part thereof can therefore be conceptualized as the macro-task or longest wavelength task in the curriculum genre. The focus on creating the text, one paragraph part at a time, creates meso-tasks or medium wavelength tasks within the whole. These medium wavelength tasks consist of short wavelength tasks or micro-tasks. They represent the incremental contributions that students make towards each paragraph part. These three task wavelengths and relationships of constituency are represented in Figure 10.

Tasks within Tasks

Short wavelength task

Individual tasks
e.g. initiating
proposed wording

Medium wavelength task

Series of tasks related to one paragraph part
of the scribed text, e.g. a topic sentence

Long wavelength task

Overall task of the lesson stage, e.g. a co-created explanation genre
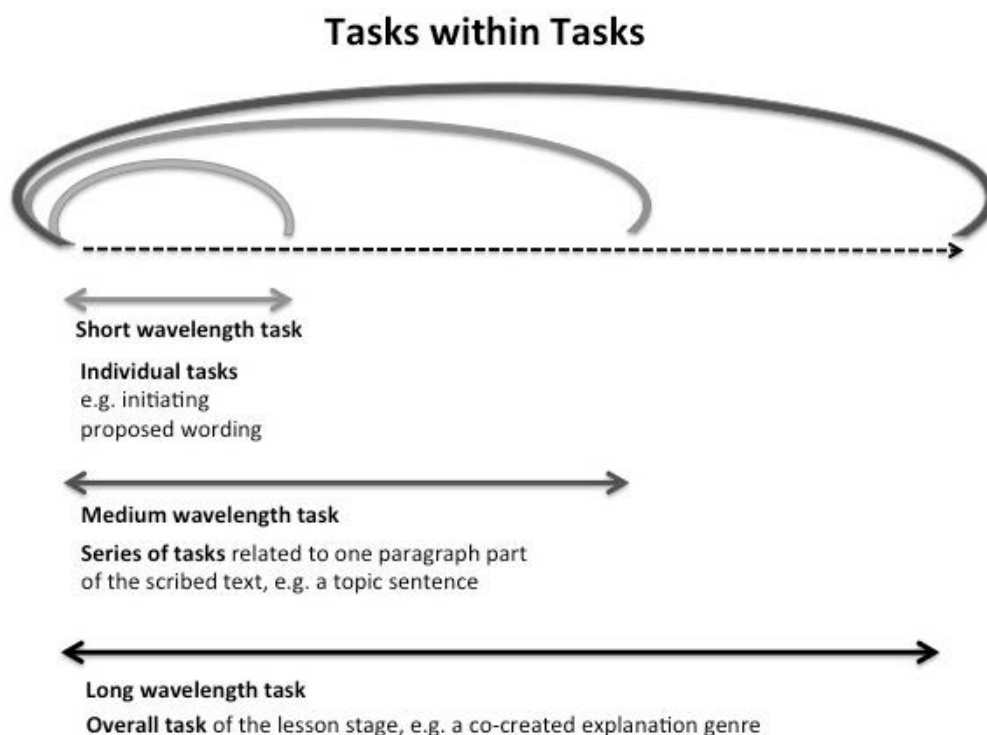
Figure 4.10: Task wavelengths in the Text Negotiation lesson stage

The organisation of tasks within tasks is a primary strategy through which teachers manage student activity across the lesson stage. Within this organisation, tasks at mid and short wavelengths 'chunk' writing activity into smaller achievable goals. Other than a reoccurring set of task types, there is little consistent patterning with how all teachers guide students to achieve medium wavelength tasks. However, two types of short wavelength tasks, *attending by repeating* and *initiating KAL,* are often used as 'book-ends' to mark the finish and start of medium wavelength tasks. Their role in creating boundaries is illustrated in Figure 4.11.
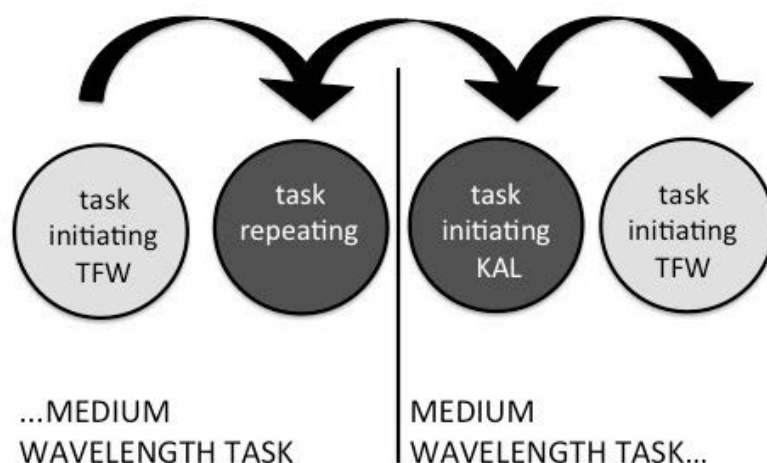
Figure 4.11: Creating 'book-ends' between medium wavelength task

The creation of boundaries between medium wavelength tasks is exemplified in the excerpt from Table 4.15. In this example, students have just completed one medium wavelength task and are commencing the next medium wavelength task. The end of the paragraph phase of *Introducing the first point* involves the repetition of wording. Then, the start of the next paragraph phase *(Explaining the first point)* involves proposing wording in the field of KAL. This wording identifies the next target paragraph phase. The strategic use of these two task types contributes to understanding how medium wavelength tasks are managed in collaborative text creation. (See the extended annotation of task wavelengths in Appendices 6 and 7.) The next chapter examines teacher-talk more closely to better understand how boundaries between short wavelength tasks are achieved.

Pedagogic activity			Task wavelengths		
#	Sp.	Text	short	medium	long
47	S5	Leads to	task 15 replacing by alternating	paragraph part	explanation genre
48	T	Leads to. Ok. I think we can use that.	follow-up		
49	S?	Huh?	query	*Introducing the first point*	(Disadvantages of social networking)
50	T	'Using social networking sites?'	set-up		
51	S2	Yeah leads to.	**task 16 attending by repeating**		
52	T	Leads to *[scribing]*. Leads to wasting time. Ok.	follow-up		
		I think the introduction of the first point is over *[ticks that item on RH list]*.			
		Ok. So we need to go into	set-up	*Explaining the first point*	
53	S1	Explain	**task 17 initiating KAL**		
54	T	explaining it.	follow-up		
55	S6	Due to	task 18 initiating TFW		
56	T	So what are we explaining?	set-up		
57	S6	We need to introduce something like connect.	task 19 initiating KAL		

58		Like a due to, due to or ~~ as (? inaudible) wasting time, because, due or people ~~spend more time	initiating TFW		
59	S2	~~ (? inaudible)	?		
60	S9	~~ People face lots of problems, ahh, sometimes that they can't reach to their destination within times, because they waste most of the time social networking, like they can't wake up from the mornings. They sleep late ~~ night	initiating TFW		
61	S5	~~ Ah.	?		
62	T	~~ Ok. Yep. ~~ Fine that might be an idea.	follow-up		

Table 4.15: Task wavelengths in Text Negotiation lesson stages

(Class 4, Excerpt 4)

4.5   Theorising part-whole relationships along a rank scale

The analyses of tasks, their subtypes and wavelengths have illuminated relationships of constituency in the co-creation of the scribed text. Examples have shown how the scribed text is organised into smaller parts to guide students towards its gradual construction. The shortest wavelength task or micro-task consists of meanings that first appear in classroom talk. These meanings are negotiated and some are re-instantiated in the scribed text. From the perspective of genre, the text of classroom talk enacts a curriculum genre. (See section 4.3.2 and chapter 2.) However, it also creates another semiotic artefact. In Text Negotiation lesson stages, this artefact is another text – and another genre, such as an explanation, or exposition. The meanings that students propose thus relate to the co-creation of two texts: proposed wording contributes to the text of

classroom talk and also incrementally constructs the scribed text. The dual contribution of micro-tasks is represented in Figure 4.12.

the text of classroom talk
i.e. the curriculum genre

micro-task ⟶ the scribed text
e.g. an explanation genre
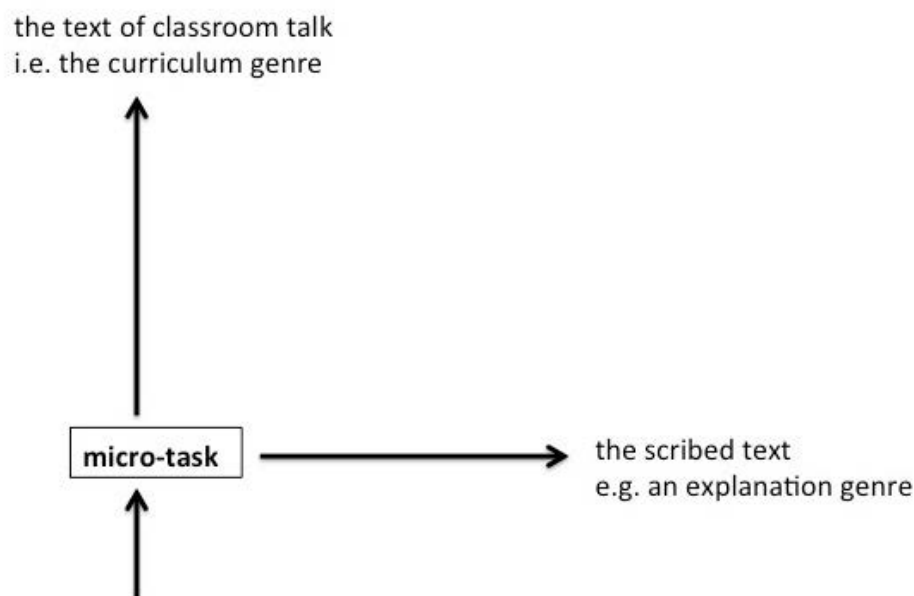
Figure 4.12: Micro-tasks as a structural unit that relates to creating the curriculum genre and the genre of the scribed text

A clearer understanding of how two texts are simultaneously created requires further precision in the analyses of smaller and larger units. In SFL theory, precise relationships between smaller and larger units of social activity draw on the notion of a *rank scale* (Halliday, 1961/2002; Halliday & Matthiessen, 2004). A *rank* is a unit with specific 'size-related' criteria. These criteria involve constituency relationships with higher and lower units. A rank is defined by the larger units to which it contributes and also by its smaller constituent units. A *rank scale* refers to the progression of smaller to larger units. Moving down this scale, each rank consists of <u>one or more</u> units of the next lowest rank, 'until we arrive at the units of the lowest rank, which have no internal constituent structure (Halliday & Matthiessen, 1997, p. 26).

So far, hierarchical relationships of constituency have been outlined for student activity to create the scribed text. The notion of rank applies to task wavelengths in the sense that one or more short wavelength tasks are constituent units of a

medium wavelength task; and, in turn, one or more medium wavelength tasks constitute the longest wavelength task. However, further precision is restricted by the fact that task wavelengths encompass parts of classroom talk *and* parts of the scribed text. While wavelengths are a useful construct to understand how the 'end product' is gradually created, the text of classroom talk and the scribed text each have their own part-whole hierarchies. The structure of the scribed text depends on the kind of genre that is co-created. Genres, such as explanations and expositions, each have their own hierarchical arrangements of parts within the whole, as many decades of genre research can attest (Martin & Rose, 2008). The relationships of constituency in texts of classroom talk require further explanation.

Past research on classroom discourse has defined the largest unit of interaction as a *curriculum genre* (Christie, 1997, 2002). This rank achieves a broad pedagogic goal, such as the co-construction of text, in the curriculum genre of joint construction. In institutional learning, curriculum genres are often enacted within the temporal boundaries of 'lessons'. When curriculum genres extend across multiple lessons, their serial or orbital structure can form a *complex* known as a curriculum macro-genre. The Teaching and Learning Cycle, in which joint construction is the middle step, is one such example. Moving down the rank scale, previous studies of joint construction lessons have identified one or more constituent *lesson stages* (Hunt 1991, 1994; Humphrey & Macnaught, 2011), e.g. *Bridging, Text Negotiation* and *Review*.

Analyses in this thesis focus predominantly on the lesson stage of Text Negotiation. Investigation in this chapter started at the smallest end of the rank scale. The attention here is on individual contributions from students and understanding of how each contribution relates to the whole lesson stage. Analysis has shown how students create messages for and about the scribed text. Messages are pulses of ideational and interpersonal meaning that unfold in discourse (Rose, 2005). As a rank, *messages* consist of one or more *message parts*, such as actions, things, people, places, and accompanying qualities (Martin, 1992). Message parts are thus the smallest rank of unfolding activity, and messages the second smallest rank.

The term 'task' has also been positioned in relation to a rank scale of pedagogic activity. *Tasks* are at the third rank, above message. The constituency criterion of tasks (i.e. one or more messages) is based on an interpretation of student activity as meaning-making activity, as discussed above. Task boundaries were identified with teacher talk to set up and follow up tasks. Examples highlighted how more then one student may respond to one task set-up. Students may also perform several task types in a row. These instances illustrate *task complexing* where more than one task is performed in response to a single task set-up.

In addition to the rank of task, there is arguably another higher rank of *lesson activity*. Like the term 'task', the term 'lesson activity' is often used in a general way to refer to a quantum of activity. However, it can be used technically in relation to a rank scale. Findings about the patterning of tasks suggest that one or more tasks configure to achieve a collective goal. The example of *gathering writing activity* has demonstrated how one or more *replacing by alternating* tasks functions to create a list of alternate wording. This pedagogic goal does not span the entire lesson stage. Rather, it is part of a reoccurring patterning of tasks that contributes to a sub-goal within the lesson stage. Following the rank scale criteria, lesson activities such as 'gathering' can be positioned at the rank above task. They consist of one or more tasks that share a pedagogic goal within an entire lesson. These higher and lower ranks of pedagogic activity are illustrated in Figure 4.13. In ascending order the ranks of pedagogic activity (as articulated thus far) are: *message part, message, task, lesson activity, lesson stage* and *curriculum genre.*
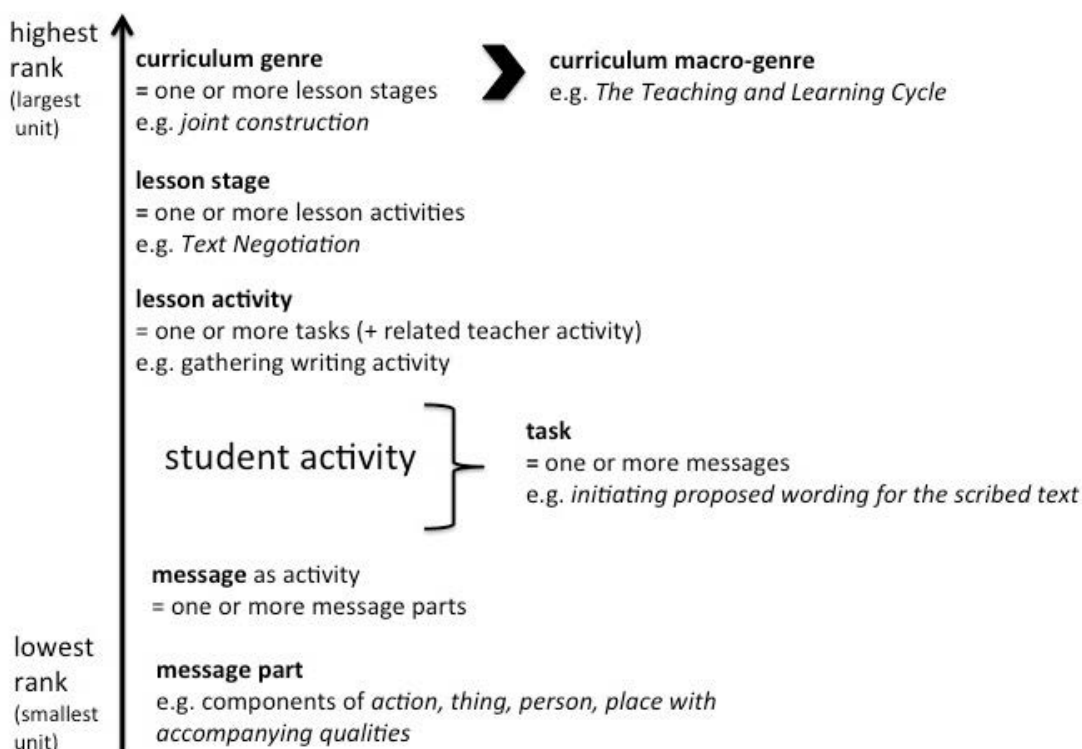
Figure 4.13: Towards a rank scale of pedagogic activity

While a focus on the rank of task has been the main concern of this chapter, the following chapter examines teacher activity around tasks. In particular, it considers what teachers do to set up and follow up tasks. In relation to the rank scale, it examines the messages that teachers create and their relationship to the tasks that students undertake. In the extension of analyses to include teacher activity, the use of a rank scale continues to be imperative. At a general level, a rank scale provides a principled means of selecting and comparing data (Christie, 2002). In on-going analyses of this study it provides consistent boundaries around the quantum of meanings that are analysed in the flow of classroom talk.

4.6   Conclusion

This chapter began by asking about the nature of student activity in the lesson stage of Text Negotiation. Analyses started at a micro-level to consider how individual contributions from students relate to the whole lesson stage. Findings

revealed that student activity involves proposing wording. More specifically, students create messages to construct new parts of the scribed text (the *initiating* type) or work with previously proposed messages (the *attending* type). These differences affect the momentum of writing activity where new text is generated or existing text is reworked.

Further analyses of the two main task types show variation within each category. Examples illustrate how initiating wording involves meanings that are either *for* or *about* the scribed text. This distinction relates to differences in field where proposed wording is either in the field of the topic for writing or the field of knowledge about language. While the former functions to construct new parts of text, the latter categorises and/or assesses proposed wording. Talk about language is particularly important because it involves expressing generalisations about language choices, i.e. how current choices relate to other contexts of use.

Analyses also reveal variation in *attending* tasks. While this task type accounts for how meanings are negotiated (after they are initially proposed), further sub-types illuminate reoccurring kinds of changes that students make and their function in writing activity. The changes to initial wording provide insight to the patterns of meanings that are valued in 'academic' registers. A central issue to arise from the analyses of tasks concerns the demands on students to interpret both the task type and the expected field. This challenge draws attention to the set-up of tasks and the expectations that they create about student activity.

The second question of this chapter was about the patterning of tasks. Here the lens shifted from examining and interpreting individual tasks to successive tasks, i.e. larger parts that contribute to the whole lesson stage. Across the data set, one patterning of successive tasks is found to reoccur. It involves students proposing alternate wording for the same part of the scribed text. This 'gathering' writing activity exemplifies how tasks may relate to each other, from one task to the next (serial structure), and/or multiple tasks may relate to a core task (i.e. orbital structure).

Findings about the patterning of tasks highlight the teacher's role in sequencing tasks. In particular, they illustrate the potential for designing task sequences that attend to the instance and beyond the instance. This is exemplified in the guiding of students to create meanings for the current text, but also to collect alternatives for writing similar texts in the future. This dual focus on immediate and future writing is essential in achieving the over-arching goal of joint construction – to prepare students for independent writing. Gathering activity provides one clear example of how this dual focus can be achieved.

The third question is about understanding how teachers support student activity. A key finding is that teachers break down the construction of the whole scribed text (or designated part thereof) into smaller constituent parts. These parts centre on paragraph phases of the scribed text. The class creates the whole text, paragraph part by paragraph part, with incremental contributions to each paragraph part. This organisation manages tasks on three timescales: a long wavelength task (the whole scribed text or designated part thereof), medium wavelength tasks (the construction of each paragraph phase), and short wavelength tasks (the micro-tasks that contribute to each paragraph phase). These wavelengths and their management throughout the lesson identify a primary means through which teachers lead the co-construction of a text. In relation to the notion of scaffolding, task wavelengths and the patterning of tasks provide a linguistic interpretation of designed-in or 'meso-level' scaffolding (van Lier, 1996, 2007).

These findings have contributed to a more detailed understanding of what students do during the lesson stage of Text Negotiation. In particular, the analyses of tasks and their subtypes have identified the scope of student activity. In doing so, it has more precisely articulated how the dimensions of 'action and reflection' (Dreyfus et al, 2011) are integral parts of co-constructing a text. Additionally, the identification of reoccurring tasks, their constituent parts, and configurations of successive tasks have been positioned along a rank scale of pedagogic activity. This hierarchical positioning of parts and wholes builds on past research of higher ranks. It also complements research that has examined the structure of

interpersonal relationships during joint construction. The following chapter extends analyses to include a closer examination of teacher activity to set up and follow up task.

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Chapter 5   Teacher activity around tasks

5.1   Introduction

In chapter 4, the investigation of teacher-led collaborative writing begins with a focus on what students do to co-create a text. Analyses reveal that students propose wording *for* and *about* the scribed text. In this sense, a student task involves proposing meanings that are then negotiated in classroom talk. The study of tasks culminates in a system network of task types. The network accounts for how students initiate, assess, repeat and modify meanings. The analysis of tasks is particularly important to understanding how meanings change in the shift from *everyday* to *academic* registers of language use. Findings also highlight the teacher's role in organising the sequencing of tasks. One common pattern involves teachers organising series of tasks to propose alternate wording for the same part of the scribed text. This kind of activity focuses on immediate language choices as well as choices which students can use in future writing. Additionally, in terms of managing the lesson, teachers commonly break down the construction of the whole scribed text (or designated part thereof) into smaller constituent parts such as paragraph phases and the meanings that contribute to those phases. From this temporal perspective, student activity is organised into tasks of different wavelengths. Such organisation relies on shared understanding of the structure of the target text. These findings invite further enquiry into the nature of teacher-talk around tasks, including the role of talk about language.

The primary focus of this chapter is teacher activity. The question addressed is: how does teacher-talk relate to the wordings proposed by students? This question is considered in terms of both setting up and following up tasks. In other words how does the teacher's meaning making open up or constrain space for the students to offer meanings/wordings and what is the function of post-task teacher-talk? The concern here is on how meanings unfold in classroom talk and how students are supported to accomplish tasks.

As with the analysis of student activity in chapter 4, so the analyses and interpretation of teacher activity in this chapter involve a rank scale. That is, they explore classroom talk for the hierarchical arrangement of constituent parts into a greater whole. Analysis continues to focus on the discourse semantic tools of IDEATION and APPRAISAL (Martin & White, 2005; Hood, 2010) with the addition of tools in the interpersonal system of NEGOTIATION (Martin, 1992; Martin & Rose, 2007a). While this chapter uses these analytical tools to examine ideational and interpersonal meanings, the following chapter uses additional tools to explore the dimension of textual meanings.

I start by outlining the general function of teacher-talk either side of tasks. I then more closely examine specific functions of teacher-talk as realised by interpersonal and ideational meanings. Finally, the emerging patterns of interaction are related to a rank scale of pedagogic activity.

5.2   Teacher-talk around student tasks

In the previous chapter, student activity centred on the rank of *task*. This rank interprets student activity as meaning-making where students propose one or more messages. These messages consist of one or more message parts that construe ideational, interpersonal and textual meanings. While such analysis accounts for student activity, it is incomplete. It does not incorporate how teacher-talk relates to the meanings that students propose. So far, in terms of teacher-talk, analysis has broadly identified that teachers set up and follow up tasks, i.e. they say something before and after students propose wording. The primary focus of this section is to better understand the function of this talk and its impact on the meanings that students propose. This analytical focus is represented in Figure 5.1.
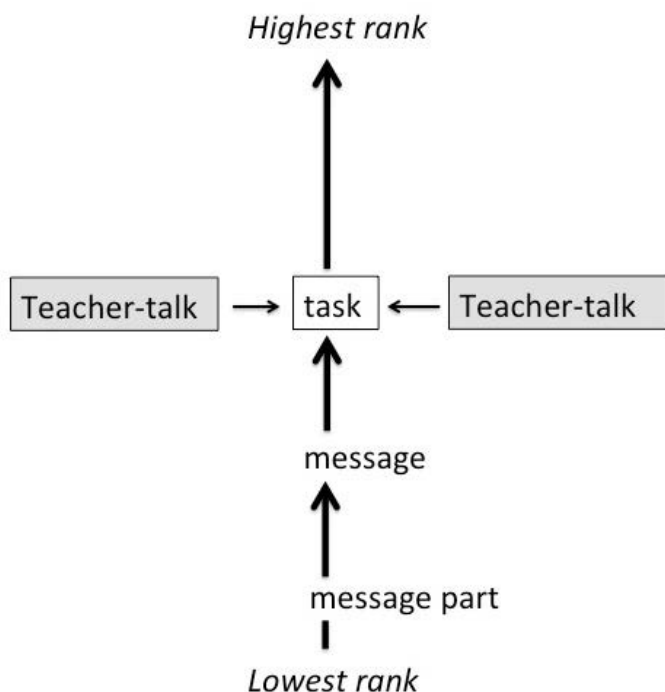
Figure 5.1: The analytical focus of this chapter in relation to rank

The investigation of teacher-talk around tasks begins in section 2 with an outline of the general function of setting up and following up tasks. I then relate the concept of phase (Rose 2005, 2006; Rose & Martin, 2012) to unfolding meanings. This overview provides the basis for a more detailed analysis of relationships between the talk of teachers and students, in section 5.3.

5.2.1 The general function of teacher activity that occurs before and after tasks

The analysis of setting up and following up tasks reveals that teacher-talk performs constraining and expanding functions. Pre-task talk narrows the scope of meanings that students are expected to propose. This constraining function is realised in different parts of teacher messages. From a discourse semantic perspective, messages construe series of actions/events, along with the entities that are involved in activity, the settings in which they occur, as well as accompanying qualities (Martin, 1992, p. 324). In classroom talk, these components provide students with key information about expected meanings. In particular, the actions/events in a pre-task message contribute to specifying the

type of task that students are expected to perform. For instance in Excerpt 1 of Table 5.1, the teacher says:

> *Now what we need to do, ahh, we need to make the second disadvantage maybe the theme of the following sentence. We need to add the theme for the following sentence and explain what it is.*

In this example, activity is specified as: *do, make, add,* and *explain.* These choices signal that students need to propose wording *for* the scribed text. The choices are typical of how *initiating* tasks in the field of the topic for writing are signalled. Material processes such as *do* and *make* construe activity as 'doings and happenings' (Halliday & Matthiessen, 1999). Initiating tasks are also signalled by verbal processes such as *explain, tell,* or *say*. Such choices encode activity as sayings.

In contrast, when students are expected to propose wording *about* language choices, then the task set-up involves the construal of a different kind of participation, or a different kind of action. In Excerpt 2 of Table 5.1, the teacher asks:

> *'What do you think?'*

This choice indicates that students do not need to propose wording to extend the text, but rather to say something about it. For instance, at turn 2, a student responds to the task set-up by saying: *I think maybe it's a little bit better to put the figures into the report, cos that will be more persuasive.* This example is typical of how *initiating* tasks in the field of KAL are signalled, that is, in mental processes of cognition such as *think*. Both examples are indicative of how the actions/events in pre-task messages play a key role in signalling the type of task and the expected field.

Additionally, teachers create expectations about tasks with the entities that are involved activity. The pairing of activity and entities is exemplified in Table 5.2 as:

add (activity) + *the theme* (entity) + *the following sentence* (entity)*;*

give (activity) + *information* (entity) + *these advantages* (entity).

In these examples, entity choices specify a type of meaning choice (as in *the theme*) or they specify ideational meanings related to the scribed text (as in *information*). Additionally, entity choices locate parts of the scribed text for which proposed wording is needed (as in *the following sentence*) or they identify parts that have already been created (as in *these disadvantages*). Without the ideational parameters that specified entities establish, the possible meanings that students are expected to propose remain too open. This openness is exemplified in Excerpt 2, with the task set-up of: *What do you think?* No entity is specified and so the task set-up does not specify the kind of knowledge about language that students are expected refer to. Entities are also important to specifying student activity because events of 'doing and happening' are used for both initiating tasks and modifying tasks, as in Excerpt 1 (*make, make, add*) and 3 (*give*).

Pedagogic Activity				Lesson structure
E.g.	**Turn**	**Sp.**	**Classroom interaction**	
1 Class 4 Excerpt 5	1	T	We have introduced the second point, now what we need to do, ahh, we need to make the second disadvantage maybe the theme of the following sentence. We need to add the theme for the following sentence and explain what it is. *[facing students, holding a whiteboard marker, takes a drink of water and waits]*	**task set-up**
	2	S1	Stealing information from social networking sites, ahh.	task attending by repeating
	3	S8	Is a serious problem.	task initiating TFW
	4	T	Is a serious problem. Ok. *[Scribing]*	**task follow-up**
2	1	T	*[reading out scribed text]*	**task set-up**

Class 3 Excerpt 4			*'Job opportunities will increase and Sydney's economy will grow due to the new investments the project will attract]*	
			Or the attraction of the new projects, or due to the new investments that the project will attract.	
			What do you think?	
	2	S?	I think maybe it's a little bit better to put the figures into the report, cos that will be more persuasive.	task initiating KAL
	3	T	Yep.	**task follow-up**
3 Class 1 Excerpt 3	1	T	(Scribed text: These innovations have produced a number of disadvantages.) Can you, can we give more information about these advantages?	**task set-up**
			A small number?	
	2	S10	great	task adjusting by specifying
	3	T	A "great" number *[nodding]* A large number. Yeah.	**task follow-up**
			So you know, (we are) looking for opportunities to add these words. It makes our writing more interesting. It makes our writing more precise. Ahh that's very important in academic writing, it must be precise, not vague.	

Table 5.1: Setting up and following up student tasks

The examples above illustrate how messages to set up tasks create expectations about forthcoming meanings. In particular, activities and entities specify the kind of task, the field, and meanings within a field. These specifications narrow the parameters of the meaning that students are expected to propose.

The post-task teacher activity responds to the meanings that students have already proposed in tasks. Teachers often create messages with qualities about the

suitability of proposed wording. For instance in Excerpt 3, the student wording of *a great number* is appraised as *more interesting, more precise,* and *not vague.* Here the quality of proposed meanings is made explicit. Elsewhere other means are used by teachers to assess proposed meanings. For example, in Excerpt 1 of Table 5.1 (turns 3-4), the teacher repeats the wording from the student:

> *S: is a serious problem.*
> *T: Is a serious problem. Ok.*

These examples illustrate how post-task talk provides immediate feedback on the language choices offered for the scribed text. Task follow-ups also have the potential to relate one language choice to other choices. (See also chapter 6.) This function is exemplified in Table 5.1, Excerpt 3 where the task follow-up involves activities and entities about creating texts, as in:

> *looking* (activity)+ *opportunities* (entity);
> *makes* (activity)+ *our writing* (entity);
> *makes* (activity)+ *our writing* (entity).

At a general level, teacher messages create expectations about meanings in tasks and they also respond to meanings that students propose. Pre-task talk signals *what* students are expected to contribute, while post-task classroom talk assesses and reflects on language choices. These constraining and expanding functions are represented in Figure 5.2. The classroom interaction is now analysed in closer detail to explore the structure and more specific pedagogic functions of talk around tasks.
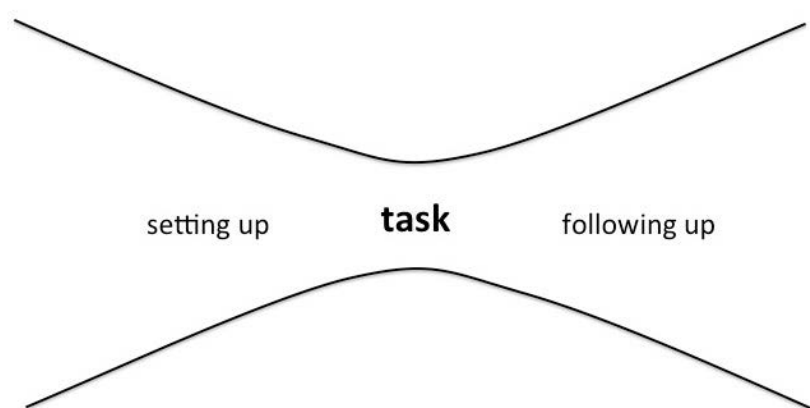
Figure 5.2: The function of teacher-talk to constrain and expand meanings

5.2.2   Specific functions of pre- and post-task classroom talk

Closer analysis of teacher-talk reveals reoccurring patterns in pre- and post-task messages. Like student messages, teacher messages involve 'pulses' or segments of ideational and interpersonal meaning (Rose, 2006, p. 187). In SFL, these segments are identified as phases of meaning in texts (Rose, 2006; Martin & Rose, 2008). In this study, the function of a phase is primarily considered in terms of comparative differences in field or subject matter and in tenor or interpersonal relations; a shift in either of these dimensions creates a new phase or 'pulse' of meaning. In this sense, the meanings that teachers and students propose form distinctive phases of interaction. This section identifies specific pre- and post-task phases. Then the section that follows explores their constituent meanings in closer detail. The interpretation of phases draws heavily on past research of phases in reading activity (e.g. Rose, 2005; Martin & Rose, 2007a; Rose & Martin, 2012).

Analysis shows that the set up of tasks involves two distinctive phases of *prepare* and *focus*. *Prepare* phases anticipate and provide information about expected wordings/meanings from students. In this phase, teachers do not yet prompt students to propose wording. Instead, they support students by specifying in some way information about forthcoming meanings. The function of this phase is exemplified in Table 5.2. The teacher sets up the task by stating:

(prepare) *Maybe there's an opportunity to, for another adjective here.*

This prepare phase directly precedes his elicitation of a student response, in:

(focus) *What kinds of "consequences" are we talking about?*

In this example the *prepare* phase provides support by specifying a type of meaning at the level of grammar (*adjective*). The subsequent *focus* phase relates this choice to a specific nominal group in the scribed text (*kind of + consequences)*. Students then use the information from these pre-task phases to propose:

(task) *negative consequences.*

In the task phase students have successfully interpreted the task set-up to propose an instance (*negative*) of a type of meaning choice (*adjective)*. In data from this study, *prepare* phases are not always present, however, when they occur, they always precede *focus* phases.

In *focus* phases, teachers elicit meanings from students. This phase occurs directly before the *task* phase. In Table 5.2, the *focus* phase highlights the textual function of expected wording:

(focus) *Let's start with a sentence to start our paragraph, start our introduction.*

Students are then expected to perform their task. Similarly, in Excerpt 3 of Table 5.2, the teacher stops reading over the scribed text:

(focus) *[reading out scribed text] 'Lend lease obtained a discounted rate for the use of this land which means that'…*

She pauses at the point where she wants students to complete a task to improve it. *Focus* phases are strongly predicted in classroom talk because their function is to

specify expected student activity and also to manage the timing of student contributions.

Pedagogic Activity				Lesson structure
E.g.	Turn	Sp.	Classroom interaction	Phase
1 Class 1, Excerpt 4	1	T	Maybe there's an opportunity to, for another adjective here.	**prepare**
			What kinds of 'consequences' are we talking about?	**focus**
	2	S10	Negative.	**task** adjusting by specifying
	3	T	Negative consequences. Good.	**evaluate**
2 Class 5, Excerpt 4	1	T	T Let's start with a sentence to start our paragraph, start our introduction.	**focus**
	2	S10	The environmental deterioration.	**task** initiating TFW
	3	T	Mmm Hmm *[nodding and smiling]*	**evaluate**
3 Class 3, Excerpt 4			Let's have a look.	**direct**
	1	T	*[reading out scribed text]* 'Lend lease obtained a discounted rate for the use of this land which means that'.	**focus**
	2	S	Ah leading to a situation.	**task** replacing by alternating
			Yeah that's better.	**evaluate**
	3	T	So 'which means that' is a very general expression, but usually we can find something more specific that, umm, tells us the logical relationship more clearly.	**elaborate**

Table 5.2: Classroom talk phases and their role in co-creating text

Analysis also reveals two post-task phases of teacher-talk. *Evaluate* phases assess proposed meanings. Commonly, teachers explicitly appraise wording as in *good* and *better* (as in Table 5.2). They also enact evaluative body language. They may for instance nod their head and/or smile (as in Excerpt 2 of Table 5.2). The

evaluate phase is also strongly predicted in data from this study. It illustrates how teachers take a leading role by explicitly assessing the suitability for proposed wording for the scribed text.

Beyond evaluation is an *elaborate* phase. Here teachers talk further about meanings that students have proposed. An *elaborate* phase is exemplified in Excerpt 3 of Table 5.2, where the teacher reasons why the change in wording (from *which means that* to *leading to)* is an improvement (*tells us the logical relationship more clearly*). Like *prepare* phases, *elaborate* phases may not always be present. However, when they occur, their function is to expand on meanings in task phases in some way. Teachers in this study use *elaborate* phases to provide further reasoning and justification of the preceding evaluation. This function is explored further in this chapter.

Finally, *direct* phases coordinate student activity by providing instructions. A *direct* phase is exemplified in Excerpt 3 of Table 5.2:

(direct) *Let's have a look*

Here the teacher directs students to follow the scribed text as she reads it out. Such phases may occur at any point in the interaction. They often manage student turn-taking, particularly when multiple students respond. Direct phases also draw attention to classroom materials such as readings, handouts, or notes, or to parts of the scribed text. The six commonly occurring classroom talk phases and their role in co-creating a text are summarised in Table 5.3.

Position	Phase	Function in co-creating text
task set-up	prepare	Anticipate and provide information about proposed wording/ meanings
	focus	Elicit meanings from students
central	task	Propose meanings
task follow-up	evaluate	Assess proposed meanings
	elaborate	Expand proposed meanings
flexible	direct	Provide instructions about activity

Table 5.3: Classroom talk phases in the lesson stage of Text Negotiation

The examples that have been used to illustrate phases (Table 5.2) are indicative of data across all case studies in two main ways. First, the phase sequence of *focus ^ task ^ evaluate* is the most common, with *prepare* and *elaborate phases* used less frequently. Second, the assessment of wordings in *evaluate* phases tends to be minimal. These findings correlate with a broad base of research on classroom talk. The prevalence of *focus* and *evaluate* phases either side of a *task* reflects findings in studies from other theoretical perspectives (see chapter 2), as in the I-R-F sequences that are frequently documented in classroom discourse analysis. As in I-R-F sequences, teachers initiate interaction, students respond, and teachers follow up or evaluate (after Sinclair & Coulthard, 1975). In I-R-E sequences (after Mehan, 1979) the E stands for evaluation rather than follow up.

However, the presence of *prepare* and *elaborate* phases demonstrates how IRF sequences can be modified. In a 5-part model of interaction, Rose and Martin, (2012) position tasks as the obligatory phase, as illustrated in Figure 5.3.[27] *Focus* and *evaluate* phases are strongly predicted and so form the nucleus. At the margins are *prepare* and *elaborate* phases as these are furthest from the central task in the flow of classroom talk.

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[27] In this model the *direct* phase is not included as it is not part of a predictable sequence of phases.
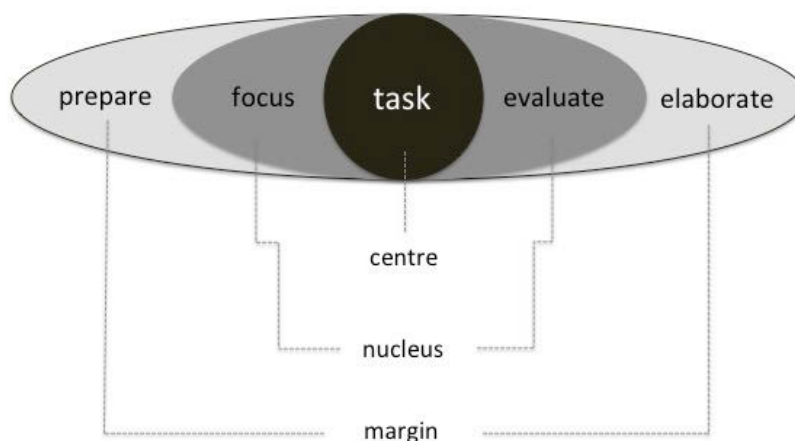
Figure 5.3: Classroom talk phases around tasks

(Adapted from Rose & Martin, 2012)

Collectively, these 5 phases provide a 'task centric' view of pedagogic activity. That is, all activity is viewed in relation to the obligatory task phase. The meanings before and after tasks all relate to wording/meanings proposed by students. This perspective provides a meaning-focused analysis of interaction: shifts in activity are not just about changes in turn-taking, but are considered in terms of how meanings change in unfolding interaction. The integration of teacher activity either side of tasks provides a more complete structural overview of what teachers and students do with meaning as they gradually co-create a text. The next section examines how pre- and post-task phase functions are achieved in specific linguistic systems and choices.

5.3   Differentiating phases by function

The aim of this section is to provide detailed analysis of the phases that have been introduced. This is necessary in order to highlight how phases achieve their pedagogic functions and in order to provide evidence to support their differentiation. Rather than providing an exhaustive list of distinctive phase features, analyses focus on how phases are characterised by comparative

differences in specific kinds of ideational and interpersonal meanings. Analysis is divided into two main parts. First, changes in interpersonal meanings across phases are considered using the discourse semantic systems of NEGOTIATION (Martin 1992; Martin & Rose, 2008) and APPRAISAL (Martin & White, 2005; Hood 2010). Second, shifts in ideational meanings are analysed with tools in the system of IDEATION (Martin & Rose, 2008), those of taxonomic relations and entity types.

5.3.1   Interpersonal meanings in phases

An interpersonal perspective on activity around tasks contributes to understanding differences in the function of phases. As teachers and students co-create text, they adopt and assign interactive roles in relation to expertise. In data from this study, differences in expertise centre on knowledge about language, i.e. which speaker/s position themselves as having the experience and authority to assess the suitability of language choices for the scribed text. The interactive roles that speakers adopt and are assigned to have implications: implications for the timing of student contributions in classroom talk, and also for when and how proposed wording is evaluated. This section first analyses these interactive roles before exploring the use of evaluative language.

5.3.1.1   Interactive roles

Some forms of collaborative writing may centre on students sharing and negotiating language choices with each other (see e.g. Storch, 2013; Dobao, 2012). However, in the writing methodology of this study, negotiations about wording for the scribed text are primarily between the teacher and students. The teacher takes a leading role by explicitly sharing their expertise about language and thereby positioning themselves as expert users of English. In contrast, neither teachers nor students claim authority about the topics for writing. This is primarily because the writing topics are only explored at a relatively superficial level. Preparatory readings from news articles or text books usually provide accessible 'content' for the scribed text, with the authors granted authoritative 'expert' status. This section analyses how teachers adopt the interactive role of a language expert.

The system of NEGOTIATION (Martin, 1992; Martin & Rose, 2007a) offers an interpersonal lens on how interactive roles are adopted and assigned during interaction. In this system, either knowledge or actions are negotiated. This study interprets student activity to propose wording as negotiating knowledge. This is because the goal of activity is to construct a text and build understanding about language choices. In this sense, most interaction negotiates knowledge, rather than the performance of actions. However students do carry out actions related to proposing wording, such as looking at notes or classroom documents. The negotiation of knowledge and actions are interpreted through different interpersonal 'moves', as now discussed.

Teachers position themselves in the more expert interactive role of *primary knower* (after M. Berry 1981, 1987; see also Martin, 1992). That is, they have the experience and authority to give and validate knowledge about language. This role is annotated as a K1 move. Additionally, when teachers ask for information from students, they enact a *delayed primary knower* move (encoded as dK1). In dK1 moves, teachers are not providing knowledge about wording or evaluating wording, but rather demanding/giving students the opportunity to propose meanings. This move is seen as 'delayed' because, when positioned as a primary knower, teachers will subsequently validate the proposed wording. By positioning themselves as primary knowers, teachers assign students to the role of *secondary knowers*. This interactive role is coded as a K2 move. When this 'knower hierarchy' is relatively fixed, it creates predictable patterns of relation in negotiation in classroom talk, as forthcoming examples illustrate.

The second interactive role that teachers assign to students involves performing actions related to the writing process. The participant who performs actions is in the role of *primary actor,* which is coded as an A1 move. Students are assigned this role when teachers direct them to carry out an action. By assigning students the role of *primary actor,* teachers adopt the role of *secondary actor.* In this role teachers co-ordinate activity, but do not necessarily carry out the actions themselves.

Excerpts in Table 5.4 exemplify these interactive roles. Each kind of interpersonal move is coded with the notation outlined above. Annotation also marks boundaries between what is being negotiated (see bold table lines). These boundaries mark the start and finish of an *exchange*. An exchange refers to a unit of interpersonal activity where propositions or proposals are negotiated (Halliday & Matthiessen, 2004). Exchange boundaries are established by the negotiation of one speech function such as a question or command (see chapter 3). The first Excerpt in Table 5.4 illustrates a common practice whereby teachers start exchanges with dK1 moves, as in:

> (dk1) *What (tapping the word 'issues' board) are these environmental issues?*

When teachers initiate exchanges with a dK1 move, students are positioned as the secondary knower (K2). Secondary knower moves are exemplified in Excerpts 1 and 2 where students propose wording for the scribed text: *global warming* (Excerpt 1) and *standard of living* (Excerpt 2). Student K2 moves are then followed by an evaluative K1 move, as teachers assess proposed wording, as in:

> (K1) *Global warming. Good.*' (Excerpt 1); and
> (K1) *Ok* (Excerpt 2).

These instances exemplify common grammatical encoding of these moves as questions (dK1) and statements (K1 and K2).

Pedagogic Activity					Pedagogic relations
E.g.	**T.**	**Sp.**	**Classroom interaction**	**Phase**	**Exchange moves**
1 Class 5, Excerpt 4	1	T	What *[tapping the word 'issues' on board]* are these environmental issues?	focus	dK1
	2	S	Global warming	task initiating TFW	K2
	3	T	Global warming. Good.	evaluate	K1
2 Class 1, Excerpt 5	1	T	And now 'enhancing'. We need a noun.	prepare	K1
			So what does it contribute to? Enhancing? What did you say?	focus	dK1
	2	S	Standard of living.	task attending by repeating	K2
	3	T	Ok *[scribing 'standard of living'].*	evaluate	K1
3 Class 2, Excerpt 5	1	T	Now the reasons**.**	prepare	K1
			Now Michael what did you say? 'This industry is important'?	focus	dK1
	2	S1	because	task attending by repeating	K2
	3	T	Because. *[scribing: 'because']* That's right.	evaluate	K1
			We need this word, 'because'. We're giving the reasons.	elaborate	
			'Because' ?	focus	dK1
	4	S1	21% of the world's market, ~~ is based on the processing of cashmere which provides income and employment for over one third of the population.	task attending by repeating	K2
	5	T	~~ *[Scribing as student proposes wording]*	evaluate	[K1]
4 Class 2, Excerpt 6	1	T	So I wonder if we could summarize, ahh. Words like overall for example, can be a very useful here. Overall, we get the overall picture.	prepare	K1
			Umm,... if we look at our notes,	direct	A2

			ahh, text, let's have a look, ahh, text 2.		
			[Students look down to read notes]	direct response	A1
			Is there anything else we haven't mentioned in text 2?	focus	dK1
	2	S2	Contributes to those (? inaudible).	task initiating TFW	K2
	3	T	Yes. "Especially the manufacturing sector, providing employment and exports" as well.	evaluate	K1
5 Class 3, Excerpt 5	1	T	So everyone agrees, it's (the economic impact) beneficial?	focus	K2
	2	S+	Yeah *[nodding]*.	task attending by repeating	K1
	3	T	So we'll use language that makes the reader feel that we think it's beneficial and you should think it's beneficial too.	prepare	K1

Table 5.4: Interpersonal moves related to negotiating knowledge

In addition to adopting the role of a primary knower, teachers also adopt secondary actor roles. This interpersonal role positions students as primary actors, i.e. do-ers or performers of actions. In this adult learning context, secondary actor moves often support students to propose meanings. For instance in Excerpt 4 of Table 5.4, the teacher's A2 move guides students to the classroom artefacts of written *notes* and a print out of *text 2*. (See the sample notes in Appendix 4f.) By directing students to these resources, (i.e. using the commands of *look at, have a look)* the teacher creates parameters around the expected source of knowledge. Guiding students to knowledge sources is important for learners in this context because they are learning to use knowledge from readings rather than their own personal life experiences. The A2 ^A1 moves in Excerpt 4 provide an interpersonal perspective on how *direct* phases contribute to pre-task student support.

While students are predominantly positioned as secondary knowers, there is one notable exemption. Students are positioned as primary knowers when the class is negotiating a shared stance about the writing topic. For instance in Excerpt 2 of Table 5.4, the class has temporarily suspended text-creation to negotiate whether they think that the economic impact of a development project is beneficial or not. Here the teacher is asking students a genuine question:

> (K2) *So everyone agrees, it's (the economic impact) beneficial?*
> (K1) *'Yeah [nodding]'.*

In such instances, there is not a 'correct' answer to be validated by the teacher. Instead, the teacher is facilitating a collective standpoint so that they can continue writing their text. This example illustrates how teachers temporarily position themselves as secondary knowers (K2) and students as primary knowers (K1) when selecting subject matter for the topic for writing. This role switch occurs because neither the teacher nor students overtly claim expertise about topics for writing. It also occurs because students are encouraged to use evidence when writing explanations and expositions. However students have control over how evidence aligns with key points or a particular persuasive stance (such as positioning *economic impact* as benefit rather than a disadvantage). While teachers temporarily relinquish control in the negotiation of the field of the topic for writing, they reclaim it when classroom talk returns to crafting text. The teacher's return to the role of primary knower is illustrated at turn 3, in Excerpt 2, when the teacher says:

> (K1) *'So we'll use language that makes the reader feel that we think it's beneficial and you (the reader) should think it's beneficial too'.*

Although teachers take a leading role in text co-creation, they often make efforts to 'soften' their primary knower status. This is particularly evident in the language choices that encode dK1 moves, i.e. *how* teachers demand proposed wording from students. In Table 5.5, the teacher dK1 move is not realised by the speech

function of a question (as encoded in the grammar of an interrogative clause), but rather by a statement (as encoded in the grammar of a declarative clause:

(dK1) *We also talked about using [pointing to "air pollution" on the whiteboard].*

Pedagogic Activity					Pedagogic relations
E.g.	**T**	**Sp.**	**Classroom interaction**	**Phase**	**Exchange moves**
1 Class 5, Excerpt 5	1	T	We also talked about using *[pointing to "air pollution" on the whiteboard].*	**focus**	dK1
	2	S	Public transport.	**task** attending by repeating	K2
	3	T	Using public transport. Ok.	**evaluate**	K1

Table 5.5: A declarative clause encoding a dK1 move

Here the teacher is making a 'gentle' statement to elicit a student response, i.e. asking them to propose wording. A student responds accordingly: *public transport.* The use of statements to elicit wording is in contrast to the congruent use of statements to give information. It exemplifies what Halliday and Matthiessen (2004) call 'interpersonal grammatical metaphor'. This concept refers to how 'two distinct meanings' can be 'represented by a single lexicogrammatical structure' (Painter, 1999, p. 319). In this case, the choice of declarative clause structure can be read as congruently giving and incongruently demanding information. In data from this study, interpersonal metaphors commonly occur before tasks when teachers use a declarative clause structure, rather than an interrogative, to elicit answers from students. Interpersonal metaphors are a noteworthy feature in the negotiation of interactive roles, because they demonstrate teacher efforts to be 'authoritative without being authoritarian' (Martin & Rothery, 1988 first draft, in Martin, 1999a).

5.3.1.2   The sequencing of interactive roles

The examples in Table 5.4 and 5.5 illustrate frequently occurring interpersonal move sequences, as identified by M. Berry (1981, 1987). The first common sequence is:

dK1^ K2 ^K1.

This patterning appears in Excerpt 1-4 of Table 5.4 and in Table 5.5. Teachers use dK1^ K2 ^K1 move sequence to control and co-ordinate *when* secondary knowers make incremental contributions to the scribed text. In other words, students usually contribute after being prompted to do so. This series of interpersonal moves also serves the pedagogic purpose of providing students with the opportunity to demonstrate or 'try out' their knowledge. Students propose meanings in a supported lesson that is not part of formal assessment such as a written exam.

There is also evidence of variation in interpersonal move sequences. A second, pattern is:

K1 | dK1 ^ K2 ^ K1.

This pattern occurs in Excerpts 2 and 3 of Table 5.4. It involves teachers providing students with information prior to tasks, i.e. a series of two exchanges where the first exchange consist of a teacher K1 move. In such a sequence, teachers use their role of primary knower to anticipate knowledge that will support successful task completion. In Excerpt 2 of Table 5.4, the teacher says:

(K1) *And now 'enhancing'. We need a noun.*

(dK1) *So what does it contribute to? 'Enhancing'? What did you say?*

Here the teacher is providing students with an information type of meaning choice at the level of grammar (*noun*), before asking them to repeat (and possibly rephrase) proposed wording (*What did you say?*). These moves inform students

that their next task is to provide an instance of this type of meaning choice (a *noun*). A student responds appropriately with the wording *standard of living* (turn 2).

One affordance of setting up a task with a K1 move is that information to support proposed wording can also be used to evaluate it. This is exemplified in Excerpt 3 of Table 5.4 where two exchanges unfold:

> (K1) ***Now the reasons.***
>
> ⎯⎯⎯
>
> (dK1) *Now Michael what did you say? 'This industry is important'?*
> (K2) *because*
> (K1) *Because. [scribing: 'because'] That's right. We need this word 'because'.* ***We're giving the reasons.***

In this example, the first K1 move informs students about the logical relationship between scribed text and the next part that they need to create (*now the reasons*). Then, after students propose wording, this relationship is used to justify the positive evaluation of proposed wording (*That's right. We need this word 'because'. We're giving the reasons*). Here the post-task K1 move is involved in reasoning about why wording is suitable.

These interpersonal move sequences provide evidence of shifting interactive roles during the co-construction of a text. Each change in role creates a shift in interpersonal meanings and thereby contributes to the differentiation of talk phases. For instance a dK1^ K2 ^K1 sequence correspond to the phases of *focus ^ task ^ evaluate*. However shifting interactive roles are not always an indication of a change in talk phase. For instance Excerpt 3 of Table 5.4, the teacher's primary knower role extends from the *evaluate* phase ('*Because'. [scribing] That's right.*) to the *elaborate* phase (*We need this word, 'because'. We're giving the reasons*). The potential for interactive roles to be sustained across post-task phases invites further enquiry about other differences between *evaluate* and *elaborate* phases.

5.3.1.3 Evaluating meanings

So far, analyses of interpersonal meanings have provided evidence of how interactive roles contribute to achieving the pedagogic functions of phases. This section examines the evaluation of proposed wording in closer detail. Analysis shows that teachers predominantly comment on the quality of wording in the *evaluate* phase. In the system of APPRAISAL (Martin & White, 2005), this kind of evaluation involves the category of 'appreciation', i.e. the appraisal of things such as wording. The examples of positive appreciation, presented so far in this chapter, include: *good, better* and *right*. In addition, examples have also shown how evaluation of wording may be realised through other semiotic means, including: items of positive or negative polarity, such as *yeah, yes, ok;* through lexical repetition of proposed wording such as *is a serious problem-is a serious problem* and *because-because*; and in body language, by head nodding, shaking, frowning or smiling. Teachers use these resources to react to proposed wording and thereby communicate whether it is suitable for scribing or not.

The initial assessment of wording may be extended in *elaborate* phases. The change in phase is marked by a shift from a reaction about the negative or positive quality of wording to assessing its composition, in particular the 'balance' or 'complexity' of wording (Martin & White, 2005, p. 56). Such shifts in evaluative meanings are annotated in Table 5.6. In Excerpt 1, the teacher initially reacts to the quality of proposed wording, by saying, '*Yeah that's <u>better</u>'*. She then elaborates on why changed wording is better by assessing the composition of wording: *more <u>specific</u>* and *tells us the logical relationship more <u>clearly.</u>* Here the teacher is no longer conveying an initial reaction to wording, but stating why the changed wording improves their text.

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Pedagogic Activity					Pedagogic relations	
E.g.	**T.**	**Sp.**	**Classroom interaction**	**Phase**	**Moves**	**Appraisal resources**
1 Class 3, Excerpt 4	1	T	Let's have a look	direct	A2	
			[Students look up at projected screen where scribed text is displayed]	direct response	A1	
			[reading out scribed text] 'Lend lease obtained a discounted rate for the use of this land which means that'	focus	dK1	
	2	S	Ah leading to a situation	task replacing by alternating	K2	
	3	T	Yeah that's **better.**	evaluate	K1	appreciation: reaction: quality
			So 'which means that' is a very **general expression,** but usually we can find something more **specific** that, umm, tells us the logical relationship more **clearly.**	elaborate	K1	appreciation: composition: complexity
2 Class 1, Excerpt 3 extended	1	T	Can you, can we give more information about these advantages?	focus	dK1	
			A small number?			
	2	S10	**Great**	task adjusting by specifying	K2	
	3	T	A '**great'** number *[nodding]* A large number. **Yeah.**	evaluate	K1	appreciation: reaction: quality:

			So you know, (we are) looking for opportunities to add these words. It makes our writing more **interesting**. It makes our writing more **precise**. Ahh that's very **important** in academic writing. It must be **precise, not vague.**	elaborate	K1	appreciation: reaction: impact appreciation: composition: complexity appreciation: valuation appreciation: composition: complexity

Table 5.6: Shifts in evaluative meanings across post-task phases

Similar shifts in evaluative meanings are exemplified in Excerpt 2 in Table 5.6. In the *evaluate* phase, the teacher reacts to proposed wording. Positive appreciation is implied through the combination of body language (*nodding*), positive polarity (*yeah*), and lexical repetition of the proposed wording (*great-great*). In the subsequent *elaborate* phase, different kinds of evaluative meanings are brought into classroom talk to justify the positive reaction, including: the impact of the language choice (*more <u>interesting</u>),* its complexity (*<u>precise, precise not vague</u>*), and its overall value *(very <u>important</u> in academic writing)*. These examples illustrate how a primary function of *elaborate* phases is to provide reasoning about the evaluation of proposed wording. This function is achieved through appraisal resources to assess the impact, complexity and overall value of language choices.

Teachers in this study use *elaborate* phases with far less frequency than *evaluate* phases. This means that reasoning behind the evaluation of proposed wording is not always made explicit. One possible reason for their restricted use is that *elaborate* phases change the moment of the lesson, i.e. they shift the balance between generating and reflecting on language choices. In fast flowing classroom

talk, managing both these dimensions of writing activity is challenging. Another interpretation is that the teachers and students do not yet share substantial knowledge with which to critique language choices. If that is the case, then elaborations may only occur where teachers and students share knowledge of particular types of meaning. The issue of how teachers and students talk about language is further addressed in chapter 6.

5.3.2   Ideational meanings in phases

The investigation of phases in classroom talk now shifts from interpersonal meanings to ideational meanings. In this section, I draw on the system of IDEATION (Martin 1992; Martin & Rose, 2007a) to examine what teachers and students are talking and writing about. Specifically, I explore the concepts of taxonomies, lexical relations and classes of entities. These concepts are used to analyse and interpret the fields of discourse that teachers and students engage with as they co-create text. Analysis focuses on how ideational meanings are organised to create field-specific meanings. The differentiation of fields provides the basis for exploring *where* and *why* fields of discourse shift in relation to the function of phases.

5.3.2.1 *Fields of discourse*

Findings of the previous chapter show that classroom talk involves two dominant fields: the field of the topic for writing and the field of knowledge about language. These fields were differentiated though the examination of field-specific entities and the relationships between entities (Martin & Rose, 2007a). Fields are important to understanding phases because they highlight how talk about language relates to the topic for writing.

The examination of field continues with further consideration of where and why classroom talk shifts into the field of knowledge about language. In the excerpt of classroom talk in Table 5.7, the field of knowledge about language features prominently. In this example, the class is creating a *concluding sentence* for the final paragraph of their explanation. They are responding to the writing prompt of:

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What are the disadvantages of social networking? In their scribed text, ideational meanings are organised into a classifying taxonomy (Martin, 1992). This kind of taxonomy positions entities in class-subclass or type-subtype relations. Their classifying taxonomy consists of *wasting time* and *stealing personal information,* as two subclasses of the superordinate category, *disadvantages of social networking.* This classifying taxonomy is represented in Figure 5.4.
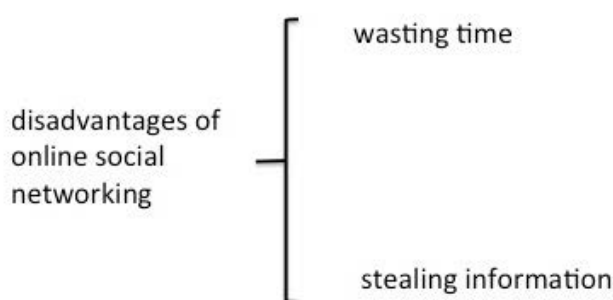
Figure 5.4: Construing and organising field of the writing topic through class/subclass relationships

In classroom talk, this taxonomy is evident in both the teacher and student talk. In Table 5.7, the teacher prepares the forthcoming task by referring to *the main points* and specifying that *we have two* (turn 1). Student 2 then proposed wording that includes the two subclasses of disadvantages: *To summarize, ahh* <u>wasting time</u> *and* <u>stealing information</u> *are two major, ahh disadvantages of using social networking sites* (turn 4). Here the student is drawing on taxonomic relationships that have been used to organise their scribed text. In their lesson the class has created a paragraph for each of these subtypes of disadvantages (*wasting time and stealing information),* and their final concluding sentence is reaffirming the construal and organisation of this taxonomy. (See Appendix 4c for the full scribed text and Appendix 8 for analyses of lexical relations that construe the taxonomies in Table 5.7.)

	Pedagogic activity		Lesson structure	Field
T.	**Sp.**	**Classroom interaction**	**Phase**	
1	T	So, ya, basically what we are doing here is really summarize the main points ~~ *[looking at paragraph phase list]*	prepare	KAL
		and we have two.	focus	
2	S1	~~ To sum up. To sum up-	task initiating KAL	
3	T	And Penny (S2) suggested a sentence. Speak up (Telling S2).	direct	
4	S2	To summarize, ahh **wasting time** and **stealing information** are two major, ahh **disadvantages** ~~ of using social networking sites.	task attending by repeating	TFW
		~~ ahh disadvantages of using social networking sites.	attending by repeating	
5	S1	~~ limitations.	attending: modifying by replacing	
6	T	Ok	evaluate	
		Why ? (*[looking at S2]*	focus	KAL
7	S6	(in audible)	?	?
8	S1	limitation	task attending by repeating	TFW
9	S2	Sorry?	query[28]	?
10	T	Why did you start with the **disadvantages**? You said, you started with '**wasting time'** and ~~ ya '**stealing personal information'.**	response to query/ focus	TFW
11	S2	~~ Yeah.		
12	T	And why did you start with those?		KAL
13	S6	(they are) **Some disadvantage**	task attending by repeating	TFW
14	S2	(mumbled – inaudible)	?	?
15	S1	~~ Because it's the **main topic**	task initiating KAL	KAL
16	S5	~~ Because the **main ideas are themes**		
17	S1	We would sum up these two things		
18	T	*[smiling and nodding quickly]* Ok. *[more fast nodding]*	evaluate	

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[28] In some instances, a student initiated 'query' phase could also be interpreted as a *clarification request* from the perspective of interpersonal exchange structure analysis (e.g. Martin, 1992). Analysis in this thesis does not focus on such *dynamic* moves in the system of NEGOTIATION, as discussed in chapter 3.

19	S1	So that's why we firstly use these two things.	task attending by repeating	
20	T	Why?	focus	
21	S1	Due to the, ahh, that, this is	task attending by repeating	
22	S8	Cos is the **theme!** ~ The **main ~~idea**		
23	S6	~~ Is the **topic**		
24	S1	~~ **Main idea**		
25	T	They are the **main ideas.**	evaluate	
26	S8	Yes		
27	T	So would you like to continue with the-. Start with the **main ideas** at the end.	(focus)	
		And why we do it, because, basically, when we write a **concluding sentence** *[pointing from the 1st to last scribed sentence on the whiteboard]*, this is a paraphrase. Ok, it's a sort of paraphrase of the **topic sentence.** Here we have started with the **Theme** *[Touching first word of the paragraph 'disadvantages']* and continued with the **New**[29]**.** Now we have explained the **New** information *[gesture: hand moving down from the top of the paragraph to the bottom].* Now we can make it the **Theme.**	elaborate	

Table 5.7: Taxonomies and technical entities shaping fields of knowledge
(Class 4, Excerpt 6)

As the teacher guides students to co-create a text, he also draws them in to talking about language choices. This shift is evident at turns 10 and 12, where the teacher asks student 2 why she started with the subtypes of disadvantages (e.g. *Why did you start with those?).* Here the student is not being asked to continue to generate or modify text, but rather to draw on knowledge about language in order to provide reasoning. While student 2 seems confused by the task set-up and possibly worried if her wording has been positively evaluated or not (see turn 9 where she replies, '*Sorry?')*, other students promptly provide reasoning:

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[29] Here the teacher seems to be mixing terminology. In SFL, Theme and Rheme relate to textual organisation of clauses, while New relates to the stressed message part in spoken interaction.

Some disadvantage (turn 13);

Because it's the main topic (turn 14);

Because the main ideas are the themes (turn 15);

We would sum up these two things (turn 16).

In these responses, students refer to the classifying taxonomy in their scribed text (*some disadvantage, main topic, main ideas*). They also relate this taxonomy to the flow of meanings within clauses (*the main ideas are the themes*) and across the scribed text (*we would sum up these two things*). This knowledge about language shows evidence of additional taxonomies about language choices. In particular, *theme* refers to relationships of constituency in message organisation. Meanings that are positioned first in a message are given thematic prominence in comparison to meanings that follow (or the *Rheme* in SFL terms). This compositional taxonomy is rendered in Figure 5.6. Student 5's contribution mostly clearly connects the subtypes of disadvantages to message organisation when he says: *Because the main ideas are the themes* (turn 15).
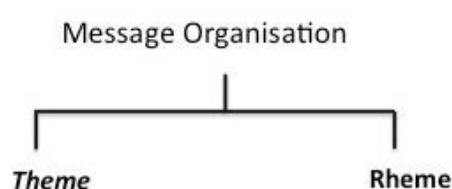
Figure 5.5: A compositional taxonomy about message organisation

An additional compositional taxonomy is evident in the reasoning about the flow of meanings across the text. Student 1 relates proposed wording to the final part of their scribed text when he says: *We would sum up these two things* (turn 16). Here he is demonstrating knowledge of a compositional taxonomy related to paragraph parts/phase, as rendered in Figure 5.6. A list of paragraph phases is also visible on the whiteboard. Students created this list prior to writing (as previously discussed in chapter 4). Student knowledge about language is affirmed in the

evaluate and *elaborate* phases. Here the teacher uses similar wording to talk about language, e.g. *they are the main ideas, concluding sentence,* and *theme* (turns 25 and 27).

Paragraph

| Introducing main point/ *Topic sentence* | Explaining | Evaluating | Giving an example | Linking example | Summarising/ *Concluding sentence* |
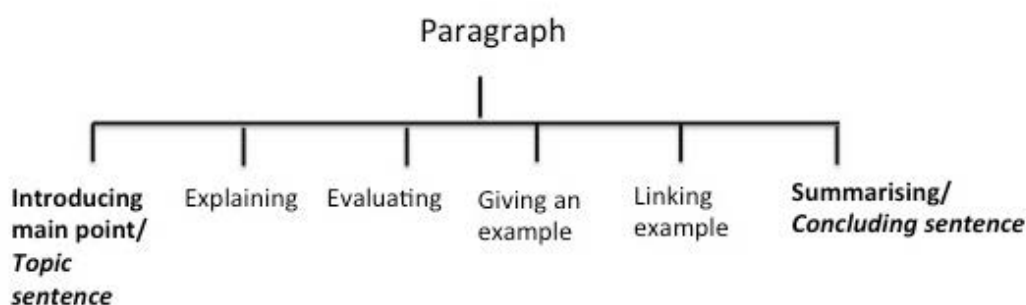
Figure 5.6: A compositional taxonomy about paragraph parts

This example illustrates how the field of KAL connects the hierarchical organisation of entities in the topic for writing to the flow of meanings in the scribed text. The suitability of wording can then assessed in relation to the logogenesis of the scribed text. That is, the proposed wording is not considered as an isolated instance, but rather as a part of the unfolding text.

The talk about language in Table 5.7 also identifies proposed meanings as a type of meaning choice, such as a *theme* or *concluding sentence*. This identification relates specific instances to a more general system of potential meaning choices, i.e. to a system that includes options for the textual organisation of a text. (The system of PERIODICITY in SFL terms (Martin, 1992; Martin & Rose (2007a)). It thus involves systemic knowledge about language that reaches beyond 'one-off' language choices to encompass general characteristics that multiple instances may share. In SFL, this connection is theorised in the notion of a hierarchy of instantiation where instances are related to more general systems of potential meaning choices (Halliday & Matthiessen, 2004; Martin, 2010). While the following chapter explores this particular relationship more closely, the next

section further considers where movement between the field of the topic for writing (TFW) and the field of knowledge about language (KAL) occurs and why.

5.3.2.2 Movement between fields

Movement between the fields of the KAL and TFW is a prominent feature of classroom talk. Analysis shows that it frequently occurs between pre-task phases and task phases. In a pre-task position, the field of KAL functions to support students to propose wording in the field of the TFW. In the first *focus* phase of Figure 5.7 (below), the teacher repeats scribed wording from the previous task and then prompts: *'Can we make this more academic?'* Students respond in the field of the topic for writing, by changing *for clothes* to *for producing clothes*. Similarly, the next *prepare* and *focus* phases also draw on knowledge about language:

> KAL (prepare) *Or whenever I use a gerund,*
> *I always have the option of using a noun,*
>
> KAL (focus) *and what is the noun?* (turn 5).
> TFW (task) *Product, production.*

These examples illustrate how teachers say something in the field of KAL to supports students to propose wording in the field of the TFW. This guidance commonly involves technical entities such as *gerunds* and *nouns* that relate meanings in the scribed text to more general types of meaning choices. Such relationships serve to delimit or narrow the scope of forthcoming meanings, i.e. they create a smaller 'ball park' of what students are expected to propose. Overall, in a pre-task position the field of KAL is used to guide rather than provide wording.

Pedagogic Activity			
T#	Classroom interaction	Phase	Fields
1	T 'for clothes' *[Scribing]* 'Widely used for clothes'.	evaluate	TFW KAL
	Can we improve this? 'widely used for clothes'? Can we make this more academic?	focus	
2	S5 For producing (clothes).	task adjusting by specifying	TFW
3	T Producing	evaluate	
4	S5 (for producing) Expensive clothes.	task adjusting by specifying	
5	T Very good. Ok. 'producing'	evaluate	KAL
	I can use the **gerund,** 'producing'.	elaborate	
	Or, whenever I use the **gerund,** I always have the option of using a **noun,**	prepare	
	and what is the **noun**?	focus	
6	S6 Product, production	task modifying: transforming	TFW
7	S2 Production	attending by repeating	
8	T *[smiling and nodding]*	evaluate	

Figure 5.7: Shifting fields to guide proposed wording

(Class 2, Excerpt 7)

Less frequently, movement from the field of the TFW to the field of KAL occurs between the task phase and post-task phases. The field of KAL in a post-task position is exemplified in Figure 5.7 (previous) where the teacher says:

TFW (evaluate)   *Very good. Ok. 'producing'*

KAL (elaborate)   *I can use the gerund 'producing*'

Here, unlike pre-task KAL, the identification of a type of meaning choice (*gerund*) is not constraining proposed wording. Inversely, it is relating an instance of meaning to a general characteristic that other instances may share. Similarly in Figure 5.8, post-task KAL relates meanings to types of paragraph parts, which the class calls *introducing (the first point)* and *explaining (the first point)*. The identification of these paragraph parts is involved in reasoning that expands on

the evaluation of wording. Specifically, reasoning relates the suitability of wording to the textual organisation of the text, as previously discussed.

Pedagogic Activity			
T#	**Classroom interaction**	**Phase**	**Fields**
1	T Ok. Say it again *[Looking at S6]*.	focus	TFW
2	S6 First of all, people,	task attending by repeating	
	nowadays, the people use computers more time	replacing by alternating	
	that that one became before.	initiating TFW	
3	T Ok.	evaluate	
4	S6 Right?	query	
5	T But it's more like explanation of the time, rather than introducing the time. We just need to introduce it now.	response to query/ elaborate	KAL

Figure 5.8: Shifting fields to provide reasoning

(Class 4, Excerpt 3)

Post-task movement from the field of TFW into the field of KAL has also appeared in Tables 5.2 (Excerpt 3), 5.4 (Excerpt 5), and 5.6 (Excerpt 2). In all these examples, phase boundaries highlight 'points of transition' (Hood, 2010, p. 132) between fields. Movement between fields therefore contributes to the differentiation of phases.

5.3.2.3 Theorising the movement between fields

So far, the analysis of field highlights how the structuring of classroom interaction is conducive to movement between fields. In particular, phases to set up and follow up tasks provide the space to relate language choices in the field of the topic for writing to knowledge about language. In SFL literature, the shift from one field to another has been analysed using the metaphor of *projection* (Martin, 2006a; Hood, 2010). The original use of this term is at the level of lexicogrammar (Halliday, 1967; Halliday & Matthiessen, 2004). It relates to one kind of logical

relationship between clauses, where the Process in one clause brings a locution or idea into being in the second clause. In data from this study, a typical example from an *evaluate* phase is:

> T *I think* < *you've given us a good start.* (Class 2, Excerpt 1).

Here a mental Process (*think*) projects a second clause (*you've given us a good start*). Put another way, the first clause provides a grammatical pathway into the main message. As highlighted by Christie (2002), clause level projection is a prominent feature of classroom talk that involves reinstating or relocating something that is thought or said for a specific purpose.

Arguably, analysis has shown that field projection also occurs at the level of phase. That is, one phase of talk in a particular field provides a pathway into a change of field in the next phase, as represented in Figure 5.9. Examples have focused on pre- and post-task phases where the field of KAL constrains or expands upon the meanings of task phases in the field of the TFW. As there is movement in and out of both dominant fields, the term *field traversing* provides a more accurate representation of 'back and forth' field movement, rather than the forward movement implied in the metaphor of projection.

Field traversing

pre-task

task

post-task

KAL

TFW

KAL

Classroom talk in time
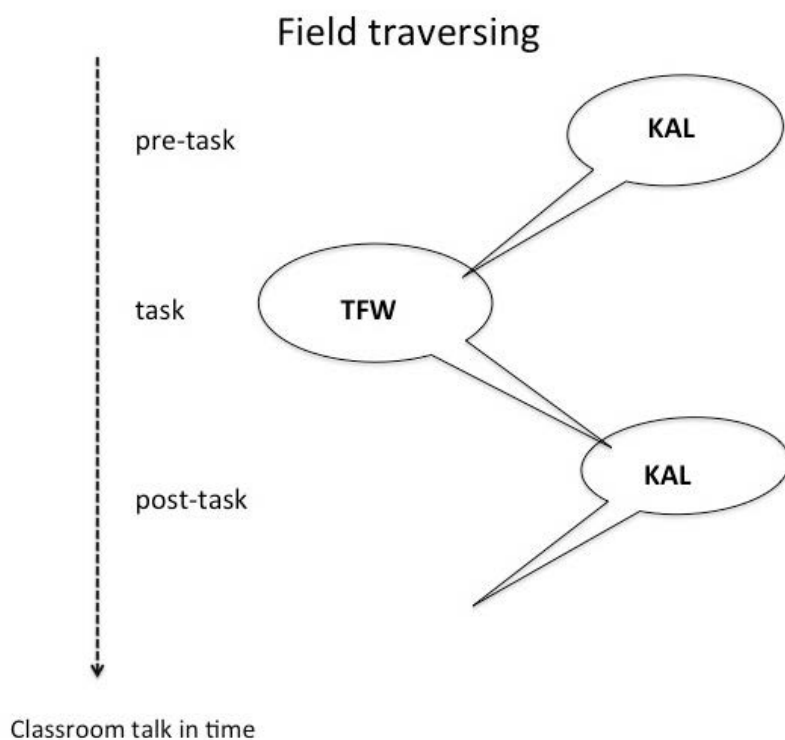
Figure 5.9: Movement between the dominant fields of discourse across phases of classroom talk

The prominence of field traversing is unsurprising. Students in this context are gaining knowledge about academic discourse through various writing topics, in different academic fields. The field of the topic for writing (TFW) and the field of knowledge about language (KAL) are in the service of each other. As Halliday (1993, p. 113) has long argued, talk about language is a natural part of any learning activity, where students simultaneously engage with '*learning language, learning through language, and learning about language*'. During intensive English courses, students are learning to use academic language, accessing academic fields of the writing topic through language learning activities (like joint construction), and simultaneously learning about language choices. Field traversing supports their 'apprenticeship into the language that enables these specialised fields of inquiry' (Martin, 2013a, p. 27).

5.3.3   Summary of classroom talk phases

Section 5.3 has explored the differing pedagogic functions of phases of classroom talk. The five main phases (*prepare, focus, task, evaluate, elaborate)* have been compared in terms of differences in unfolding interpersonal and ideational meanings. In particular, analysis demonstrates how interactive roles and evaluative language mark shifts in interpersonal meanings across phases. Additionally changes in the field of discourse are evident in the lexical relations that construe taxonomies and technical entities. A change in one or more of these dimensions provides evidence of a shift in phase, as illustrated in Table 5.8.

phase/ linguistic features	prepare	focus	task	evaluate	elaborate
interactive role	K1 |	dK1	K2	K1	| K1
evaluative language		appreciation: composition: complexity graduation: force intensification: quality		appreciation: reaction: quality	appreciation: composition: complexity appreciation: valuation/worth
lexical relations and entities	technical entity in KAL	technical entity in KAL	instance in TFW	lexical repetition in TFW	technical entity in KAL

Table 5.8: Shifting interpersonal and ideational meanings across phases

In *prepare* phases, teachers take on the interactive role of 'primary knower' (K1). They do so to anticipate and provide students with information about forthcoming tasks. They may also take on the role of secondary actor (A2) to direct students to resources that students can draw on in task phases such as notes or handouts. While appraisal resources to assess expected meanings are often absent, ideational meanings commonly involve the field of knowledge about language. For example, teachers use technical entities to highlight the textual function of the next part of the scribed text such as *topic sentence, concluding sentence,* etc.

The shift from a *prepare* phase to a *focus* phase is marked by a change in interactive role. Here teachers elicit contributions from students by taking on the role of 'delayed primary knower' (dK1). They may use appraisal resources to relate forthcoming wording to qualities about the composition of expected wording such as *academic,* etc. Additionally, from an ideational perspective, teachers specify the meanings of forthcoming tasks. Specification is achieved through entities, including technical entities (such as *noun, gerund, adjective*) to label an expected type of meaning choice or to identify parts of text that students need to generate/modify. Alternately, entities may be absent in the set up of tasks such as when teachers ask: '*What do you think?* or '*Why?'* In such instances, 'openness' is created by not specifying ideational meanings (i.e. the absence of entities).

In *task* phases students are commonly positioned as secondary knowers (K2). In this role they are asked to initiate, repeat and modify wording, as analysed in chapter 4. In this lesson stage, students are not being tested. Rather they propose wording to get 'real-time' feedback about their language choices from a primary knower, i.e. their teacher. Student proposed wording construes specific kinds of entities and taxonomic relationships that are related to the two dominant fields of the TFW and KAL. Students may also explicitly appraise meanings in the scribed text.

In *evaluate* phases, teachers use their social status as language experts to appraise student wording. In the role of primary knower, they commonly provide an initial reaction to the quality of wording such as *good, ok, nice, fine*. Negative appraisal is minimal, with polarity items (*no*), body language (*head shaking*) or ignoring student suggestions preferred. From an ideational perspective, technical entities in the field of knowledge about language rarely occur in evaluate phases. Instead, lexical repetition between *task* and *evaluate* phases is a frequent means of appraising proposed wording.

While teachers continue their primary knower role in *elaborate* phases, new evaluative meanings are usually present. In particular, assessment shifts from

reactions about wording to the appreciation of composition or worth, such as *specific, clear, precise,* and *important.* Teachers also use technical entities in the field of knowledge about language to identify meanings in scribed text as a type of meaning choice such as *noun, adjective, theme,* and *concluding sentence.* In general, *elaborate* phases extend initial reactions from the previous phases to continue reflecting on language choices.

To summarize, the dimensions of interactive roles, evaluative language and shifting fields of discourse provide evidence of phase boundaries and functional differences. Close analyses of interpersonal and ideational meanings in phases shows how pre- and post-task phases constrain and expand on the meanings of task phases, as represented in Figure 5.10. The function of narrowing the scope of meanings is achieved through a range of resources, including: actions/events to specify the task type; and entities that specify the textual function of meanings, identify parts of the scribed text, state a type of meaning choice and also identify the source of expected wording (such as a reading, class notes etc.). Similar resources are used in post-task phases to expand the meanings in tasks. This function is achieved through qualities that assess wording and entities that relate meanings to types of potential meaning choices. Entities also relate language choices to preceding and subsequent text parts, i.e. to the logogenesis of the scribed text. These findings highlight that support for students is not just a matter of structuring classroom talk phases: the flow of meanings, from one phase to another, provides key information about meanings.

actions > task type

entities > textual function
> parts of text
> types of meanings
> source of wording

propose wording

qualities > assess wording
> provide reasoning

entities > textual function
> parts of text
> types of meanings

prepare   focus   TASK   evaluate   elaborate
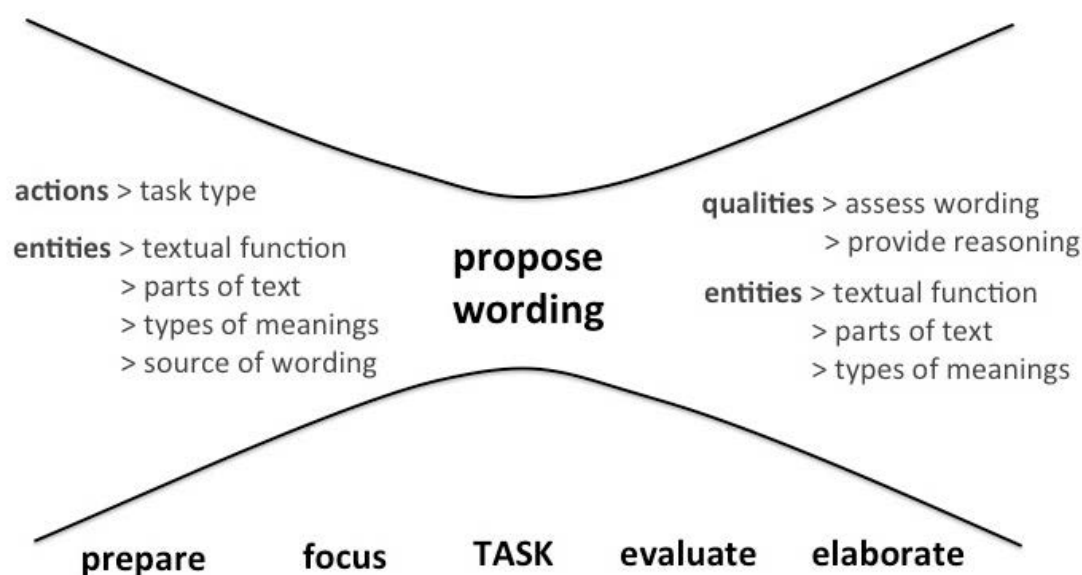
Figure 5.10: Semiotic resources that constrain and expand the meanings in task phases

5.4   The patterning of phases in relation to a rank scale of pedagogic activity

So far phases have been distinguished from each other in terms of function and the linguistic resources that achieve those functions. They have been identified as a rank above message and below lesson activity. As a rank, phases represent both teacher and student activity. They involve ideational, interpersonal and textual meanings. (See chapter 6 for inclusion of the latter.) The tasks that students perform are thus one kind of phase. This chapter has revealed other phases at the same rank of *prepare, focus, evaluate* and *elaborate*. This section considers the patterning of phases and relates findings to the rank scale from the previous chapter.

From the perspective of serial structure, phases unfold one after the other with logical relationships between each phase. Logical relationships between pre-task phases are exemplified in Figure 5.11. In this example the *focus* phase involves further specification of meanings in the *prepare* phase, e.g. an *adjective* is related

to the function of classifying (*what kinds of consequences...*). In SFL (e.g. Halliday & Matthiessen, 2004) this kind of logical relationship is one of elaboration (as symbolised by '='). Logical relationships of elaboration arguably continue as the student further classifies *consequences* to <u>*negative*</u> *consequences.*
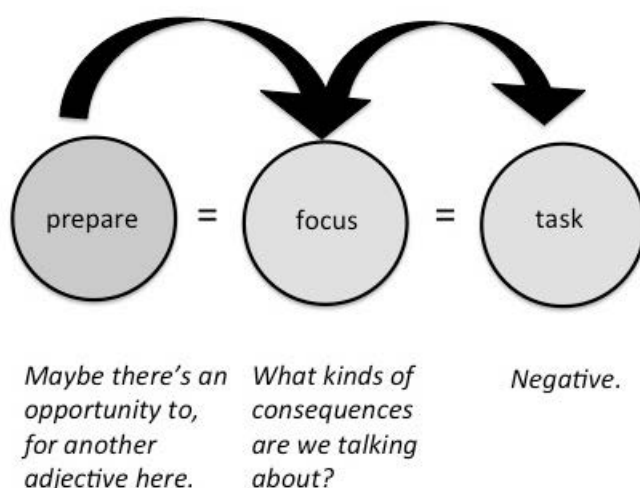
Figure 5.11: The serial patterning of pre-task phases with logical relationships of elaboration

However, logical relationships between task phases and other phases are not always as clear. Difficulty with establishing logical relationships is related to shifting fields and the simultaneous creation of two texts. For instance, in Figure 5.12, it is difficult to establish a logical connection between the proposed wording in the field of the TFW and the teacher's reaction in the evaluate phase (*Ok)*. If a logical relationship between a *task* phase and an *evaluate* phase is argued for, then it could be on the grounds that appraising wording (especially when more than *'ok'* is offered) is one form of extending meanings that have been proposed.
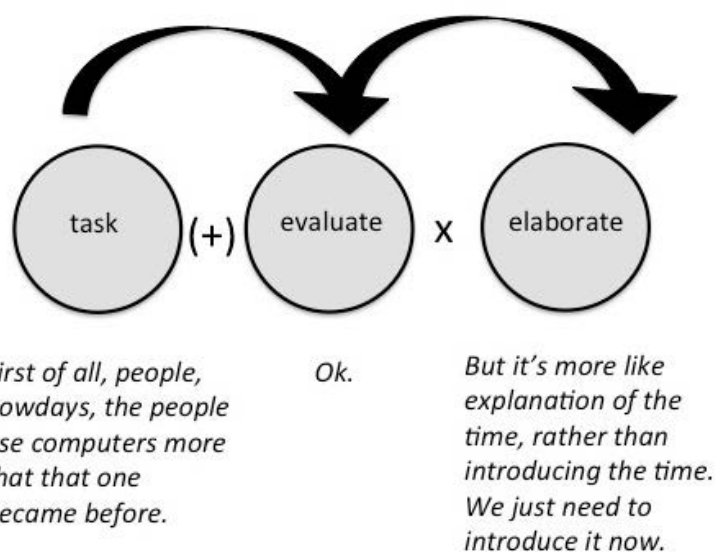
Figure 5.12: The serial patterning of post-task phases with logical relationships of extension

In contrast, reoccurring logical relationships between *evaluate* and *elaborate* phases are clearer. Examples have highlighted how *elaborate* phases (when present) often involve reasoning and justification for the evaluation. This connection is exemplified in Figure 5.13 where the teacher relates proposed meanings to paragraph parts. Here his reasoning creates a logical relationship of enhancement (reason) between phases (as symbolised by 'x').

Alternately, from the perspective of experiential meanings, phases pattern in an orbital structure. From this perspective, the meanings in pre- and post-task phases all relate to the core task phase, as represented in Figure 5.13. In this configuration, tasks are obligatory and other phases, while being strongly predicted, are optional (Rose & Martin, 2012). Students can, for example, propose wording without a task set-up (as in turn 19 of Table 5.7).
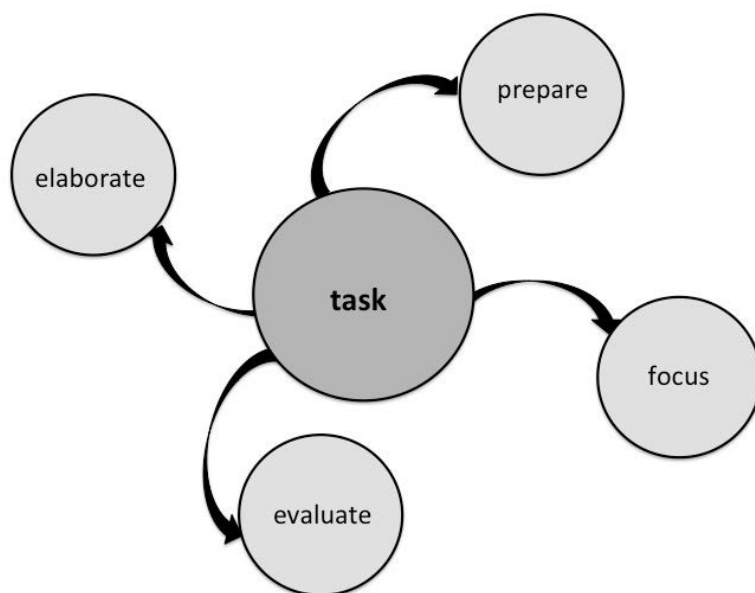
Figure 5.13: The orbital patterning of phases around a core (obligatory) task phase

The findings about the patterning of phases raise a question about rank. Namely, do consecutive phases constitute a phase complex that functions at the same rank, or is each phase a part of a structure at a higher rank? This question is about whether units at one rank can be repeat one after the other (i.e. same size unit + same size unit + same size unit, etc.) or whether each unit is also a constituent of a larger pattern. Analysis in chapter 4 highlights the potential for task phases to form a complex. This term refers to a pattern where more than one task phase appears in succession – in response to a single task set-up. This patterning is illustrated in Table 5.9. In the *focus* phase, the teacher is using a gesture, known to the class in language as a 'signal word'. This gesture refers to conjunctive relations between paragraph parts. In the task phase, student 8 responds with alternate wording for an initial suggestion. He replaces *To sum up* with *In conclusion*. (See the extended excerpt in Table 5.10.) Student 1 responds at the same time, but he is repeating an earlier suggestion. This example illustrates how two students have responded to one task set-up with two different task types, thereby creating a task complex.

Turn	Sp.	Classroom interaction	Phase
16	T	*[signal word gesture continues]*	focus
17	S8	~~In conclusion.	task replacing by alternating
18	S1	~~To conclude (said quietly)	attending by repeating
19	T	Beautiful. *[signal word gesture stops]*	evaluate

Table. 5.9: A task complex

(Class 4, Excerpt 7 - part thereof)

The potential for tasks to form complexes is an important finding because it highlights that each task set-up is not necessarily related to only one task. Students may interpret the same task set-up differently and therefore perform different task types one after the other. They may also simultaneously respond (i.e. compete to perform the same task), repeat, replace or add to each other's wording. Additionally, one student may perform several tasks in a row, such as when they are asked to repeat wording and respond by repeating some of the initial wording but also changing some of it. (See examples in chapter 4). The 'messiness' of task complexes is a reflection of this type of collaborative writing activity: multiple students make verbal contributions in fast-flowing classroom interaction. It is therefore unsurprising that tasks are not necessarily a 'neat' singular slot in unfolding text creation.

Data indicates that complexing at the level of phase is limited to task phases. However, a task or a task complex does occur within a larger patterning of phases, i.e. at a higher rank. As Rose (2005, 2014) has articulated, phases of classroom talk occur in cyclic iterations. By this he means that the five main phases appear in a particular order and also as a collective set. If all phases are present, then one set or cycle appears as follows:

(cycle 1) *prepare ^ focus ^ task ^ evaluate ^ elaborate.*

After one cycle, another cycle appears as in:

(cycle 1) *prepare ^ focus ^ task ^ evaluate ^ elaborate*

(cycle 2) *prepare ^ focus ^ task ^ evaluate ^ elaborate*

Even if some optional phases are not present, the position of phases, in relation to the task phase, remains the same, as in:

(cycle 1) *focus ^ task ^ evaluate*

(cycle 2) *prepare ^ focus ^ task .*

Thus, task phases may form a complex, but they are also the core component of an iterative cyclic configuration of phases, as represented in Figure 5.14.
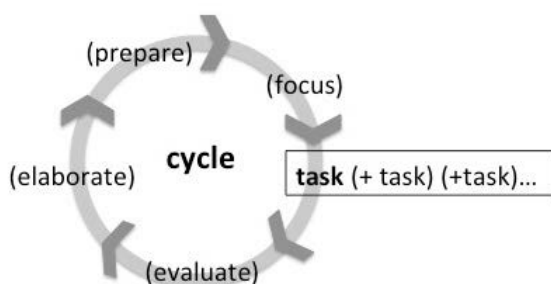
Figure 5.14: The configuration of phases into a cycle

(Adapted from Rose, 2010)

The cyclic configuration of phases is annotated in Table 5.9. This excerpt consists of ten cycles with varying configurations of phases. However, they all contain the core task phase. For instance cycle 1 consists of *focus ^ task ^ evaluate,* whereas cycle 2 consists of *prepare ^ focus ^ task (+ task) ^ evaluate.* This iterative patterning illustrates how phases do not appear in a random order. Instead they are constituent parts of a higher rank of teacher and student talk.

		Pedagogic Activity			
			Lesson stage structure		
T.	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity
1	T	Ok. So here, 'Give an example'. [ticks label to name the previous paragraph part on board]	focus	1. Identify completed text parts	generating
2	S1	Linking (2nd last phase list.)	task initiating KAL		
3	T	'Link an example' [ticks label on WB as he reads it out]	evaluate		
		[taps WB underneath last phase label 'Summarizing/ making conclusions']	prepare	2. Identify next text part	
		Let's do the last thing.	focus		
4	S1	So and then	task initiating TFW		
5	S2	And then	attending by repeating		
6	T	[ignore]	evaluate	3. Propose an instance of a type of meaning choice	
		[gesture for 'signal words' starts and continues]	focus		
7	S9	In brief	task initiating TFW		
8	T	[signal word gesture continues]	focus	4. Propose an alternate instance	gathering
9	S2	To sum up	task replacing by alternating		
10	T	[signal word gesture continues]	focus	5. Propose an alternate instance	
11	S1	To conclude	task replacing by alternating		
12	T	To sum up. [signal word gesture continues] In brief.	evaluate		
		[signal word gesture continues]	focus	6. Propose an alternate instance	
13	S6	In brief (said quietly)	task attending by repeating		
		To sum up (said quietly)	attending by repeating		
14	T	[signal word gesture continues]	focus	7. Propose an alternate instance	
15	S8	To conclude	task attending by		

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			repeating		
16	T	*[signal word gesture continues]*	focus	8. Propose an alternate instance	
17	S8	~~In conclusion.	task replacing by alternating		
18	S1	~~To conclude (said quietly)	attending by repeating		
19	T	Beautiful. *[signal word gesture stops]*	evaluate		
		So which one?	focus	9. Select one instance to re-instantiate as scribed text	
20	S8	Whatever!	task initiating KAL		
21	S9	Whatever!	attending by repeating		
22	T	Whatever! *[smiling]*	evaluate		
23	S5	To sum up.	task attending by repeating	10. Select one instance to re-instantiate as scribed text	
24	T	To sum up. Ok. *[Scribes 'To sum up']*	evaluate		

Table 5.10: The configuration of phases into cycles

(Class 4, Excerpt 7)

In Rose's (2014, 2010a) terms, each set of phases is a 'learning cycle[30]'. In other words, each cycle has a pedagogic focal point. In Table 5.10 (above) the first learning cycle identifies a completed paragraph part. The second learning cycle identifies the next paragraph part that students need to create, the third involves students proposing one instance of a type of meaning choice, and the fourth involves proposing an alternate instance of the pattern, etc. In collaborative text creation, these focal points involve short wavelength tasks, i.e. the incremental contributions that students make to paragraph parts, as analysed in chapter 4. The cyclic configuration of phases supports the negotiation of meanings one short wavelength task at a time.

It is difficult to determine the extent to which teachers are aware of using the ranks of *cycle phase* and *learning cycle* strategically. However, reoccurring kinds

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[30] Rose has also previously referred to this unit as a 'scaffolding interaction cycle' (2010b) or 'interaction cycle' (2005, 2010).

of lesson activities and the organisation of classroom talk into the learning cycles provide evidence of the goal-oriented nature of interaction. Teachers may have distinctive ways of structuring interaction to achieve these goals. Teacher 4, for example, often organises a series of learning cycles into lesson activity to generate and then gather text. This organisation is illustrated in Figure 5.15 and is also annotated in Table 5.10 (previous). The teacher commonly starts text generation by drawing attention to paragraph parts (cycles 1-2). He then elicits new wording to extend the text. This may involve constraining meanings by asking students to propose an instance of a type of meaning choice (cycle 3). These three cycles function to relate the creation of new meanings to the logogenesis of the text. Then, instead of immediately scribing proposed wording, the teacher asks student to propose an alternate instance of the same instance type (cycle 4). This 'mini-goal' may be repeated in subsequent learning cycles, as more alternate choices are gathered (See the full excerpt in Table 5.10). Such activity attends to the short-term goal of scribing a text and it also provides other options for students to consider in their future writing. Finally, the teacher asks students to select one of the proposed instances for scribing (cycle 5).

Figure 5.15: A teacher's organisation of learning cycles and cycle phases to achieve specific pedagogic goals

This teacher's organisation of classroom talk illuminates the potential for designing interaction. He has organised series of learning cycles that contribute to the lesson activities of generating (cycle 1-3) and then gathering text (cycle 4-5). The close analyses of phases has shown how classroom talk is structured to achieve these goals.

To sum up, findings about the patterning of phases have involved two changes to the rank scale of the previous chapter. First, tasks are identified as one type of *phase* in classroom interaction. Findings have revealed other phases (i.e. other units at the same rank) that represent teacher activity. Second, one or more *phases* are constituents of the higher rank of *cycle*. From a pedagogic perspective, each set or cycle of phases has a specific pedagogic focal point. In each cycle or *learning cycle* (after Rose, 2004) there is at least one constituent phase (the task). In light of these findings, the rank of *learning activity* can also be better understood as not just consisting of successive tasks, but also of one or more *learning cycles*. This re-labelling and additional rank are represented in Figure 5.16.

highest rank (largest unit)

curriculum genre
= one or more lesson stages
e.g. *joint construction*

curriculum macro-genre
e.g. *The Teaching and Learning Cycle*

lesson stage
= one or more lesson activities e.g. *Text Negotiation*

lesson activity
= one or more learning cycles e.g. *gathering writing activity*

learning cycle (cycle)
= one or more phases e.g. *prepare, focus, task, evaluate, elaborate, direct*

cycle phase (phase)
= one or more messages e.g. *initiating proposed wording for the scribed text*

message as activity
= one or more message parts

lowest rank (smallest unit)

message part
e.g. components of *action, thing, person, place with accompanying qualities*

Figure 5.16: Ranks of pedagogic activity

5.5 Conclusion

This chapter builds on chapter 4 by integrating teacher activity into the analyses and interpretation of text co-creation. It began by asking how teacher-talk relates to the wordings proposed by students. Phasal analysis illuminates reoccurring structures in teacher-student talk. To set up tasks, teachers use a *prepare* phase to anticipate and provide information about the expected meanings in forthcoming task phases. Then, in a *focus* phase teachers elicit meanings from students. In the central *task* phase students propose meanings for and about the scribed text. Post-task interaction involves assessing meanings in an *evaluate* phase. In the final *elaborate* phase evaluation is extended to further explore justification and reasoning about language choices. This patterning functions to delimit or narrow

the scope of meanings before students propose wording, and then to expand on those meanings.

The pedagogic function of each phase is achieved by comparative differences in interpersonal and ideational meanings. From an interpersonal perspective, phase functions are achieved through shifting interactive roles and different kinds of evaluative meanings about the scribed text. These shifts reveal important dimensions of interpersonal relationships including: the way teachers position themselves as expert language users; and how in this role they provide information to support tasks and also immediate feedback on language choices. Teachers also use interpersonal grammatical metaphors to 'soften' the manner in which they enact their interactive role.

From an ideational perspective phases involve back and forth movement or *field traversing* between the fields of the topic for writing and knowledge about language. Each field is construed through field-specific entities, as well as the taxonomic and lexical relationships between entities. Data shows that the field of KAL often appears before and after tasks. The chief pedagogic function of drawing on the field of KAL is to relate knowledge about language to meanings in the scribed text. This connection is achieved by positioning proposed wording in relation to the logogenesis of the scribed text. Here technical entities play a crucial role in labelling and identifying types of paragraph parts. Technical entities about types of meaning are also used prospectively or retrospectively to relate meanings to a more general type of potential meaning choice. The movement between fields is significant in terms of understanding how teachers guide rather than provide wording. Field traversing is also implicated in relating a current language choice to future language choices, as the following chapter will further explore.

Further analysis of the patterning of phases considered both the serial and orbital configuration of phases. From the perspective of logical relationships, phases unfold in a series one after the other. However, from the perspective of experiential meanings, all phases relate to the core task phase. Other phases are

optional and appear in a cyclic configuration before and after tasks. That is, phases appear in a particular order and are also part of an iterative set. If all phases are present, then one cycle unfolds as follows: *prepare, focus, task, evaluate, elaborate.* The next cycle consists of a subsequent task with optional pre- and post-task phases. Although non-task phases are optional, the *focus* and *evaluate* phases are strongly predicted because teachers take a leading role in organising and evaluating student activity.

The cyclic configuration of phases draws attention to a higher rank of pedagogic activity, called a *learning cycle* (after Rose, 2014; Rose & Martin, 2012). Learning cycles provide insight into the goal-oriented nature of interaction. Although there is an overall lesson goal, classroom talk is organised to achieve sub-goals within the lesson, such as pausing text creation to gather alternate instances of wording. While the 'tasks within tasks' perspective of Chapter 4 focused on student activity, learning cycles integrate teacher activity around each short wavelength task. The rank of learning cycle thus reveals how classroom talk is structured to support the incremental creation of the scribed text as well as talk about it.

The patterning of talk into learning cycles has previously been identified in reading activity (Rose 2005; Martin & Rose, 2007b). However, this chapter has shown its relevance to classroom interaction more broadly. In particular, the rank of *learning cycle* provides a pedagogic interpretation of unfolding activity, where teacher-talk is involved in constraining and then expanding on meanings that students propose. This perspective complements the analyses of *activity sequences* in other genres (Martin & Rose, 2007a). Rather than a continuous series of one action/ event after another, the rank of learning cycle highlights iterative sets of actions/events. These sets are a distinctive and predictable feature of teacher-student talk during collaborative text creation.

Overall, this chapter has explored pedagogic relationships and pedagogic activity in unfolding classroom talk. Findings have articulated how teacher-talk relates to and ideally supports students to accomplish tasks. Detailed analyses have provided a linguistic perspective on notions of micro-level and meso-level

scaffolding (van Lier, 1996, 2007). That is, teachers make continuous choices about how to set up and follow up each task, as well as how to organise series of tasks. These findings invite further enquiry into how talk about language is used to support students to propose meanings and to establish relationships between tasks.

In the following chapter, I examine more closely the semiotic resources that the teachers and students use to talk about language. I consider the extent to which connections between tasks focus on both the short-term and long-term goals of joint construction, i.e. co-creating a text and preparing students for future independent writing.

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Chapter 6   Connecting tasks

6.1   Introduction

Tasks and the timescales in which they unfold have been the focus of the two previous chapters. Chapter 4 investigates student activity. It considers the contribution of students in co-creating a scribed text. Analyses reveal contributions of two kinds, those that propose wording *for* and those that propose wording *about* the scribed text. Both are intrinsic to successful achievement in the instance of a specific text as well beyond the instance. In chapter 4 the role of the teacher in managing tasks is also explored. The focus there is on how tasks are structured in hierarchies of wholes and parts. The completion of the scribed text is the macro-task and it operates on the longest wavelength in the curriculum genre. Within this structure, tasks at progressively shorter wavelengths organise smaller achievable goals. This hierarchical structuring of tasks supports students to generate, modify, assess and explore alternate wording for specific parts of the scribed text.

Chapter 5 extends those findings to focus more specifically on the interactions around tasks. There I consider the ways teachers support students to propose wordings. Analyses reveal how teacher talk plays a crucial role in setting up the tasks, in particular in signalling the kinds of meanings expected. It also shows the potential in teacher talk to evaluate and expand meanings in post-task phases. The chapters together highlight ways in which teachers guide rather than provide wording for scribed texts.

In this chapter, I maintain a focus on the ways meanings unfold over time in the classroom activity. The focus shifts to how tasks connect, that is, to relations that hold from one task to the next. Key questions concern the connections between tasks sequentially and across varying timescales. The study explores the scope and role of metalanguage (language to talk about language) in this process. Of particular interest is how choices in metalanguage can shape the meanings that

students propose. The contributions of paralinguistic resources for meaning are also considered in connecting tasks. The chapter begins with a brief review of key theoretical constructs relevant to the questions and analyses. A detailed analysis follows of linguistic and paralinguistic resources deployed in relating tasks to other tasks. Finally, I reflect on issues that arise when metalanguage is analysed across varying timeframes.

6.2   Key concepts in analysing inter-task connections

A number of key theoretical constructs introduced in chapter 2 are revisited and elaborated here. These are foundational to understanding the pedagogic practice of joint construction as a network of tasks.

6.2.1 Semogenesis: Modelling meaning over time

In SFL, the process of creating meaning, or *semogenesis* (Martin, 1999a; Halliday & Matthiessen, 1999) is modelled as three time frames: *phylogenesis, ontogenesis*, and *logogenesis.* Phylogenesis is the evolutionary process of human language (and more broadly semiotic) development. Ontogenesis encompasses the development of meaning-making resources in individuals. Logogenesis refers to the gradual unfolding of meaning 'in the form of a text' (Halliday & Matthiessen, 1999, p. 18). The longer wavelengths of semogenesis provide the environments in which the shorter time frames occur; inversely, shorter timeframes 'provide the materials for' the meaning making processes of longer timeframes (Halliday & Matthiessen, 1999, p. 18). This bi-directional relationship is important to theorising how classroom activity relates to and impacts upon the on-going language development of students.

In joint construction, pedagogic activity involves logogenetic and ontogenetic timeframes. As students propose wording, their meanings create texts of classroom talk and of the negotiated genre. This logogenetic timeframe exists within an ontogenetic timeframe. The academic language courses that students take provide the environment for instantiating language choices and systems of meaning in texts. Inversely, writing activity, such as co-creating a text, provides the material

for students to develop their academic language. Thus, joint construction lessons are not just about 'getting co-created text up on the board', but there is also a developmental or 'future-orientated' focus.

6.2.2 The hierarchy of instantiation

The relationship between instances of language use and the general semiotic system is central to the theoretical architecture of SFL. A text is an instantiation of choices from the systems at all strata and all metafunctional realms. Text as an instance of a system of language can therefore be considered in terms of a hierarchy of generality along a cline. An instance is at the specific pole of the cline. More generalised systems of meaning are above it. At the most generalised pole is the entire system of language. The 'system', in this sense, represents all potential semiotic choices that could be instantiated as text. This cline is referred to as the cline of instantiation (Halliday & Matthiessen, 2004; Martin, 2010). The connection between an instance and system (or systems to instances) maintains a dual perspective on language use: we can examine meanings that are instantiated as text and also relate these meanings to types of potential meaning choices and configurations of meanings within the entire system of language.

This chapter is interested in the role of classroom talk in building an awareness of language as a system. A systemic perspective on language use is central to the theorisation of meaning-making in SFL: what is chosen is related to what is not chosen but could have been (Halliday, 2013). In this sense, classroom talk about types of meaning choices relates instances of language use to potential types of language choices. Analysis in this chapter focuses on the resources that teachers and students use to talk about meanings as they make selections for their scribed text. It also interprets the function of talk about language during text co-creation.

6.2.3 The principle of commitment

A hierarchy of generality is also considered in terms of moment-to-moment shifts in meaning. Degrees of generality/specificity can change from one instance of text to the next (Martin, 2008, 2010; Hood, 2008). In a comparison of instances,

parameters for what counts as an instance need to be carefully defined (Tann, 2013b). When an instance constitutes setting up a task (i.e. a *prepare* and/or *focus* phase) then commitment involves the extent to which teachers specify what students are expected to propose. For example, there is a difference in specificity between asking: *'what's another word?'* and *'what's the noun?* In the first instance, only a quantum of text is specified, e.g. *word.* In language alone, there are no further meanings in the task set-up about a more a general type of meaning that is expected. However, in the second instance a quantum of text as well as the meaning of word class is specified, e.g. *the noun.* In SFL terms, the second instance (in this case a question) 'commits' or specifies more ideational meaning than the first question (Hood, 2008). In this kind of comparison, the underlying principle is that the degree of specificity, from one instance to another, has the potential to vary.

This study considers the principle of commitment in relation to setting up tasks. It considers the extent to which expected meanings are specified from one task set-up to another. The main interest with commitment concerns the impact of greater to lesser specificity/generality on proposed wording. The other main interest is about developing a clearer understanding of how teachers adjust the way they set up tasks in relation to student responses.

6.2.4 Metalanguage

Also central to this chapter is analysis of talk about language choices. The semiotic resources that teachers and students use to identify and talk about patterns of meaning are broadly referred to as metalanguage (e.g. in Gebhard et al, 2014; Schleppegrell, 2013). More specifically, this chapter considers R. Berry's (2010) proposal that metalanguage is both a *thing* and a *process*. R. Berry (2010, p. 26) argues that 'the most obvious manifestation' of metalanguage is in technical terminology. From the perspective of field, technical terms or entities have discipline-specific meanings (Martin & Rose, 2007a). In contrast, non-technical terms about language are not strongly associated with one specific discipline. They are used readily in discourse between friends about daily life events, or

appear as non-technical entities in a number of fields. Analyses in this chapter look for technical terms that teachers and students use to talk about language. This chapter also examines non-technical entities to consider how language constructs are talked about alongside, or without, technical terminology.

While I acknowledge a broad distinction between technical and non-technical entities, terminology is 'only one part of the lexis' (R. Berry, 2010, p. 26). In classroom interaction, teachers and students construct messages for each other. These messages consist of one or more message parts (things, actions, people, and accompanying qualities), as analysed in chapter 4. Talking about language is thus part of an interactive process of creating meanings; technical entities are just one part of a message. Following this reasoning, what counts as metalanguage includes the co-text around terminology. It includes speakers' entire messages, rather than just the isolated entity components of messages. All message elements that label, identify, and describe types of meanings are therefore treated here as metalanguage. They all contribute to messages that talk *about* language choices.

This integrated 'whole message' view of metalanguage also draws on the concept of *bridging metalanguage* (Humphrey & Macnaught, to appear). This kind of metalanguage uses non-technical terminology and physical performance to link technical linguistic terminology to meanings in texts. Humphrey and Macnaught, for instance, analyse classroom talk about the rhetorical strategy of concession and rebuttal. The classroom teacher at the centre of their study talks about resources for managing multiple points of view as *'opening and closing the door'*. These non-technical terms are accompanied by physical performances of opening and shutting the classroom door. Both the bridging terms and the physical performance are explicitly connected to technical terminology for a type of meaning choice, namely a 'concessive clause'. The primary aim of bridging metalanguage is to make abstract technicality accessible. It does so by including non-technical, everyday lexis, in messages to talk about the function and structures of language. Bridging metalanguage may also include non-verbal meanings, including physical performances that embody or 'act out' the functions of language. It thus encompasses technical and non-technical entities,

accompanying co-text, as well as paralinguistic resources. This broader view of metalanguage is important because it considers a range of semiotic resources that teachers and students may use to talk about language.

6.3   Metalanguage in connecting tasks

Findings in previous chapters have shown how tasks are not a series of disconnected, unrelated writing events. Tasks unfold in shorter to longer wavelengths in time. From the perspective of constituency, task wavelengths involve part-whole relationships. The focus in this section shifts from constituency to varying timescales of present, past and future writing activity. Analysis considers how teachers and students establish connections between tasks. In particular, I focus on the semiotic resources that they use to talk about and negotiate language choices. I examine the contribution of both linguistic and paralinguistic resources of metalanguage to ideational, interpersonal and textual meanings. Linguistic resources involve choices in language, while paralinguistic resources include the use of body language and intonation. As teachers and students use resources to negotiate meanings, the role of classroom objects, in particular the whiteboard, is also considered. The aim is to provide an overview of how metalanguage functions, and also to capture the range of semiotic resources that teachers and students use to talk about language.

6.3.1   Connecting one completed task to a forthcoming task with linguistic resources

A key finding about connecting tasks is the prevalence of writing activity to change and improve text. Here a 'connection' refers to a link between a completed task in a prior learning cycle and the set up of a modifying task in a subsequent learning cycle. This type of task-to-task connection occurs after students have created part of the scribed text. At this point they then modify it. (See chapter 4 for relevant discussion on 'reworking' text.) Analysis shows that teachers support students to improve text through a combination of resources.

These resources are used to identify what needs changing and to evaluate changes. Teachers may also specify the kind of change that is required.

In language, teachers deploy ideational, interpersonal and textual resources to connect tasks. In terms of ideational resources, teachers frequently repeat proposed wording. This lexical repetition functions to integrate proposed wording from a previous learning cycle into the current learning cycle. More specifically, lexical repetition is important for precisely pinpointing which lexical items need changing. For example in Table 6.1, the teacher repeats proposed wording. In the first focus cycle phase, she states: *I think we need to change the umm, 'evidence shows that'.* Such lexical repetition specifies parts of the text to change. Students then modify wording from *evidence shows that* to *which means that* (turn 3), and finally to *leading to* (turn 5). The teacher affirms the changes, in the following evaluate and elaborate cycle phases.

Teachers also use interpersonal resources of APPRAISAL (Martin & White, 2005) to evaluate changes to wording. In the excerpt from Table 6.1, the change from the first task (*which means*)to the second task (*leading to*) is positively appreciated as *better*. The teacher reasons that the change creates *the logical relationship more clearly* (see turn 6). Here the teacher uses inscribed appreciation (*better, clearly*) to affirm changes. This example is also typical of how teachers use GRADUATION resources of force (Martin & White, 2005; Hood, 2010) to compare wording between tasks. They intensify the degree of a quality (e.g. *more specific, more clearly),* as they evaluate changed wording. These interpersonal resources extend the initial reaction (*that's better*) to provide explicit reasoning about improved wording.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	S	**…Ahh evidence shows that** the Lend Lease can get the discount of this project from the government.	task initiating TFW	…	generating	Text Negotiation
…further contributions, student queries and response to queries…						
2	T	So I think we need to change the umm, **'evidence shows that'** because we've already stated that in the objections.	focus		reworking	
3	S1	Ahh		1		
4	S2	Ah, **which means** the NSW government and taxpayers should pay 700 million and 1.4 billion dollars.	task adjusting by alternating			
5	T	*[Nods. Scribes: which means the NSW government and tax payers]*	evaluate			
	T	Let's have a look.	focus			
	T	*[reads out text]* 'Lend Lease obtained a discounted rate for the use of the land which means.'(pauses)	focus	2		
6	S3	**Ah leading to a situation**	task adjusting by alternating			
7	T	**Yeah that's better.**	evaluate			
	T	So 'which means that' is a very general expression, but usually we can find something **more specific** that, umm, tells us **the logical relationship more clearly.**	elaborate			

Table 6.1: Connecting tasks with lexical repetition, appreciation and graduation through intensification

(Class 3, Excerpt 4)

In terms of textual resources, teachers also use textual references to identify wording. Like lexical repetition, textual references locate and identify lexical items to change. For example in Table 6.2 in learning cycles 1-3, students have proposed: *protect the environment.* Then in the fourth cycle the teacher asks, *'So we can make it more nominalised?* 'Here, the pronoun *it* presumes students will be able to recover wording from their previous task, i.e. that they will associate *it* with *protect the environment.* In this example *it* 'points back' to wording in classroom talk and is classified as an anaphoric textual reference (Martin & Rose, 2007a). Teachers use anaphoric references such as *it, that, this, those,* etc., as a tracking resource to identify text parts without having to repeat wording in full.

Pedagogic Activity			Lesson Structure			
T.	**Sp.**	**Classroom interaction**	**Cycle phase**	**Learning cycle**	**Lesson activity**	**Lesson stage**
1	T	*[reading out scribed text]* 'It is not only the responsibility of the government but also of the public' to	focus	1	generating	Text Negotiation
2	S1	(?) (very softly)	(task)			
3	T	To? *[holding hand to ear]*	focus	2		
4	T	protect (?) (very softly)	task: initiating TFW			
5	T	To?	focus	3		
6	S1	**Protect the environment.**	task: repeating			
7	T	So we can make **it** more nominalised ?	focus	4	reworking	
8	S1	**protection**	task: modifying: adjusting: by transforming			
		Ok	evaluate			
9	T	So 'it's not only the responsibility of the government but also of the public'	focus	5		
10	S1	**For protection of**	task: modifying: adjusting by specifying			
11	S2	**~~ environment**				
12	S3	**~~ of the environment**				
13	T	Ok	evaluate			

Table 6.2: Connecting tasks with tracking resources
(Class 5, Excerpt 6)

The excerpt in Table 6.2 is indicative of how students are guided to make a series of changes to initial proposed wording. Each completed task provides the basis for the next incremental modification, as illustrated in Figure 6.1. Series of modifying tasks are hereafter referred to as 'reworking' lesson activity. In Table 6.2 reworking activity changes the wording of *to protect the environment* to *protection* and then *for the protection of the environment.* The teacher explicitly provides the student with an opportunity to reformulate her initial wording: *So can we make it more nominalised?* (turn 7). This task set-up specifies the kind of change that is expected, i.e. *more nominalised.* Here the teacher's metalanguage refers to the process of changing verbal groups into nominal groups so that actions and events are represented as entities in discourse. In this context, this kind of change is important because initial wording often resembles patterns of meaning from everyday social interaction. The nominalisation of actions is a significant feature of academic discourse, as further discussed throughout this chapter and in particular in section 6.4.2. It is illustrated here to exemplify how metalanguage functions to help students improve wording for their scribed text.
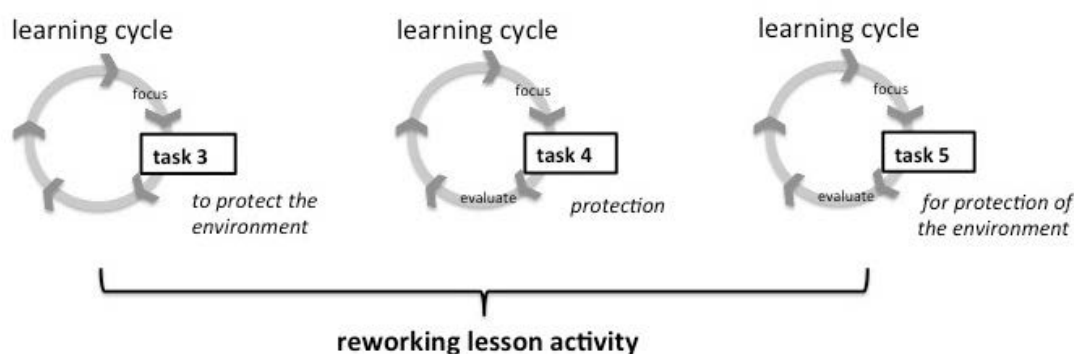
Figure 6.1: Guiding the reformulation of wording between task cycle phases

The second related finding involves students raising queries about tasks. Students typically initiate a new phase of interaction, referred to as 'query'[31] in the analysis. In query phases, students raise concerns or questions about wording. Like teachers, students use a combination of resources to identify and evaluate wording in a prior task with the view to changing it.

Student queries and teacher responses to queries are exemplified in Table 6.3. In this excerpt, student 3 interrupts a learning cycle with concerns about proposed wording in the previous task. She insistently argues that wording needs changing, until the teacher finally agrees to modify wording. (See turn 11: *Let's change the words.)*In terms of semiotic resources, student 3 uses lexical repetition to identify what she wants changed. (See turn 2 & 8: *Will receive a strong boost and economy will also grow)*. In language she also 'points to' parts of the scribed text. For example, at turns 2 and 6, student 3 says: '*But that time, the before the sentence, and this time'; 'if we leave the sentence'*. In these instances, her textual references 'look out' to the scribed text on the whiteboard. They exemplify an identification resource referred to as exophoric reference. As Martin & Rose (2007a) explain, exophoric textual references recover entities outside of the text, i.e. in text on the whiteboard rather than in classroom talk. Student 3 also uses an identification resource of endophoric reference to 'point back' to entities that have been introduced in classroom talk. For example, at turns 2 and 6, she says: '*Will receive a strong boost and economy will also grow. It has the same meaning'; 'Sydney's economy will receive a strong boost. Sydney's economy will also grow. It doesn't seem good'*. These endophoric textual references that look back into the text are categorised as anaphoric, as previously discussed. With the use of both exophoric and anaphoric textual references, the student is able to identify what she wants changed. Her series of queries are indicative of how the opportunity to rework text provides the pedagogic space for students to raise questions and concerns during text co-creation.

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[31] In some instances, a student initiated 'query' phase could also be interpreted as a *clarification request* from the perspective of interpersonal exchange structure analysis (e.g. Martin, 1992). Analyses in this thesis do not focus on such *dynamic* moves in the system of NEGOTIATION, as discussed in chapter 3.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	And we'll, can we put in something instead of 'grow'.	focus	1		Text Negotiation
2	S3	But **that time**, **the before the sentence**, and **this time**, **two sentence** has the similar meaning. 'Will receive a strong boost' and 'economy will also grow' **it** has the same meaning.	query			
3	T	Yes. Umm. If you study hard, you will do well at university. You can also succeed at university by knowing the right people. That's not true!	response to query			
4	S3	(laugh)				
5	T	Not in Australia!				
6	S3	No I just said that if we leave **the sentence** like **that, it seems not perfect.**	query cont.			
7	T	It's never ~~ never going to be perfect, we have lots of choices	response to query cont.			
8	S3	~~ **It really seems not perfect, but it's also like wrong**, because 'Sydney's economy will receive a strong boost', 'Sydney's economy will also grow'. **It** doesn't seem good.	query cont.			
9	T	Oh **the same** words. **The same** words.	response to query continued			
10	S3	Yep. The meaning is **the same.**				
11	T	Let's change **the words.**	focus	2		

Table 6.3: Students raising queries about wording in a prior task

(Class 3, Excerpt 6)

Although student 3 uses tracking resources frequently, she struggles to elaborate on her negative evaluation of wording. With inscribed appreciation she evaluates wording as *not perfect, wrong,* and *doesn't seem good* (see turns 6 and 8). However she is not able to use other resources to name or label the kind of problem she sees. This example illustrates how students (and teachers) may rely heavily on textual referencing as they negotiate meanings. In the absence of technical metalanguage, tracking resources are a primary means of identifying and keeping track of text parts from one task to the next.

6.3.2   Connecting one completed task to a forthcoming task with linguistic and paralinguistic resources

Further evidence about connecting tasks appears in paralinguistic resources. Analysis shows that paralinguistic resources also play a significant role in writing activity to rework text. Like linguistic resources, body language and intonation are involved in identifying and evaluating wording to modify. They are used to connect wording in a completed task to forthcoming wording in the next task. The study of body language and intonation is limited to teachers, due to the position of the video camera and clarity of the audio recordings (as described in chapter 3).

6.3.2.1 Body language

In terms of body language, teachers often point to wording on the whiteboard. For example, in Table 6.4, the teacher uses the tips of his fingers to physically touch scribed wording (see the video still). In SFL, this hand movement is a gestural expression of IDENTIFICATION (Martin, 1992). It functions as a textual resource to identify wording and enables the teacher to physically pinpoint an instance of text with or without related lexical items. In this example, the pointing gesture also involves an outstretched arm. Together, the hand and arm movement create a vector 'to express directionality towards' an object (Hood, 2010b, p. 35). In this case, the vector lies between the teacher's body and an instance of scribed wording.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
5	T	~~Mmm. Ok. Alright. Cool.	evaluate			Negotiation · Text
		Okay so how can I put **it** using ***[pointing to and touching the board]* the same structure.**	focus	3	reworking	

Table 6.4: Body language to connect lesson activities

(Class 4, Excerpt 8. See full version in Appendix 9)

This example is typical of textual meanings realised in body language working together with textual meaning in language. As the teacher identifies wording with hand and arm movement, he also expresses IDENTIFICATION in language as underlined in: *Okay, so how can I put it using the same structure,* where *it* and *the same* refer to scribed wording. The teacher makes an explicit comparison, between a past successful instance and forthcoming wording in the comparative textual reference (*the same*)and non-technical entity (*structure*). Students then engage with tasks to modify wording, as analysed and documented in Appendix 9. The combination of linguistic and paralinguistic resources skilfully connects a completed task to the set up of the next task.

6.3.2.2 Intonation

Further evidence about connecting tasks appears in patterns of intonation. Analysis shows that intonation also functions as a resource to link a completed

task to the set up of the next task. Like the other semiotic resources discussed so far, intonation features prominently in writing activity to rework text. In particular, phonological resources of intonation function to: draw attention to problematic parts of the scribed text; create manageable chunks of information to negotiate; and accept or reject wording. These findings are presented in relation to the phonological systems of TONICITY, TONALITY and TONE (Halliday & Greaves, 2008). Examples draw on excerpt 3 from class 2, in Table 6.5, with the annotated excerpt appearing in Appendix 10.

In activity to rework text, teachers use phonological resources of TONICITY to create a 'focal point' (Halliday & Greaves, 2008). They do so by allocating salience to particular words and syllables. Salience is primarily created through a change in pitch. (See the explanation of TONE to follow). Other common phonological factors include relative differences in the loudness and duration of syllables (Tench, 1996). Technically, the focal point of a message (or 'tone unit' see below) is referred to as the *tonic element*, with the most salient part referred to as the *tonic syllable*. As the teacher and students create messages, salience or 'tonic prominence' (Halliday & Greaves, 2008, p. 54) draws attention to particular message parts. Phonological resources of TONICITY are now discussed in relation to the excerpt in Table 6.5.

In Table 6.5, the teacher and students are generating and reworking a sentence about the significance of the cashmere industry. Students initially propose: *Cashmere industry in Mongolia, is <u>most significant</u> industry for the local people, for the local government.* This text is eventually changed to: *The cashmere industry in Mongolia is <u>one of the most significant</u> for the local people.*

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
a b c d e	T	*[Scribing: 'Cashmere Industry is most significant industry']*	evaluate		generating	Text Negotiation
6	… student queries and other modifications to text …(See Appendix 6)					
5	T	O*k. ***So** is everybody ***happy** with this sentence, or is there anything we can im***prove** ,*or, *change**?	focus		reworking	
6		* 3 seconds silence *	(task)			
	T	Do we know its the *most** significant? Are we *sure** about this? Is it *the** most significant?	focus			
	T					

Table: 6.5: Phonological resources of TONICITY in classroom talk to modify meanings

(Class 2, Excerpt 3)

Rather than using evaluative lexis, the teacher allocates salience to words that need changing. For example, the words '*most*' and '*the*' are stressed at turn 6: '*is it the *most significant….is it *the most significant?*'. As a textual resource, TONICITY makes a particular part of the scribed text 'stand out'. It thus identifies wording that needs further negotiation.

The phonological resources of TONICITY combine with the other two systems of intonation, TONALITY and TONE. In writing activity to rework text, the system of TONALITY is involved in managing the flow of information in classroom talk. It accounts for boundaries in speech that we can readily hear. In terms of segments or units of speech, the tonic syllable falls within the tonic foot of each tone unit. Feet are rhythmic phonological units where stressed and unstressed syllables create a steady pulse. One or more feet constitute a tone unit. As Halliday & Matthiessen (2004, p. 88) explain, tone units account for phonological resources

that realise 'a quantum of information' in spoken discourse. The system of
TONALITY provides important resources for speakers to manage (and manipulate)
phonological boundaries in speech. The tone units and feet in the extended
version of the excerpt of Table 6.5 (see Appendix 10) are annotated in Table 6.6
below. Following conventions (see Halliday & Greaves, 2008, p. 210-211), tone
unit boundaries are marked by //…//, feet by /.../, and tonic syllables by bold font
and an asterisk. Table 6.6 shows the twenty-eight tone units that the teacher has
created, as the class modifies their sentence.

Tone Unit #	TONALITY, TONICITY &TONE
1	//2 ^ O*/**k**.
2	//2 ***So,** is everybody
3	//2 ***happy** with this /sentence**,**
4	//2 **^** or is there /anything we can im*/**prove**
5	//3***or**
6	//2 ***change**?
7	//2^ Do we/know it's the */**most** sig/nificant?
8	//2^Are we*/**sure** about this?
9	//2 Is it */**the** most sig/nificant?
10	//4 ^We /know its /very im*/**por**tant,
11	//3 ***but**, you
12	//3 ***know**, we
13	//4 have to be /clear about our/ * **facts.** If we're not
14	//4 ***sure,**
15	//3 ***what** could we,
16	//3 ***how** could we
17	//1***mod/**ify this sentence?
18	//1***May** be one of the most sig/nificant.
19	//5 ***Ah**
20	//1***one** of the most sig/nificant**.**
21	//1 ***Yes.**
22	//3 ***So** the
23	//3 ***cash**mere / industry in Mon/golia
24	//2 ***is**
25	//2 ***one**
26	//2 ***of**
27	//3 ^the most sig*/**nif**icant for local
28	//1 ***peo**ple.//
KEY	tone unit boundary = //...// foot boundary = /…/ tonic syllable = * **bold** silent on-beat = ^ tone = Arabic numeral for pitch contour: 1 fall; 2 rise; 3 level rising; 4 fall rising; 5 rise falling. (See Halliday and Greaves (2008) for compound tones.)

Table: 6.6: The systems of TONALITY, TONICITY & TONE in teacher talk to guide students to modify wording

The analysis in Table 6.6 exemplifies how tone groups create phonological 'chunks' to manage changes to wording. From the perspective of lexicogrammar, these tone groups nearly all consist of incomplete clauses, and even single words. The phonological boundaries thus contribute to the negotiation of specific words/word groups, rather than trying to modify entire clauses all at once. The teacher's efforts to negotiate small units of information are particularly evident in his frequent use of a 'marked tonic' (Halliday & Greaves, 2008, p. 59). A marked tonic occurs when the greatest pitch movement is located somewhere other than on the last content word. The pitch change continues to the end of the tone group, thereby making the pitch change more prominent. In Table 6.6, a marked tonic occurs on lexical items that realise a range of message parts, including: activities (e.g. **change** and **mod***ify* in tone group 6 and 17); and qualities and polarity items that explicitly evaluate wording (e.g. **happy,** im**portant, Yes,** in tone group 3, 10, 21). Additionally, a marked tonic also occurs on repeated wording from previous tasks, as previously discussed.

Phonological boundaries (including the allocation of a marked tonic) function as a highly flexible resource. A range of meanings can be given prominence and phonological units are not restricted by grammatical boundaries, such as the start and finish of a clause. The phonological 'chunking' of information is used for pedagogic purposes, such as gradually modifying instances of wording.

Teachers also use a third phonological resource, namely pitch contour, to evaluate wording. In the system of TONE, each tone unit has a distinctive pitch contour. Halliday and Greaves (2008) identify five basic contours: fall (tone 1), rise (tone 2), level rising (tone 3), fall rising (tone 4), and rise falling (tone 5). In the excerpt about the significance of the cashmere industry, two of these pitch contours feature prominently: falling and rising. These are annotated in Table 6.6 at the start of each tone unit.

From an interpersonal perspective, choices involving pitch contour function to evaluate wording. In Table 6.6 the teacher uses a series of rising pitch contours (tone 2) in tone units 7-9 to problematise wording in the previous task: *Do we know it's the most significant? Are we sure about this? Is it the most significant?* These rising contours contrast with the falling pitch contours (tone 1) in tone units 18, 20 and 21. Here the teacher's choice of tone 1 contributes to realising the speech function of providing a statement in grammar (Halliday & Matthiessen, 2004) such as: *So the cashmere industry is one of the most significant for the local people.* From the perspective of KEY, the falling tone together with declarative clause structure creates a 'neutral' KEY (Halliday & Greaves, 2008). In this context of use a neutral KEY indicates that wording changes are accepted rather than challenged or rejected. Through changes in pitch contour and choices about clause structure, the teacher is able to evaluate wording, without relying solely on items of appraisal in lexis.

The intonation patterns in Table 6.6 also contribute enacting social roles of teachers and students. In particular, they are involved with managing relationships of power. Although teachers position themselves as language experts (as analysed in chapter 5), they are careful about the manner in which they interact with their adult students. For example, in tone units 4 and 6 the rising pitch is typical of interrogative clauses that realise the speech function of questions. However, tonic salience is allocated to *improve, or,* and **change** in the teacher's question: *Is there anything we can improve, or, change?* This patterning creates two meanings from one structure of lexicogrammar (Painter, 1999). In this case, the grammar of an interrogative clause creates a question. However, phonological analysis supports an alternate meaning where the interrogative clause structure is functioning as a command about expected activity, i.e. there is indeed wording to improve and change. In Halliday and Matthiessen's (2004) terms, the teacher has created an 'interpersonal metaphor'. Such interpersonal metaphors provide evidence of how teachers direct student activity, with a supportive rather than an authoritarian manner.

This brief analysis of intonation illuminates the importance of interpreting *what* teachers say, and also *how* they say it. Examples are indicative of the way teachers use phonological resources to identify wording that needs changing, to manage information flow as modifications are made, and to evaluate wording. An overview of reoccurring phonological resources is illustrated in Figure 6.2. The combination of phonological and linguistic resources exemplifies how teachers use a wide range of resources to support students with reworking text.

**Connecting tasks
with phonological resources**

| task cycle phase | focus cycle phase | subsequent task cycle phases |

most significant industry – – – – – – – – – – – – – – – –> *one of the most significant*

salience on tonic syllables
rising and falling pitch contours
boundaries between tone units
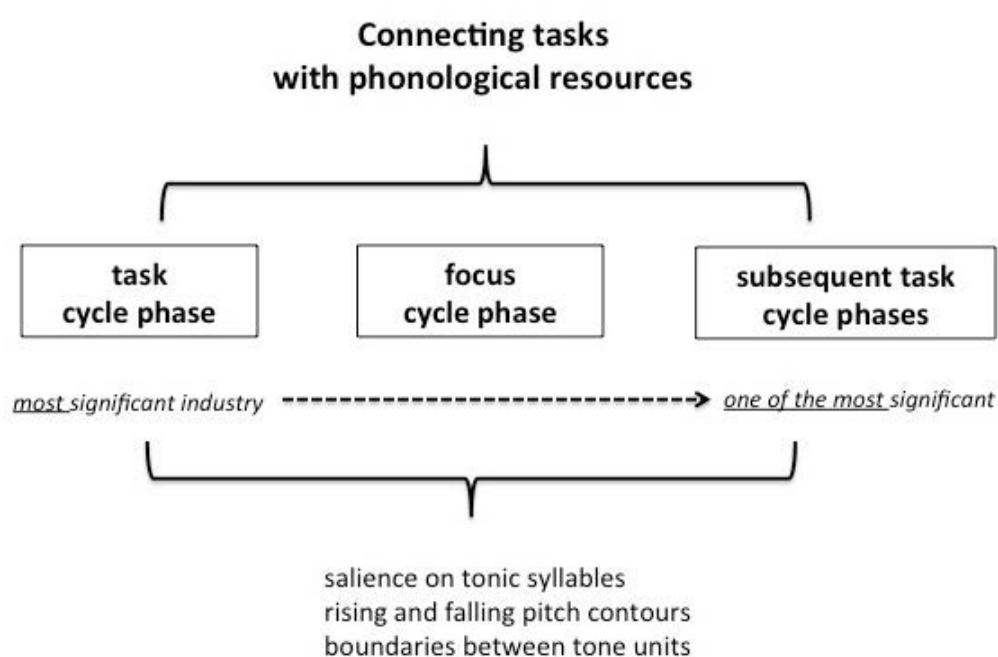
Figure 6.2: Phonological resources to connect tasks

6.3.3   Summary of resources to connect one completed task to a forthcoming task

Connecting tasks is crucial to negotiating meanings. Examples have illustrated how teachers create opportunities for students to modify wording from previous tasks. They identify and evaluate wording with linguistic resources such as lexical repetition, inscribed appreciation of qualities, the intensification of qualities, and textual references. Students use similar linguistic resources to initiate queries about wording that they think needs changing. Their use of technical

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metalanguage to label patterns of meaning is limited. Instead, they rely heavily on textual references to identify parts of text.

In addition to semiotic resources in language, paralinguistic resources support students with reworking text. In terms of textual meanings, teachers use body language and intonation to identify specific parts of the scribed text. Indexical hand movements, vectors in body position, boundaries between tone units, and phonological stress all contribute to identifying text parts. Paralinguistic resources also create interpersonal meanings. Teachers evaluate wording, with variation in pitch contours. These resources indicate whether a part of the scribed text is complete, or whether further negotiation is required.

An overview of semiotic resources to connect proposed wording from one task to the next task is illustrated in Figure 6.3. Connections between tasks illuminate how teachers guide students to change and improve wording, without taking over. The analysed resources provide linguistic and paralinguistic interpretation of 'interactional scaffolding' (Hammond & Gibbons, 2005), i.e. they show how teachers support students to improve text. More broadly, links between tasks highlight the reflective, logogenetic development of the scribed text: tasks are considered in relation to each other and not as isolated writing events.

Connecting proposed wording in tasks

learning cycle

prepare focus

task

elaborate

evaluate

learning cycle

prepare focus

task

elaborate

evaluate

Linguistic resources
lexical repetition
appreciation of qualities
intensification of qualities
textual references

Paralinguistic resources
indexical hand movements
vectors in body position
phonological salience
pitch contours
boundaries between tone units

Figure 6.3: Semiotic resources to link tasks

6.3.4 Connecting multiple completed tasks to a forthcoming task

The third finding about task-to-task connections involves linking multiple completed tasks to a forthcoming task. This connection functions to identify language choices as a type of meaning. It occurs after students have created the scribed text. Students then locate and verbally repeat instances in the scribed text. Each lexical item that is repeated exemplifies the same type of meaning choice, i.e. all instances are the same 'instance type' (Halliday & Matthiessen, 2004, p. 28). In analysis, the repetition of scribed wording for the purpose of relating it to a type of meaning is called *highlighting* writing activity. It occurs as the class is reading over their completed text in the lesson stage of Review.

An excerpt from a Review lesson stage appears in Table 6.7. In this example, the teacher wants students to identify instances of 'cohesive' language choices. In terms of ideational meanings, he uses technical entities to label kinds of 'cohesive'

choices (e.g. *linking words* and *reference words*). He also defines terminology with non-technical lexis: *references words* are *any word that refers to another word* (see turn 1). This talk about textual references prepares students for the subsequent highlighting writing activity.

As students find and repeat instances, the teacher uses the whiteboard as an accompanying textual resource. He identifies a type of meaning choice by physically 'marking up' the scribed text. In this case he uses coloured pens to draw circle shapes (or sometimes rectangles) around meanings and connecting arrows between meanings. The circles and rectangles identify meanings as the meaning type of *reference words*. Connecting arrows link a reference word to its referent such as *this* to *enhancing standards*. This mark up of text is shown in the video still at turn 6 in Table 6.7.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	Now don't forget that we, ahh, have **other words that also help to make the cohesion happen**. Not just these linking words, but also the any, any ref, we call them **reference words**. **Any word that refers to another word is going to help make your writing more cohesive.**	prepare	1	highlighting	Review
	T	So 'This' links with?	focus			
2	S+	Innovations	task: attending by repeating			
3	T	Innovations. (draws connecting arrow)	evaluate			
4	T	Can you find more **reference words?** Where is 'this'. Here it is. 'This' refers to?	focus	2		
5	S8	Enhancing	task: attending by repeating			
6	T	Good. (draws connecting arrow)	evaluate			

Table 6.7: Establishing connections to multiple completed tasks
(Class 1, Excerpt 5)

The highlighting writing activity that is exemplified in Table 6.7 focuses on characteristics that instances share. From the perspective of instantiation, the teacher is connecting specific instances in the scribed text to more general systems of meaning. In this case, the type of meaning or 'instance type' (Halliday & Matthiessen, 2004, p. 28) involves a discourse semantic system of textual meanings. In SFL, this is the system of IDENTIFICATION (Martin, 1992; Martin & Rose, 2007a). In this system, anaphoric (pointing back) references, such as, *this*, are one option. The systemic relationship that is expressed in the classroom talk is illustrated in Figure 6.4. Here the technical entity *reference words* plays a crucial role in explicitly relating meanings in the scribed text to a type of meaning choice. The pedagogic purpose of drawing attention to types of meaning choices is further discussed throughout this chapter.
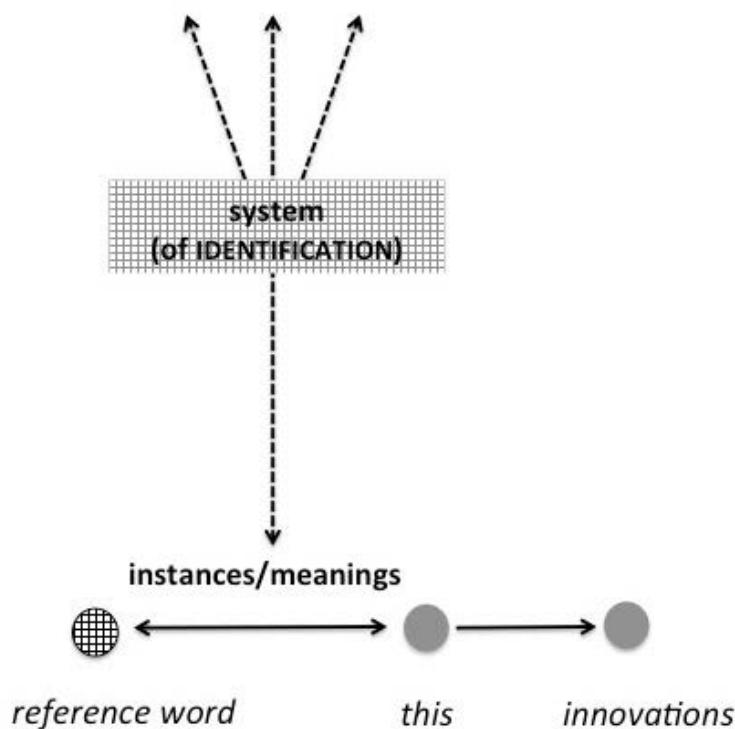
Figure 6.4: Instance-system relations in classroom talk

6.3.5 Making connections to future tasks

The fourth finding is that writing activity in the current lesson is also related to future tasks. Analysis reveals that teachers use combinations of resources to relate a language choice in the current lesson to similar choices in future writing, i.e. beyond the lesson. This type of connection is of interest because of the pedagogic design of joint construction lessons. As an intermediary step, joint construction is designed to create a model text and, in doing so to further prepare students for independent writing. Teachers and students therefore need a way of relating current language choices to future choices. Analysis shows that connections to future tasks are created through a combination of technical entities, modalisation resources of usuality and probability, and external conjunctions of condition. These resources connect language choices in the writing lesson to future language choices. They are now exemplified with excerpts from Table 6.8 and 6.9.

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The use of technical entities is crucial because it identifies *what* type of meaning choice is being related to future language use. For example in Table 6.8 and 6.9 technical terms include: *verb, noun, verb ~ing, the full noun form,* and *gerund.* These terms identify instances as types of meanings, as previously discussed. Once a language pattern has been labelled, other resources are then used to talk hypothetically about its use in future writing.

Pedagogic Activity			Lesson Structure			
Turn	**Sp.**	**Classroom interaction**	**Cycle phase**	**Learning cycle**	**Lesson activity**	**Lesson stage**
1	T	*[Taps whiteboard under the wording 'using' in 'using social networking sites']* We have to paraphrase. We have to find another way of saying the same thing. I have an idea. Here we start with the **verb and ~ing.** 'Using social networking sites'.	prepare	1	reworking	Text Negotiation
		I can just use **the noun form of that verb**	focus			
2	S	The use of	task: modifying: adjusting by transforming			
3	T	'The use of '. Thank-you	evaluate			
		So, you can <u>always</u> change the words, or I can change the grammar. That's a nice way. So <u>when</u> you have **verb ~ing combinations**, it's <u>always possible</u> to replace it with **the full noun form**. *[Scribing: 'the use of"]*	elaborate			

Table 6.8: Connecting current tasks to future tasks – Example 1

(Class 4, Excerpt 9)

The first additional resource involves degrees of probability and usuality. Probability is about how likely something is. Usuality is about our expectations around something's occurrence. These meanings lie between the poles of 'yes' and no' (Halliday & Matthiessen, 2004). They are realised through interpersonal resources of modalisation. In unfolding discourse, these resources function to grade the modality of activity (Martin & White, 2005). For example, at turn 3, in Table 6.8, the teacher says: _always change; always possible to replace_. In this example the grading of usuality is high (_always)_ and the grading of probability (_possible_) is moderate. Although teachers do not include specific circumstances of location and time (e.g. _in your homework tonight_ or _in the assessment next week),_ these interpersonal resources tell students that their current activity is relevant to other (unspecified) situations, i.e. that language choices can _usually_ be used in a similar context.

The second resource to connect language choices to future writing involves logical relationships. In particular, teachers talk about the conditions of language use. They draw attention to an 'outcome and the conditions under which it may occur' (Martin & Rose, 2007a, p. 131). For joint construction, these outcomes are language choices in a text. The conditions are reoccurring types of meaning choices that can be used in a different context. Connections between an outcome and a condition are created through conjunctive relations between clauses, such as saying: _when you have verb ~ing combinations, it's…_ (Table 6.8 turn 3), or _whenever I use the gerund, I…_ (Table 6.9, below, turn 1). In the context of talking about language use, this type of conjunctive relation is classified as an external conjunction of condition (Martin, 1992). It is 'external' because it organises events beyond the scribed text (Martin & Rose, 2007a). That is, external conjunctions are not a cohesive resource to connect text parts to each other. Instead they are concerned with logical relationships (including condition) outside the text.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	Very good. Ok. 'Producing'.	evaluate	…1	reworking	Text Negotiation
		I can use **the gerund**, 'producing'.	elaborate			
		Or, <u>whenever </u>I use **the gerund**, I <u>always</u> have the option of using a **noun,**	prepare	2		
		and what is **the noun?**	focus			
2	S6	Product, production	task: modifying: adjusting: replacing by alternating			
3	S2	Production	task: attending by repeating			
4	T	*[Nods]*	evaluate			

Table 6.9: Connecting current tasks to future tasks – Example 2

(Class 2, Excerpt 7)

The excerpts in Table 6.8 and 6.9 highlight how a combination of resources are used to give language choices in the lesson a future orientation. Specifically, external conjunctions (double underline) are used in combination with technical entities (bold) and modalisation resources (underlined). The two examples are:

*<u>When</u> you **have verb ~ing combinations**, it's <u>always possible</u> to replace it with **the full noun form,** (Table 6.8) and*

*<u>Whenever</u> I use **the gerund**, I <u>always</u> have the option of using a **noun** (Table 6.9).*

In both of these examples, the teachers focus on alternate grammatical resources to realise the same message part (an entity). In the first example, *verb~ing combinations* are related to the alternative of *the full noun form*. In the second example, *gerund* is related to the alternative of *noun*. These technical entities name kinds of meaning choices. A degree of usuality and/or probability is also assigned to their selection (*always possible, always*) and conjunctive relations

relate the meaning choices to each other, e.g. *when* X meaning choice is available, then Y meaning choice is also available. In combination these resources create generalisations about language use.

Explicit connections between writing activity in the lesson and writing activity beyond the lesson are relatively rare. The excerpts in Tables 6.8 and 6.9 are representative of an explicit future orientation only occurring once within an entire lesson stage (approximately thirty to forty-five minutes). One interpretation is that connections to future writing are infrequent because energy is most strongly directed towards the short-term goal of joint construction, i.e. creating another model text. On the one hand this finding is surprising (or even concerning), given that joint construction is a preparatory step towards future independent writing. On the other hand, the 'here and now' focus of text co-creation is unsurprising. Excerpts have shown the complexity of negotiating meanings and managing this kind of writing methodology.

An alternate interpretation is that any activity to label meanings as a type of meaning choice is targeting future writing. As more general relationships are created, these understandings have the potential to be carried over to future activity. Types of meanings can 'transcend' (Martin 2006b) one language choice in one context of language use: they can be related to other meanings in the same scribed text, as well as texts that have not yet been written. The relative importance of metalanguage about type of meaning choices is further considered in the following two sections of this chapter.

6.3.6 Summary of connecting tasks

To summarize, section 6.3 has explored how teachers connect past, present and future tasks/ language choices. Findings highlight three specific types of task-to-task connections: one completed task to a forthcoming task, multiple completed tasks to a forthcoming task, and a task in the current lesson to future tasks beyond the lesson. These task-to-task connections serve reoccurring pedagogic functions. In terms of immediate activity, they provide students with the opportunity to

modify and improve their text. They also involve students raising queries about meanings. Additionally, task-to-task connections target future writing activity in two main ways: meanings are identified as a type of meaning choice that can be selected in the future; and, more explicitly, generalisations are made about language use.

Analyses have shown how links between tasks involve classroom talk about language. Such talk includes combinations of linguistic and paralinguistic resources. In analysis, metalanguage to connect tasks has not been restricted to isolated terminology. Whole messages have been examined for the contribution of their constituent message parts to talk about language, including functions such as: tracking, assessing, categorising and making generalisations about language use. While this section has considered the scope of semiotic resources to connect tasks, the following section considers the implications of metalanguage choices, particularly on student participation.

6.4   The implications of metalanguage choices

So far, analyses have shown that teachers use a wide range of resources to connect tasks. The implications of metalanguage choices are the focus of this section. I analyse how choices in metalanguage can shape the meanings that students propose, i.e. there is a relationship between what teachers say and what students subsequently propose. I start by relating the concept of metalanguage to the particular teaching and learning context of this study. I then consider risks and key functions of metalanguage, in terms of academic language use.

6.4.1 Metalanguage in a specific teaching and learning context

The close examination of metalanguage needs to be understood in relation to specific social situations. SFL theorises social situations in terms of their semiotic or 'functional domains' (Halliday, 1978; Halliday & Hasan, 2005). These domains encompass the field, tenor and mode of a situation. Field is concerned with social action. Tenor involves social roles and relationships. Mode involves the medium and channel through which social messages are created and relationships are

enacted. Collectively, these contextual variables are called a 'register'. (See chapter 2 for further elaboration.) In the examination of texts, a register refers to functional varieties of language where different configurations of meaning relate to different situations of use. Students in this study are developing their knowledge of 'academic' registers. That is, they are learning about types of meaning choices that are valued by and used for the social purposes of institutions, including academia. In this sense, students take intensive English language courses to learn how 'academic' registers shape disciplinary knowledge and vice-versa. An overall goal of engaging with texts is for students to develop understanding of how academic registers are realised by specific language choices. In light of this teaching and learning context, the implications of metalanguage choices concern the academic language use of students.

6.4.2 Risks associated with metalanguage choices

The main risk to student participation concerns the types of meanings that they propose. Examples have highlighted how student contributions often resemble patterns of meaning from everyday social interaction. A reoccurring example is the choice of verbal groups to realise actions and events. Subsequent modifying tasks focus on realizing social actions as nominal things or entities in discourse. For example:

> *protect* becomes *protection* (Table 6.2),

> *using* becomes *the use* (Table 6.4), and

> *producing* becomes *production* (Table 6.9).

These language changes target different situations of language use. We commonly choose verbs to realise actions in situations such as sharing stories about life events. As Klein and Unsworth (2014) reflect, here we are predominantly construing reality as a dynamic space,

'where experience is comprised of human or non-agents and concrete things, which participate in visible processes of change, in a perceptible manner and set of circumstances' (p. 3).

However, in other contexts of use, we need to represent social activity from a synoptic perspective. That is, 'abstract or virtual entities are related to one another through processes that are abstract and timeless' (p. 3). A primary resource for creating a synoptic perspective is to represent social activity as an entity rather than an event/action. This change exemplifies one important type of meaning choice that contributes to creating an academic register.

Problems arise for students when they do not know *how* to create a shift in register. For example, in Table 6.10, the teacher is guiding students to rework their definition of cashmere. They have initially scribed: *Cashmere is a soft warm fibre and is widely used for clothes*. They are now working on modifying the last part of their message. (See Appendix 11 for full excerpt.) The teacher asks:

> *Is there another word we could use for 'clothes'?*
> *Maybe a little bit more formal?* (turn 34).

Students 2 and 5 then propose *dress* and *costume,* as alternate wording to *clothes* (see turns 35 and 39). Here they have related *a little bit more formal* to the everyday field of personal life experiences. In social life with friends and family, *'more formal clothes'* could indeed be described as *costume* or *dress*. However, students are writing a consequential explanation about the commercial production of cashmere. (See the full scribed text in Appendix 4e.) Their language choices are expected to achieve that purpose. Attempts to explain the relationship between language choices and social context are evident in the elaboration cycle phase. At turn 47, the teacher relates *clothes* to the context of social interaction about *going out to theatre*. In contrast, *clothing* is related to writing about the *clothing industry*. Other students eventually change *clothes* to *clothing* (see student 1 and 6 and turns 43 and 44) and this change is accepted. However, students 2 and 5 have already been laughed at (turn 36-37, and 41).

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
34	T	**~~clothes.**	evaluate		reworking	Text Negotiation
		Is there **another word** we could use for 'clothes'?	focus	14		
		Maybe **a little bit more formal.**				
35	S2	costume	task replacing: alternating			
36	S+	costume (laugh) (Student 2 is not laughing)	evaluate			
37	S?	No! that's too (inaudible)				
38	T	**same family**	focus	15		
39	S5	dress.	task replacing: alternating			
40	T	*[ignore]*	evaluate			
41	S6	*[quietly chuckles]*				
42	T	**So same family as 'clothes'.**	prepare	16		
		Same family. Another word.	focus			
43	S1	Clothing	task replacing: alternating			
44	S6	Clothing				
45	T	Clothing. We often talk about the clothing industry. Clothing industry.	evaluate			
46	S?	**More general.**				
47	T	**More general.**				
		Clothes might be **more specific**. What clothes? If I say to you, you know, what clothes are you wearing tonight? We are **going out to the theatre.** What clothes are you going to wear? I wouldn't say what kind of clothing are you going to wear. **That sounds very formal.** Ah so we might say **the clothing industry**. High-quality clothing. *[Scribes: 'clothing'].* Good.	elaborate			

Table 6.10: The challenge of interpreting field

(Class 2, Excerpt 8 – part of. See Appendix 11 for full excerpt)

A comparison between everyday language and 'academic' language use is evident in interpersonal language resources. The excerpt in Table 6.10 is indicative of how teachers often use qualities to guide the reformulation of wording. In particular, teachers intensify the degree of a quality, e.g. *more* X (Martin & White, 2005; Hood, 2010). In the excerpt, *more* appears three times: *a little bit more formal* (turn 34)*, more general* (turn 46-47) *more specific* (turn 47). Additionally a fourth instance, *more academic,* occurs prior to turn 34, as documented in Appendix 11. The teacher uses these qualities and their grading to create messages about expected language changes. These messages indicate that meanings should be *less* like the register of everyday discourse and *more* like the target register of academic discourse. The metalanguage of pedagogic discourse is thus playing a mediating role in trying to articulate differences between registers, as represented in Figure 6.5.
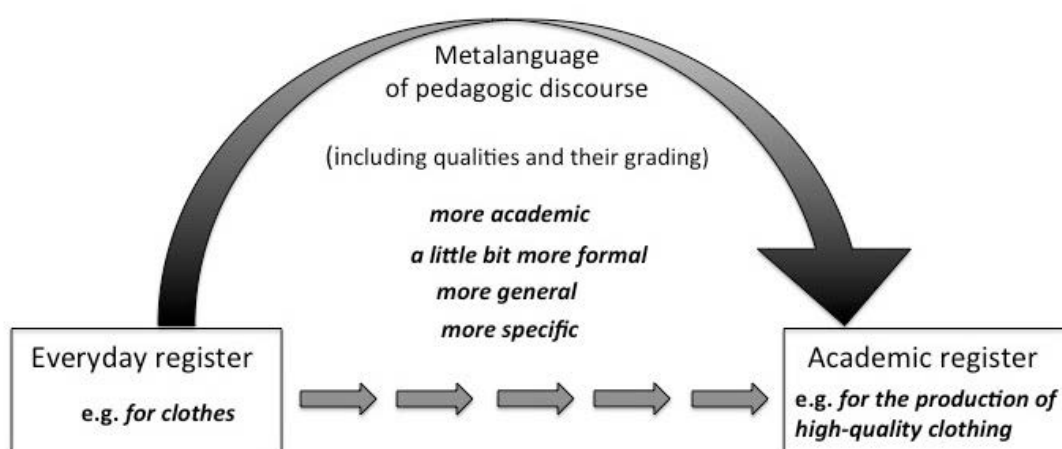
Figure 6.5: The use of metalanguage to guide a shift in register

The use of qualities and their grading are not problematic for students per se. Difficulties concern the implicit relationship between qualities and types of meaning choices that exhibit and create those qualities. As exemplified in the set up of modifying tasks, in Table 6.10, the word that needs changing is identified

(clothes). A quality is also assigned to expected changes *(a little bit more formal)*. However, initially, there is no metalanguage to label the kind of structural change that expresses *'a little bit more formal'* meaning. It is only after the teacher has repeatedly added something about structure (e.g. *the same family,* at turns 38 and 42) that other students respond successfully. Here the teacher-talk seems to draw on a meaning choice at level of morphology, namely derivation, e.g. *clothes-clothing*. Unfortunately for students 2 and 5, this information comes too late. Their peers have already laughed at them. They did not join in laughter about their wayward meanings and possibly experienced a loss of face. Students 2 and 5 subsequently keep quiet. They let other students complete the modifications to wording. A major concern here is that reduced participation, especially in response to ridicule, may lead to disengagement in collaborative writing activity.

While the excerpt under discussion needs to be understood in relation to the flow of meanings in co-text (see further discussion in section 6.5), a second major concern relates to the longer-term impact of implicit metalanguage. Not only do qualities about language not reveal *how* to create a register shift, but they are also rarely accompanied by discussion of *why* meanings need to exhibit that quality. Examples throughout this thesis continue to show interaction in joint construction frequently negotiates changes related to the nominal group structures that realise entities. Yet, there is minimal evidence of metalanguage to precisely label or justify the desired changes. (The forthcoming excerpt in Table 6.13 is a standout exception.) As Martin (2013a) argues, the 'power grammar' of academic registers needs to be made explicit, so that students can understand the role of packaging social actions as entities, including their use in organising written texts into predictive thematic layers, evaluating social activity, and explaining causal relationships between entities.

The next section further examines the metalanguage that teachers in this study do use. In particular, it focuses on the pedagogic functions of using technical terms, while jointly constructing a text.

6.4.2 Key pedagogic functions of sharing technical metalanguage

So far, the analyses of classroom interactions have shown that technical terminology is one reoccurring dimension of metalanguage in whole messages about language use. In setting up tasks, shared technicality is not a prerequisite for 'better' responses from students: its use does not guarantee that students will express meanings in an academic register. Some teachers skilfully use other semiotic resources to specify expected changes to wording. For instance, at turn 8 in Table 6.11, the teacher says:

> *So can you please tell me using the same structure.*

Here he uses a combination of resources to specify changes, including: a comparative textual reference (*the same*), a generic entity (*structure*) and mark-up of text (circling wording from a completed task). These resources specify the type of meaning choice that changed wording needs to be like. Student 7 successfully modifies his original wording from:

> *People usually, that use networking, they will become so unsociable*
> (turn 7)
>
> to
>
> *being unsociable* (turn 9).

These changes are not prospectively or retrospectively related to a specific technical term. Wording is successfully modified without using a technical label to identify a kind of language pattern.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	Next One	focus			
2	S6	So	task: initiating TFW			
3	S7	Unsociable		1		
4	T	(blank look from teacher who does not seem to have heard)	(evaluate)			
5	S7	Right?	query			
6	T	Say it again?	focus		generating	Text Negotiation
7	S7	Ahh people usually, that use networking, they will become so unsociable.	task: attending by repeating	2		
	T	Mmm.	evaluate			
8	**T**	**So can you please tell me using the same structure** *[circling: 'stealing' on the whiteboard]*	focus	3	reworking	
9	S7	Being unsociable	task: modifying: adjusting by transforming			
10	T	That's nice.	evaluate			

Table 6.11: Non-technical metalanguage to guide the reformulation of proposed wording (Class 4, Excerpt 11)

However, technical terminology is used widely and serves reoccurring pedagogic functions. While section 6.3.5 highlights how technical terms are important to transcending the instance (Martin, 2006b), this section considers three other pedagogic functions: adjusting the degree of specificity in the set up of tasks, gathering multiple instances of an instance type and engaging in explicit reasoning about the value of proposed wording.

6.4.2.1 Adjusting the degree of specificity in the set up of tasks

Technical terms are used by teachers to adjust how they set up tasks. Teachers may specify – to a greater or lesser extent – the types of meanings that students are expected to propose. SFL theorises changes in specificity with the principle of

commitment (Martin, 2008). Commitment refers to the extent or degree to which meanings are specified from one instance to the next (Martin, 2010; Hood, 2008). In relation to technical metalanguage, teachers often adjust the degree to which they specify ideational meanings about types of meaning choices, as a way of further supporting students.

Changes in the commitment of ideational meanings are illustrated in Figure 6.6. This figure involves four successive learning cycles (from the excerpt in Table 6.4). In setting up the first and second task, the teacher simply asks, *'What else?'* and '*Like?'* These questions encourage students to generate meanings, without being worried about register. Then, in the third task set-up, the teacher draws on the field of knowledge about language to support students with reworking their text. He says: *Okay, so how can I put it using [point to and touching the board] the same structure?* Like previously analysed examples, he uses a variety of resources, including hand movements, textual references (*it, the same*) and a generic entity (*the same structure*). When students struggle to modify wording, he commits more ideational meaning, in speech. He further specifies that *the same structure* is a specific type of meaning at the level of grammar (*the verb with –ing)*. Students then successfully modify wording (See Appendix 9). This interaction illustrates how technical terminology gives teachers 'room to move'. That is, they can adjust the degree to which meanings are specified, according to student responses.
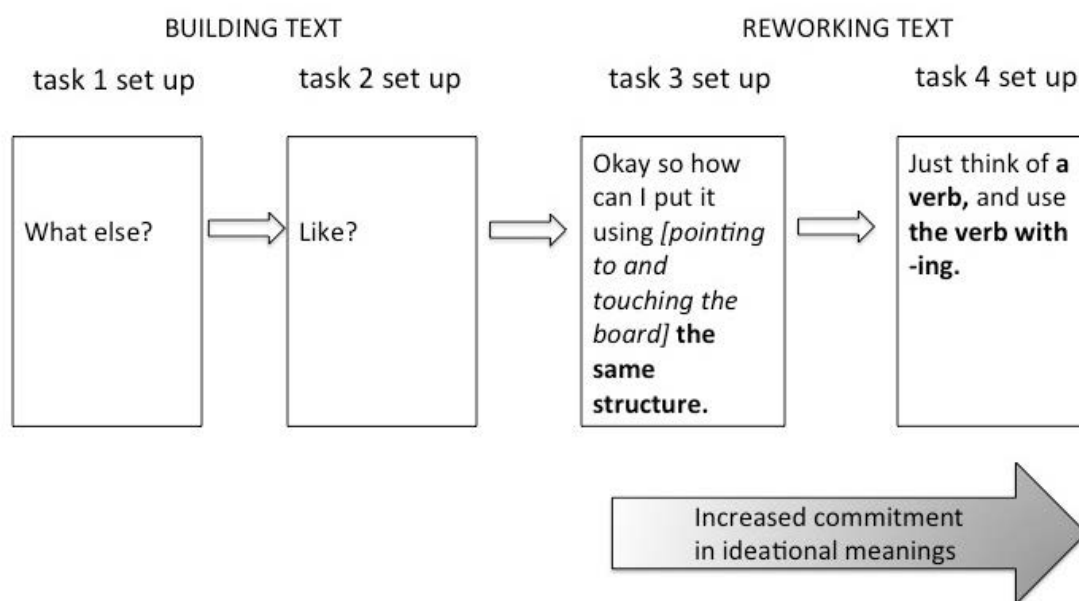
Figure 6.6: Increasing ideational commitment in the set up of tasks
(from the excerpt in Table 6.4)

Across data in this study, teachers often initially use non-technical metalanguage. Then they introduce technical terms. For example, in Figure 6.7 non-technical entities such as *kinds of things, way,* and *structure* appear before technical entities. Additionally, textual references 'point to' instances of language as in: *improve <u>this</u>* and *<u>the same</u> structure.* Then, as students require further support, teachers set up tasks with technical terms in language, such as *preview, the noun, the verb with – ing.* These examples illustrate a gradual shift towards technicality or 'entity drift' where teachers eventually use technical terms to label types of meanings choices.
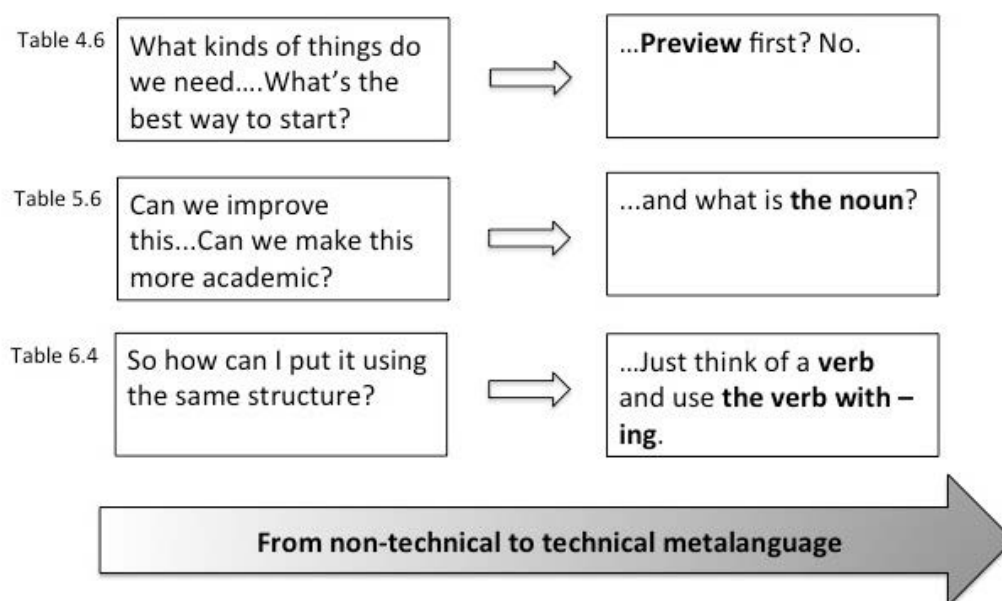
Figure 6.7: A shift from non-technical to technical metalanguage

6.4.2.2 Gathering multiple instances of an instance type

A further use of technical metalanguage involves students gathering multiple instances of appropriate wording. The analyses of tasks sequences, in chapter 4, highlighted that this kind of 'gathering' writing activity includes series of *modify by replacing* tasks. It results in lists of alternate wording. The creation of verbal or written word lists is facilitated by the use of technical terms. Teachers use technical terms to label a type of meaning choice and then students propose multiple instances of this meaning type.

The use of technicality in gathering writing activity is further exemplified in Table 6.12. The teacher asks students to propose multiple instances of a type of meaning that they refer to as '*cause and effect language*'. Their list includes: *resulted in, produced, leads to* and *causes*. For their immediate lesson the teacher asks a student to select one of the instances: '*So would you like to choose one James?*' (turn 10). This selection occurs after gathering a collection or '*list of options*' (see turn 1). While one suitable instance is enough to create a model text, multiple instances of a type of meaning choice serve as a resource for future writing.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	S?	resulted in	task: initiating TFW	...1	generating	Text Negotiation
2	T	We've got **cause and effect language**, 'resulted in', 'resulted in'.	evaluate			
		Can you think of other ways to talk about this relationship? **Cause and effect.** We should have, this is a very common structure for cause and effect. We should have a long list of options for this. Resulted in?	focus	2	gathering	
3	S9	Produced	task: modifying: adjusting: replacing by alternating			
4	T	Produced good.	evaluate			
		Another suggestion?	focus	3		
5	S9	Mmm....Produced	task: attending by repeating			
6	T	Produced, result in.	evaluate			
7	S4	Leads to	task: modifying: adjusting: replacing by alternating	4		
8	T	Leads to	evaluate			
9	S?	Cause	task: modifying: adjusting: replacing by alternating	5		
10	T	Cause (nods)	evaluate			
11	T	So would you like to choose one James?	focus	6...		

Table 6.12: Technical metalanguage to gather multiple instances of the same instance type (Class 1, Excerpt 2)

From the perspective of instantiation, the technical entities in Table 6.12 create an explicit connection between instances of meaning and systems of meaning choices that involve causal relations. The teacher explicitly categorises meanings

that students have proposed (*resulted in)* as a type of meaning choice (*cause and effect language*). This general categorisation is used to elicit alternate instances of the same meaning type (*produced, leads to, cause*). The explicit connection between meanings and systems of meaning is illustrated in Figure 6.8.
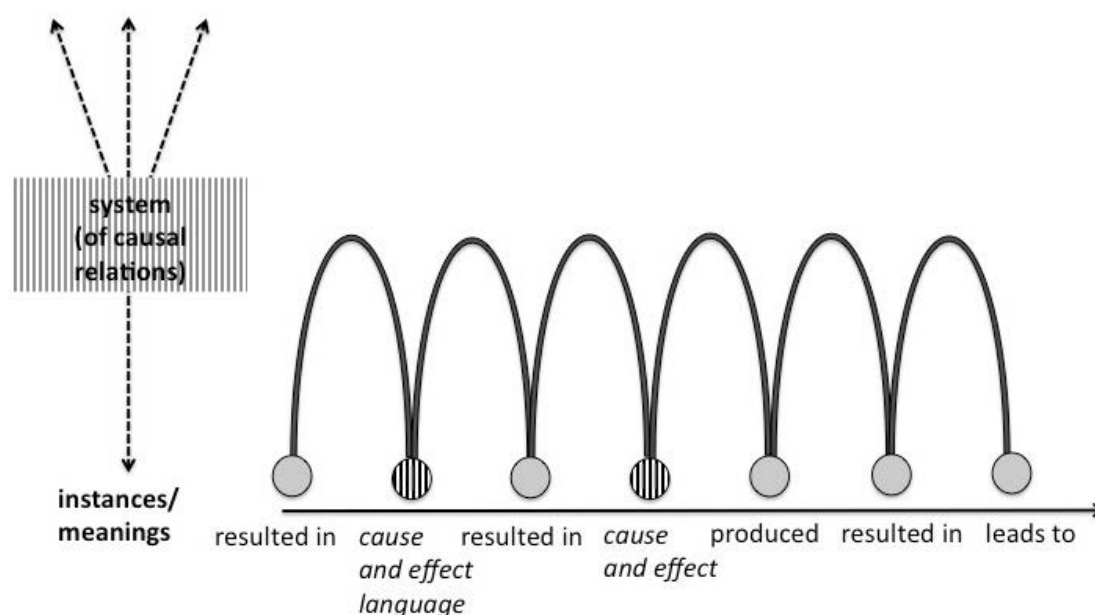
Figure 6.8: Relating meaning to more general systems of meaning choices

In SFL terms, the type of meaning that students are proposing is a logical grammatical metaphor (Halliday, 1985; Martin, 1992). This type of meaning is a powerful resource in academic writing because it compresses complex chains of events in one causal relation within a single clause, rather than across series of clauses or 'sequences' (Martin 2013a). In this case, students use a logical grammatical metaphor to express a causal relation between *innovations* and *a large number of advantages* as in:

> *Innovations in technology have <u>produced</u> a large number of advantages* (See Appendix 4a).

The class uses their own metalanguage, *cause & effect language*, to describe this type of meaning. The teacher also emphasises its prevalence in academic writing at turn 2: *this is a very common structure*. This example illustrates how technical terms for types of meanings choices are used to draw attention to configurations of meaning that are important in academic discourse.

6.4.2.3   *Providing explicit reasoning to assess proposed wording*

The final reoccurring pedagogic function of technical metalanguage relates to assessing proposed wording. Teachers often praise language choices. For example, they say *good, beautiful, nice,* and *fine,* as illustrated previously in Tables 6.11, 6.10 and 6.7. In these examples inscribed appreciation (Martin & White, 2005) affirms language choices. However, sometimes teachers also use technical terms to add reasoning to their evaluations. For example, in part 1 of Table 6.13, the teacher affirms a completed task by saying: *All right, so we have done a similar thing here, like we did yer- last week. We have started with **the theme of the whole thing**.* Here the term **theme** is used technically to refer to choices within a system of textual meaning, known as PERIODICITY (Martin, 1992; Martin & Rose, 2007a). This system involves crafting predictive thematic layers in texts.[32] Later in the lesson students use this shared technical metalanguage to participate in evaluation. For instance in part 2 of Table 6.13 student 1 evaluates student 2's suggestion by saying, excitedly: **Theme**! *Now it's a **theme!*** In Martin and Dreyfus' terms (to appear) teachers and students are engaging in 'metapraise'. The crucial difference between praise and metapraise is that the later affirms a language choice with explicit systemic knowledge about language.

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[32]In SFL theory the teacher is referring to the creation of a macro-Theme to manage periodicity. See Martin & Rose (2007a).

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
Part 1 Teacher metapraise						
1	T	All right, so we have done a similar thing here, like we did yer- last week. We have started with **the theme~~ of the whole thing.**	evaluate	...1	generating	Text Negotiation
2	S1	**Theme.** Mmm. *[nodding]*				
3	T	And the rest of the sentence gives us the new information. So there are disadvantages, but this paragraph is only going to discuss two of them. Fine. Thank-you for your suggestion.	elaborate			
Part 2 Student metapraise						
1	T	Ok. Let's start the sentence with that.	evaluate	...1		
2	S2	Wasting time. Yeah.				
3	S1	**Theme!** Now it's a **theme!**	elaborate			
4	T	Now it's the **theme.**				

Table 6.13: Technical metalanguage for metapraise

(Class 4, Excerpt 6, and 12)

The instances of metapraise in Table 6.13 highlight the use of knowledge about language to justify affirmed language choices. (See also post-task phases Tables 4.6, 4.19, 5.3, 5.6, 5.7, 6.1, 6.8, and 6.9). Shared technicality about language enables teachers and students to elaborate on reactions. They can reason that a language choice is '*good*' because it is an appropriate type of meaning at a particular point in their unfolding text. The use of such 'meta-feedback' relies on shared knowledge about language and relating meanings to types of meaning choices.

6.4.3 Summary of metalanguage implications

In the close analyses of metalanguage an underlying question is: what works? Findings have been careful to avoid overstated, generalised claims about good or bad, strong or weak, clear or vague metalanguage. Instead, metalanguage has

been considered in relation to the concept of register, i.e. configurations of meaning that vary in relation to situations of use and related social goals. In this teaching and learning context, implications of metalanguage involve the extent to which choices support students to propose meanings in an academic register.

From the perspective of register, qualities about language have been problematised. Qualities describe meanings but do not identify specific types of meaning choices. For example, how does *more academic* or *a little bit more formal* relate to changes in a message or within specific parts of a message? The risk for students is that they may further propose patterns of meaning from non-academic registers and/or not develop a deep understanding of why meanings need changing. There may also be a personal cost such as dealing with negative evaluation or even being laughed at by peers.

In contrast, technical terms about language assign precise labels to name and identify types of meaning choices. While other linguistic and paralinguistic resources may also identify types of meaning choices, technical terms explicitly connect meanings to more general systems of meaning choices. Examples have illustrated how instance-system relations and associated technical terms are involved in four key pedagogic functions: they are used to create generalisations about current tasks, and thereby connect language choices to future writing activity (as discussed in section 6.3.5); they provide increased support in the set up of tasks by specifying a type of meaning choice that proposed wording should instantiate; they are also used to gather multiple instances of a type of meaning choice; and they are involved in explicit reasoning about the assessment of proposed wording. Overall, analyses have shown how teachers use technical metalanguage about types of meaning choices for specific pedagogic purposes. These functions support co-creating text while also drawing attention to the types of potential meaning choices that students need to keep making.

6.5   Temporal issues in the analyses of metalanguage

Even after careful framing of risks and affordances of metalanguage choices temporal issues remain. The first issue concerns tracing the origins of classroom metalanguage. If judgments about metalanguage are going to be made, then we have to understand what instances of metalanguage mean. This may require a longer temporal perspective than snapshots of one lesson or lesson stage. For example, an accurate interpretation of what the term *signal words* means (as used by class 4) relies on tracing the introduction of this term. Prior to the Text Negotiation lesson stage, class 4 created a list of paragraph phase labels, as illustrated in Figure 6.9. Next to each phase label the teacher also drew a star symbol. As he pointed to the star symbol the teacher also used the term '*signal words*' in speech. Additionally, he introduced a gesture (the rapid curling and uncurling of two fingers) as a paralinguistic representation of this pattern of meaning (see the video still below). This multimodal representation of type of meaning, in speech, graphology and gesture, only appears in class 4. It exemplifies metalanguage that has been created by a teacher for his class.
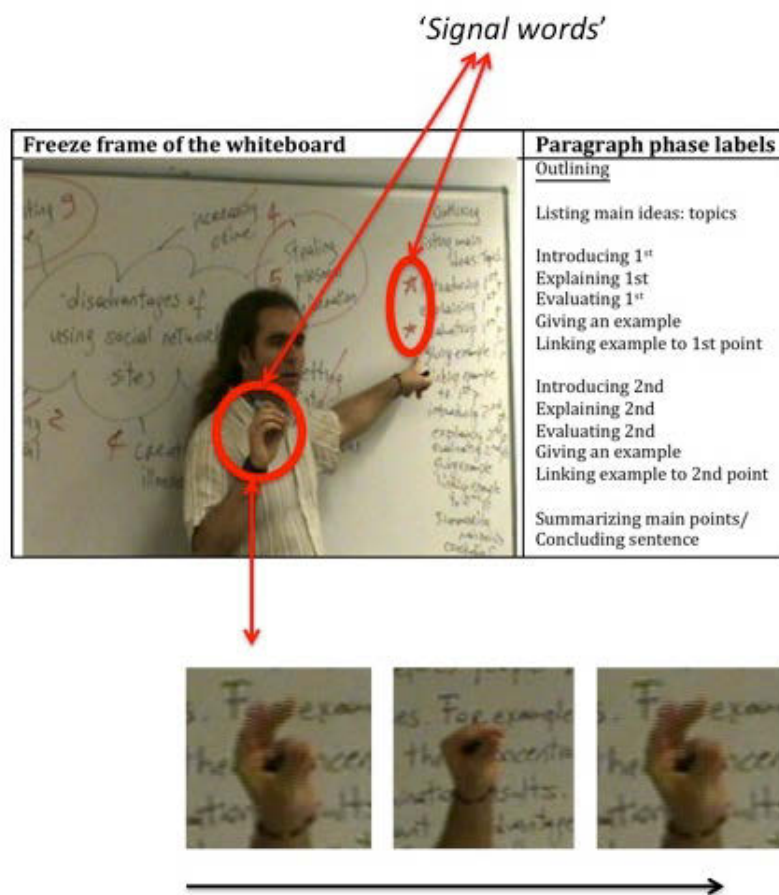
Figure 6.9: Creating metalanguage

Later, during Text Negotiation, the teacher points to the star symbol and uses the signal word gesture to set up a task. For example, in Table 6.14 (below), he uses the gesture and students respond by proposing the signal words of: *for example* and *for instance* (see turns 2 and 3). In later excerpts students propose other instances, such as *to sum up,* and *to conclude* (see Table 5.9 in the previous chapter). Through tracing and tracking on-going use of *signal words* we can interpret that it refers generally to type of conjunctive relation that connect parts of text, or *internal conjunctions* in Martin's terms (1992). It does not pertain to any one specific sub-category of conjunction such as addition, comparison, time or consequence, etc. This interpretation about the meaning of *signal words* is only made possible by tracing the origin of this term and tracking its use.

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	Ok. Let's read if it follows. 'Wasting time on social networking sites makes people procrastinate the things they have to do. Therefore people become responsible towards their work and studies.' Nice. That's fine. *[ticks 'explaining first point' on RHS list]*	evaluate	1	generating	Text Negotiation
		[Pointing to next phase and **tapping board next to star symbols.]**	prepare	2		
		[signal word gesture]	focus			
2	S5	For ~~ example	task: initiating TFW			
3	S6	~~ For instance (said very softly)				
4	T	*[scribes: 'For example']*	evaluate			
		Ah okay, I like this stage where we have to give an example.				

Table 6.14: Creating and drawing on shared metalanguage

(Class 4, Excerpt 10)

A further temporal issue concerns the flow of metalanguage in classroom talk. The analysis (and potential critique) of metalanguage needs to closely consider series of messages about language. Analysis of unfolding meanings is particularly relevant to interpreting qualities in metalanguage. This is because qualities may accrue meaning as classroom talk continues. In the previously discussed excerpt about qualities, *more academic* is closely followed by other metalanguage, including the technical terms of *gerund* and *noun* (see Table 6.10 and Appendix 11). The flow of meanings about language choices is represented in Figure 6.10. This figure illustrates how subsequent messages relate further meanings to the initial quality. From the analysis of a series of messages it is thus possible to infer

that *more academic* is about changes to a nominal group structure that realises an entity.

Metalanguage for nominal group changes
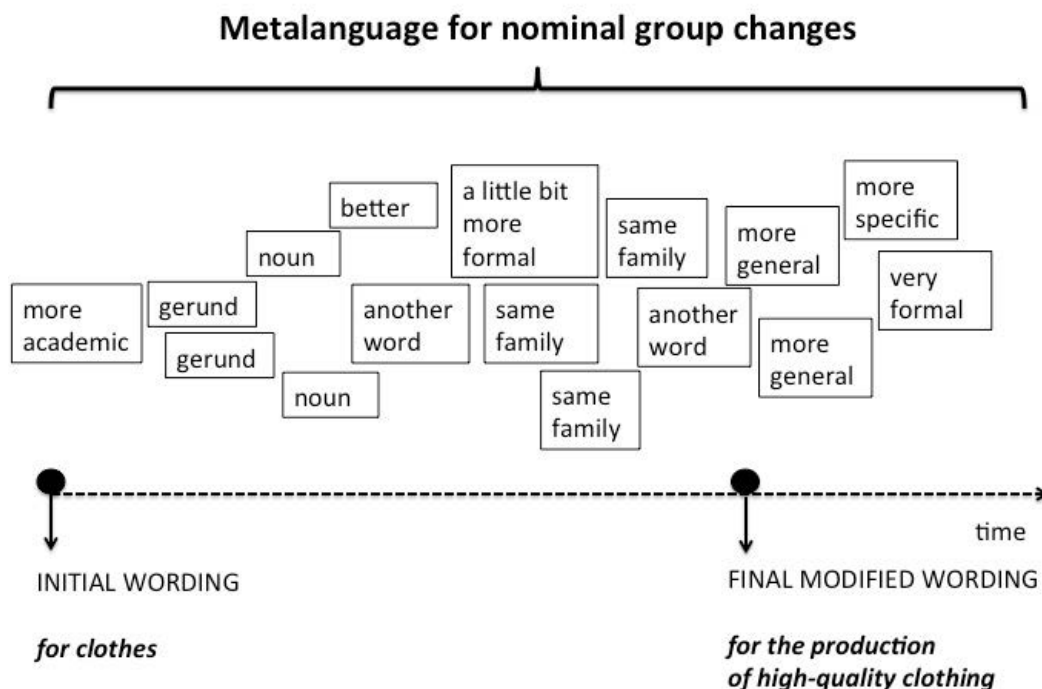
Figure 6.10: An accumulation of metalanguage in unfolding text

The desired changes are also evident in a comparison between initial and modified wording, i.e. in the changes that have been accepted. This comparison shows that all the metalanguage is related to changing one entity: *for clothes* eventually becomes *for the production of high-quality clothing*. (See Appendix 12a-c for the modifications and also a functional linguistic analysis of nominal group changes.) This example demonstrates how the meaning of one metalanguage item may not be completely evident until other meanings are taken into account, such as those that appear in subsequent messages. It highlights how metalanguage needs to be understood in relation to preceding and subsequent co-text.

This example also illuminates how unfolding metalanguage struggles to articulate why changes to initial wording need to be made. For instance there are no

technical terms or qualities that precisely articulate why *for the production of high-quality clothing* is better than their initial wording of *for clothes*. Although the students and teacher express some notion that *clothes* is *more specific* than *clothing* (see Appendix 11) and changes are related to meaning choices in grammar (*noun, gerund, same family*), other reasoning is not articulated. In SFL terms, a change to a complex nominal group structure has added interpersonal meanings of appraisal (*high-quality*) and an experiential grammatical metaphor (*production)* (Halliday, 1985; Martin, 1992) to encapsulate series of processes that are related to the target field of commerce. An on-going challenge for teachers and students is to share a way of talking about incremental and cumulative changes to meanings.

In sum, these temporal issues draw attention to the complexity of analysing and interpreting metalanguage. Students respond to immediate and accumulating meanings about language. A class may also create their own terminology. This complexity points to the necessity of examining metalanguage in unfolding texts. It also highlights the importance of tracing when and how terminology is introduced and used throughout a lesson, and potentially over a series of lessons. Longer temporal perspectives may provide insight into meanings that are gradually attributed to items of metalanguage. Therefore 'what works' needs to be considered in the context of specific lessons as well as over time.

6.7   Summary

This chapter has focused on two questions about connections between tasks. The first question considers how talk about language connects tasks over varying timescales. Findings highlight three types of task-to-task connections: one completed task to a forthcoming task, multiple completed tasks to a forthcoming task; and a task in a current lesson to future tasks beyond the lesson. Analyses reveal that students draw heavily on textual resources of IDENTIFICATION to connect tasks. In particular, they raise queries about how wording in a completed task could be modified. In the absence of technical labels for types of meaning choices, textual references play crucial role in identifying *what* to negotiate.

Analyses also capture the wide range of linguistic and paralinguistic semiotic resources that teachers use to connect tasks. These resources involve what teachers say, how they say it, as well as accompanying body language. They illustrate the multimodal nature of talk about language.

One reoccurring feature of task-to-task connections concerns the relationship between an instance of meaning in a text and more general systems of meaning. Analyses highlight that talk about types of meanings features prominently, i.e. language choices are identified and categorized as more general of types of meaning choices. While patterns of meaning can be identified without terminology, technical terms are used to explicitly connect meanings in the scribed text to a more general type of meaning choice. Teachers do so for specific pedagogic purposes, including: making generalisations about language choices, exploring alternate wording, and assessing language choices. These functions support text co-creation. They also draw attention to the kinds of language choices that students need to keep making. In Halliday and Matthiessen's (1999) timeframes, when classroom talk develops knowledge about language beyond individual instances, then a connection is made between current logogenesis (i.e. the unfolding scribed text) and ontogenesis (i.e. the on-going language development of students).

A further finding is that teachers use technical metalanguage to adjust the set up of tasks. Examples illustrate how a shift from non-technical to technical metalanguage gives teachers 'room to move', i.e. they adjust the level of support, in the set up of one task to the next, as needed. This support involves labelling types of meaning choices to further specify the forthcoming instance. This finding corresponds to initial observations by Dreyfus and colleagues (2011) who noted that teachers commit more ideational meaning when students need increased support to propose wording. These changes in metalanguage provide a linguistic interpretation of micro-scaffolding (van Lier, 2007) techniques, sometimes referred to as 'interactional scaffolding' (Gibbons, 2009).

In contrast to the affordances of technical terminology, qualities about language are problematised. Examples illustrate how teachers sometimes set up tasks with qualities and the grading of qualities, such as asking for meanings to be *a little bit more formal.* These linguistic resources signal a shift in register: proposed wording needs to be *less* like patterns of meaning in everyday registers and *more* like patterns of meaning in academic registers. However, these interpersonal resources do not specify how to create such a shift, i.e. they do not identify the patterns of meaning that exemplify and create those qualities, nor why changes need to be made. The risk for students is that they may struggle to rework initial wording into valued academic patterns of meaning. From this perspective, qualities about language do not explicitly connect language choices to the types of meanings that construe an academic register.

Two temporal issues arise out of the close analyses of metalanguage. The first issue concerns the origins of metalanguage. The example of *signal words* is used to exemplify metalanguage that was created by a teacher for his students. The interpretation of this term required tracing its introduction and on-going use. The second issue concerns the flow of metalanguage in text. The instance of *more academic* illustrates how metalanguage may accrue meaning as classroom talk continues. These temporal considerations highlight the limitations of examining isolated instances of metalanguage and making hasty judgments about 'what works'. They also point to the necessity of examining metalanguage in unfolding texts, and, where possible, series of lessons.

Chapter 7   Conclusion

7.1   Introduction

The writing methodology explored in this study constitutes a central element in the genre-based model of literacy pedagogy that is now widely employed in the Australian context and is increasingly being promoted in international contexts (Martin, 2009; Yasuda, 2011; Schleppegrell, 2013; Gebhard et al, 2013; Gebhard et al, 2014; Moore & Schleppegrell, 2014; de Oliveria & Lan, 2014; Brisk, 2015; Humphrey & Macnaught, to appear; Dreyfus et al, to appear in 2015; Polias & Forey, to appear in 2015). The focus in this thesis is on the practice of teacher-led collaborative writing as joint construction within this genre-based model. The rationale for this approach is well justified in literature (see chapter 2), and is encapsulated in the phrase: 'guidance through interaction in the context of shared experience' (Martin, 1999a). While take-up of the genre-based approach has been impressive, there is nonetheless a need for closer research into the pedagogic process. This thesis is motivated by the lack of detailed analysis that illuminates how 'guidance' and 'shared experience' result in a co-created written text: that is, what do teachers and students do as they write together? The current study is premised on the assumption that close linguistic analysis of language and other semiotic resources is central to understanding pedagogic activities and relationships (Hammond, 2011).

Analyses have focused on the lesson stage of Text Negotiation. The classroom interaction in this lesson stage involves the teacher and students negotiating meanings as they create a communal scribed text. The theoretical framework of systemic functional linguistics (SFL) has provided a social semiotic interpretation of such classroom activity. This final chapter discusses the contribution of the thesis to a clearer understanding how teachers and students negotiate and co-create academic language. Section 7.1 consolidates the major findings of the thesis and reiterates a number of issues that have arisen from the analyses. Section 7.2 and 7.3 outline the pedagogical and theoretical significance of research

findings respectively. I conclude the chapter with a discussion of future directions that stem from the research findings.

7.2   Research Findings

This section outlines key findings of this thesis and their contribution to understanding student and teacher activity during joint construction. I start with a reiteration of the main research question and the research design that addresses this question.

The over-arching research question of this thesis has been: *How are meanings negotiated and actualised as written text in the literacy practice of teacher-led collaborative writing?* This question requires a detailed qualitative examination of how meanings unfold through classroom talk. It has been appropriately paired with methods of phasal analysis to examine reoccurring meanings and shifts in meanings. The research question has also been paired with suitable analytical tools within Systemic Functional Linguistics that enable the exploration of multiple simultaneous systems of meaning. Analysis has primarily focused on the language stratum of discourse semantics and has drawn on the systems of IDEATION, NEGOTIATION, APPRAISAL, and IDENTIFICATION. Additional dimensions of analysis include the phonological systems of TONALITY, TONICITY and TONE, drawn upon in order to examine not just what is said, but also how it is said.

The method of phasal analysis has been conducted in three steps each of which corresponds to a specific research 'sub-question'. The three steps are cumulative in nature and build a comprehensive explanation of teacher and student activity. The major findings and emerging issues from each step are discussed in turn.

7.2.1   Student activity

The first step of phasal analysis is concerned with student activity in the lesson stage of Text Negotiation. The main question in this step is: *what is it that students do in joint construction lessons, and why?* Analysis focuses on micro interactions where students propose wording/meanings *for* and *about* the scribed text. These

meanings are analysed as different types of tasks that contribute to the process of text co-creation. Analyses culminate in a system network of reoccurring task types across the data set. In this network, a task is conceptualised as a distinctive 'pulse' of ideational, interpersonal and textual meaning (Rose, 2006). Tasks are differentiated by linguistic criteria, at the level of discourse semantics, including: whether meanings are about the topic for writing or knowledge about language; and whether meanings are introduced, repeated, or modified in specific ways. A task is also conceptualised as a specific unit of classroom activity (after Rose, 2005, 2014) along a hierarchy of smaller to larger units referred to as a *rank scale* (Halliday, 1961/2002; Halliday & Matthiessen, 2004). These units relate to each other in precise relationships of constituency. As a technical term that is related to other constructs in SFL theory, the use of 'task' in this study differs from more general references to the outcomes of student activity (as exemplified in Hyland, 1996) or descriptions which may not relate tasks to specific patterns of meaning-making (as discussed in Gurzynski-Weiss & Revesz, 2012).

In this study, tasks that modify initial meanings are particularly important to understanding what 'negotiation' entails. They exemplify how 'negotiation', from an ideational perspective, is essentially about incremental changes to meaning. Tasks to modify text have been related to the concept of register (Halliday, 1978; Martin, 1992) where the modifications that students make may involve a shift from patterns of everyday language use to those that are valued in tertiary institutions. The analytical tools of SFL have been used to pinpoint what those changes are, such as the transformation of actions/events into experiential grammatical metaphors (Halliday, 1985; Martin, 1992). Overall, the precise analysis of tasks provides evidence of how students gradually generate and rework meanings that are for and about the scribed text. These findings extend beyond analyses of joint construction that have tended to focus on the organization of collaborative writing in lesson stages, and/or, at a micro level, on the interpersonal relationships between teachers and students (e.g. Hunt, 1991, 1994; Love & Suherdi, 1996; Humphrey & Macnaught, 2011; Dreyfus et al, 2011; Dreyfus & Macnaught, 2013).

The analysis of student activity has also extended to teacher management of tasks. Findings highlight how the overall task of co-constructing a text (or designated part thereof) is broken down into medium and short task wavelengths. These wavelengths correspond to specific paragraph phases in the scribed text and the incremental contributions to each phase. The wavelengths show how teachers co-ordinate the gradual construction of the scribed text through linking smaller parts to a greater whole.

A major issue to emerge from the analyses of tasks concerns the set up of tasks. Findings highlighted how the performance of tasks involves students interpreting both the task type and the expected field. That is, students need to work out what they are expected to do with meaning and also which field of discourse they need to contribute to. Is it, for example, the field of the topic for writing *or* the field of knowledge about language? As students are, for the most part, proposing meanings in response to something that the teacher says and/or does, the pre-task talk to set up student activity provides crucial information about expected meaning-making. This issue is addressed in the subsequent close analyses of teacher-talk before and after tasks.

7.2.2   Teacher activity around tasks

The second step of phasal analysis examines teacher-talk in before and after tasks. The primary concern of this step is to understand the relationship between what teachers say and do, and the meanings that students propose. The central question here is: *how does teacher-talk relate to the wordings proposed by students?* Analyses examine shifts in social roles, evaluative language, lexical and taxonomic relations to reveal distinctive pre- and post-task phases of interaction. The pre-task phase/s function to narrow the parameters or scope of meanings that students are expected to propose. This is achieved in a strongly predicted *focus* phase where the teacher elicits meanings. It may also involve a *prepare* phase where teachers anticipate and provide information about expected meanings. Analyses highlight how the action and entity components in these phases

contribute to specifying the task type, relevant parts of the scribed text, and types of meaning choices.

Additionally, post-task teacher activity was found to usual involve an *evaluate* phase which commonly reacts to the quality of meanings in tasks. Less frequently, evaluate phases are followed by an *elaborate* phase which expands meanings that students have proposed in tasks. Such elaborations extend the evaluation of meanings to include reasoning about the evaluation, including appraisal of the composition and worth or meanings (as systematised by Martin & White, 2005). Elaborate phases also include identifying meanings as types of meaning choices, as well as relating meanings to their specific function in the unfolding written text. In combination, these five phases form iterative sets or *cycles* of interaction, referred to as *learning cycles* by Rose (2005, 2014). In this study they have illuminated how classroom talk is specifically structured to support the incremental negotiation of meanings. These findings have thus drawn on and extended related SFL research of phases in reading activity (Rose, 2005, 2014; Martin & Rose, 2005; Martin & Rose, 2007b; Rose & Martin, 2012).

One particularly salient finding from the analyses of teacher-talk around tasks is described in this study as *field traversing*. The construct refers to back and forth movement between two fields: [that of] the topic for/of writing, and [that of] knowledge about language. It captures how teachers often say something about language use before and/or after students propose meanings. Teachers have been found to typically use technical entities to identify and label types of paragraph parts, in order to prospectively or retrospectively relate proposed meanings to their function in the scribed text. The chief pedagogic function of field traversing can therefore be described as relating meanings in the scribed text to some kind of knowledge about language and vice-versa. It provides insight into a broad strategy through which teachers guide learners to propose meanings rather than provide the desired meanings. Patterns of field traversing also draw attention to the general prominence of talk about language in joint construction lessons. Such talk invites closer examination of how teachers and students talk about meanings, as they co-create a text.

7.2.3 Classroom talk to connect tasks

The third and final step of phasal analysis marks a shift from examining the scope of student and teacher activity to a close exploration of how tasks connect; that is, to the relations that hold from one task to the next. The first main research question of this step is: *How does talk about language connect student tasks across varying timescales?* Analyses revealed three specific types of task-to-task connections:

1) one completed task to a forthcoming task;
2) multiple completed tasks to a forthcoming task; and
3) a task in the current lesson to future tasks beyond the lesson.

Analyses examine the pedagogic function of these three task-to-task connections. Examples illustrate their role in providing students with the opportunity to improve their text and to voice queries about meanings, during the lesson. Task-to-task relationships are also shown to have a 'future-orientation' in terms of identifying a type of meaning choice that could potentially be selected in the future, and in making explicit generalisations about language use.

Classroom talk about language (or metalanguage) is shown to be the primary means through which tasks are connected to each other. Analyses carefully consider R. Berry's (2010) proposal that metalanguage is both a *thing* and a *process* (see section 7.4.2). From an SFL perspective on unfolding discourse, this proposal is taken to mean that whole messages make contributions to talk about language and not just the technical entities that they may construe. This approach results in the examination of technical and non-technical entities related to language use; qualities and patterns of intonation that appraise patterns of meaning; and textual resources in language, intonation and body language that identify meanings.

One key finding is that student metalanguage tends to draw heavily on textual resources in the system of IDENTIFICATION. Students use resources such as anaphoric and exophoric reference to identify and raise queries about meanings

in specific parts of the scribed text. In the absence of technical entities about language, these textual resources play a crucial role in identifying *what* to negotiate.

A second major finding is that teachers use a wide range of linguistic and paralinguistic resources to talk about language. In one class there was even evidence of created metalanguage involving a combination of gesture, written symbol and accompanying technical term in speech (see chapter 6). The breadth of semiotic resources that are involved in talk about language prompted further investigation about the impact of metalanguage on student participation. This line of enquiry is framed in the additional research question for step three of: *What are the implications of metalanguage use for the co-construction of a text?* Examples illustrate how students can express appropriate meanings without the task set-up necessarily involving technical entities. However, it was found that technical terms are widely used and serve a range of reoccurring pedagogic functions, including: relating meanings to more general types of meaning choices; adjusting the degree of specificity in the set up of tasks, gathering multiple instances of an instance type and engaging in explicit reasoning about the value of proposed wording. They are thus found to play a significant role in supporting students to propose meanings and also in relating writing activity to knowledge about language.

In contrast to technical entities, teachers' use of qualities about language was found to be more problematic for students. Qualities and their grading (e.g. *more academic, more sophisticated* and *a little bit more formal*) were used to guide students to reformulate wording, i.e. to describe the changes to meaning that students needed to make. They indicate that meanings should be *less* like the register of everyday discourse and *more* like target register of academic discourse. However, when qualities were not paired with specific types of meaning choices, then *how* to create a shift in register remained implicit. Examples illustrate how student difficulties with interpreting qualities may result in meanings that are negatively evaluated or even ridiculed by peers.

The close analyses of metalanguage involve two temporal issues. First, analyses highlight that interpreting the meaning of specific entities may require a longer temporal perspective than one lesson or lesson stage. I have argued that the interpretation of metalanguage is strengthened by tracing the origins of its use, i.e. to when teachers and students first use terms such as *signal words*. Second, aspects of metalanguage such as qualities do not occur in isolation: they are accompanied by co-text that may gradually provide further evidence of their meaning. In one example of interaction, *more academic* can be related to other subsequent entities as well the changes that are affirmed in student suggestions. Analyses reveal that this quality refers to the creation of a complex nominal group from an initial noun. Both these temporal issues are relevant to judging the effectiveness of different aspects of metalanguage. They highlight the need to analyse metalanguage in the context of the unfolding discourse in specific lessons and, where possible, over extended periods of time.

7.3   Pedagogical significance of research findings

This study contributes to our understanding of teaching and learning academic writing. At a general level of description, it provides detailed analyses of how classroom interaction develops the academic writing of advanced English language learners. The analyses of teacher-student interactions have been considered in relation to the construct of register, as theorized in SFL theory (e.g. in Halliday, 1978; Halliday & Hasan, 2005; Martin, 1992, 2009). The students in this study are developing their knowledge of 'academic' registers. That is, they are learning about the meaning choices that are valued by and used for the social purposes of institutions, including those of academia. From this perspective, students are learning how academic registers are realized by specific language choices and the way in which these choices shape disciplinary knowledge and vice-versa. This study has focused on *how* meanings are negotiated in teacher-student interaction. This focus makes a number of significant contributions to understanding the instructional support and role of metalanguage in this teaching and learning context.

7.3.1 A linguistic interpretation of scaffolding

The findings of this study provide a linguistic interpretation of the popular construct of 'scaffolding' (Applebee & Langer, 1983). Perhaps better described as a 'principle', scaffolding refers to degrees of instructional support that eventually lead to students performing tasks successfully and independently. In this thesis, scaffolding is considered in relation to van Lier's proposal that scaffolding has both designed and dynamic dimensions in instruction (1996, 2007). Van Lier refers to the different levels of designed or planned elements as macro- and meso-scaffolding, while the contingent elements are referred to as micro-scaffolding, as discussed in chapter 2. While such terms are open to broad interpretation, this study considers the relevance of meso- and micro-scaffolding to understanding the flow of meanings in classroom talk.

At a meso level of instruction, one re-occurring aspect of collaborative text creation is 'task within task' support. This construct relates to teachers' leading role in organizing student activity. Section 7.2.1 above summarised how teachers break down the overall task of co-creating a text into medium and short wavelength tasks. With this approach, meanings that students propose are not viewed in a fragmentary isolated way. Instead, meanings are considered in relation to the flow of meanings in the text, i.e. how current language choices relate to preceding and subsequent meanings. In collaborative writing activity, task-within-task support is a planned element of instruction because it relies on shared understanding of the structure of the target text. That is, before writing begins, the class already has an outline of how the scribed text will unfold. This outline does not specify exact wordings/meanings. Rather it is used as a common point of reference to create parameters around expected meanings. The parameters or scope of appropriate meanings are commonly signalled with reference to the textual function and/or 'content' of paragraph parts.

In this study, teachers managed task wavelengths through a number of specific strategies. These strategies are relevant to methods of writing instruction that

explicitly relate meanings to their logogenetic function in a text. The common strategies include:

a) a visible list of paragraph phases (on the whiteboard/ and or in class handouts) created prior to the Text Negotiation lesson stage;

b) the explicit reference to the start and finish of each paragraph phase; and

c) the use of classroom summary notes on the topic for writing to connect 'subject matter' with the function of specific parts of the scribed text.

These strategies are significant to collaborative writing because they support a focus on language choices in relation to their function in texts. Examples have illustrated how a shared understanding of text structure not only supports the organization of student activity, but can also be used to evaluate the extent to which wordings/meanings are appropriate for a specific text part. The management of task wavelengths thus exemplifies a primary means of relating language choices to knowledge about language.

At the level of micro-scaffolding, findings have illuminated the 'task-centric' organization of classroom talk. Section 7.2.2 above summarized the phases of interaction that commonly occur before and after tasks. These findings showed how classroom talk is structured to support the incremental negotiation of meanings. Such organization is relevant to understanding the flow of meanings in a wide range of literacy practices. It is a perspective that is particularly important to studies of how teacher-talk impacts upon student meaning-making.

In this study, one reoccurring feature of setting up and following up tasks is the prevalence of technical terminology. While technical terms have been considered in relation to their specific role in the lesson stage of Text Negotiation (see 7.2.3), examples throughout this thesis have highlighted their function in 'contingent' interaction with students more generally (van Lier 1996, p. 169). In particular,

technical terms serve purposes such as:

a) labeling and identifying meanings as a type of meaning choice

b) increasing the specificity of expected meanings in setting up tasks;

c) gathering more 'like' responses to create a list of language options;

d) relating multiple instances of language use to a general characteristic that they all share;

e) labeling the function of text parts; and to

f) exploring the reasoning and justification of language choices

Such findings are relevant to the pairing of specific language choices (e.g. the use of technical terminology) with particular pedagogic goals (such as those described above). In the study of teaching and learning, much attention has been directed towards the categorising of classroom talk in relation to its function (e.g. Barnes, 1976; Resnick et al, 1993; Mercer, 2000; Alexander, 2001; Michael et al, 2008). There are also calls to develop the 'classroom talk repertoires' of teachers (Cazden, 2001; Alexander, 2004, 2008). In-depth linguistic analyses offered in the present study contribute to precisely illuminating the patterns of classroom interaction that can be identified as instances of micro-scaffolding or other categories of classroom discourse.

7.3.2   The mediating role of metalanguage

A primary concern of this thesis has been to understand how teachers use their expert knowledge of language when writing *with* students. Within studies of second language learning, there are relatively few studies of collaborative writing processes (Wigglesworth & Storch, 2012) and even fewer with a focus on understanding how teachers take a leading role. This study has highlighted the importance of metalanguage in negotiating language choices. Simply put, findings have illustrated how teachers say something about language to support students with proposing meanings for the jointly constructed text. This enables them to guide but not provide wording for the scribed text.

In terms of advanced English language learning, it is widely established that

learning to write in academic contexts involves learning the registers of academic disciplines (Hood, 2010). From an SFL perspective on register, the initial wording that students propose often resembles 'everyday' configurations of meaning. Examples have shown how the focus of negotiation in classroom talk is on changing those meanings into an 'academic' register. If teachers are not providing the modifications to wording themselves, then they need a way to identify and talk about language, so that students can propose the changes. In this sense, the metalanguage of pedagogic discourse plays a mediating role in trying to articulate differences between registers.

While findings have highlighted a broad range of semiotic resources in metalanguage (see 7.4.2 below), technical terminology was shown to be a particular significant dimension in the negotiation of registers. It is involved in explicitly identifying and labeling language use as a type of meaning choice, as outlined above in 7.2.3 and 7.3.1. In SFL terms, the categorisation of a type of meaning choice relates the meanings that we select to systems of potential semiotic choices (Halliday & Matthiessen, 2004; Martin, 2010). This instance-to-system awareness is crucial because it pinpoints how academic registers are construed through specific types of meanings choices. In this study, examples of classroom talk have shown that when types of meaning choices are identified with technical terminology, then they can readily be related to future contexts of language use. In other words, the meanings in the jointly constructed text are not 'stuck' in one context of use. Instead, metalanguage is used to 'transcend' (Martin, 2006a) the instance and give present activity a future orientation.

The close analyses of metalanguage have highlighted the universal challenge of managing writing activity in classrooms, while at the same time extracting portable principles about language use. From this study, it is recommended that teachers carefully consider the technical terminology and accompanying lexis that they are going to use in order to make the portability of language choices explicit. Otherwise, there is the risk that the lessons such as joint construction will be consumed by the 'here and now' and not achieve their design purpose of preparing students for making successful independent language choices. In sum,

teachers and students need semiotic 'tools that travel' (Macken-Horarik, 2013).

7.4 Theoretical significance of research findings

Although the primary concern of this thesis has been to make a contribution to the field of education, the nature of the research questions has necessitated a principled and detailed linguistic analyses of the data. It is thus a study that has been at the intersection of two fields: education and linguistics. From a linguistic standpoint, the thesis has contributed to a method of classroom discourse analysis whose primary concern is the unfolding of meanings over time. The following sections outline key contributions to understanding the structure of classroom talk and also the nature of metalanguage.

7.4.1 A semiotic interpretation of the structure of classroom discourse

The current study makes an important contribution to methods of classroom discourse analysis. At a general level, it provides a semiotic interpretation of the structure of classroom talk. The structuring of classroom discourse is interpreted in relation to the flow of meanings between teachers and students, i.e. logogenetic perspective on how meanings unfold 'in the form of a text' (Halliday & Matthiessen, 1999, p. 18). It is an approach that enables classroom talk to be examined beyond the mechanics of adjacency pairs or the predictability of turn-taking sequences, as prominent in studies that draw on conversation analyses (see summative discussion in Schegloff, Kosnik, Jacoby & Olsher, 2002; Kasper & Wagner 2014). While those aspects of interaction remain important, the tools of systemic functional linguistics afford an interpretation of shifts in meaning and the function of reoccurring meanings in classroom talk.

More specifically, the use of phasal analysis in conjunction with the principle of rank has contributed to a better understanding of what makes curriculum genres distinct from the target genres that they create. This study has focused on intermediate ranks/units of analysis, i.e. those that are below lesson stages and above the clause. The intermediate ranks of *cycle phase* and *learning cycle* (as first identified and named by Rose, 2005, 2014) have been shown to be important

for illuminating the cyclic, goal-oriented nature of classroom interaction. In particular, they contrast with the serial organisation of events and actions, known as 'activity sequences' (Martin & Rose, 2007b), that are common to the target genres of schooling such as recounts, procedures, reports, etc. In other words, the distinctive flow of meanings in classroom talk provides a key point of difference between genres.

Overall, the linguistic analysis of classroom talk structure has highlighted the flexibility and relevance of phases to the examination of classroom interaction. While past SFL studies of classroom talk have tended to use phasal analysis to study reading activity (e.g. Rose, 2005, 2010b; Martin & Rose, 2005, 2007a; Martin, 2006) and rewriting a text (Rose, 2014), this study has shown the applicability of phasal analysis to complex and dynamic classroom talk in joint construction lessons. More specifically, it has highlighted the relevance of a meaning-focused interpretation of what teachers and students do, the relationships that they enact, as well as their modes and channels of communication. As phases are not an isolated construct, but rather are positioned in relationships of constituency with smaller and larger units of interaction, they can be compared in a consistent and principled way. Research findings from such an approach can therefore be readily compared, critiqued and extended in future studies.

7.4.2 The nature of metalanguage

The second area of theoretical contribution relates to the construct of metalanguage in the analyses of classroom discourse. The discussion in chapter 2 highlights the fact that a wide range of 'meta terminology' is used in linguistic and psycholinguistic studies of classroom talk. A continuous thread in this thesis has been the prominence of metalanguage in joint construction lessons. In this study, metalanguage has been broadly used to refer to language to talk about the semiotic resources of texts (de Silva Joyce and Feez, 2012; Rose & Martin, 2012). However, the close study of how teachers and students talk about language has contributed to a more detailed understanding of 'what counts' as metalanguage.

In particular, this study has considered Roger Berry's (2010) proposal that metalanguage is both a *thing* and a *process*. R. Berry argues that technical terminology is only one 'obvious' dimension of metalanguage (2010, p. 26). An important contribution of this thesis has been to consider the other dimension of 'process' through a social semiotic lens on unfolding discourse. When whole messages are examined, then various message parts are involved in activity to: label and identify types of meaning choices; locate and keep track of meanings; and to assess, describe and make generalisations about language use. This thesis has argued that, collectively, these aspects of talk about language all constitute metalanguage. That is, metalanguage is not just one element within a message, but may encompass meanings in the entire message. Analysis from a discourse semantic approach has illuminated how language constructs are talked about with, alongside, or without technical terminology. The study has thus avoided a fraught categorisation of what may constitute 'semi-technical' metalanguage (e.g. Ellis, 2006) by analysing whole messages, as they occur in unfolding classroom talk.

7.5   Future directions for research

This thesis has laid the foundations for further research in a number of directions. First, it has opened up the space to keep deepening our understanding of how meanings are negotiated through classroom talk. Its detailed linguistic analysis has included created a system network of tasks. This network outlines the common ways in which meanings change after they are initially proposed by students. It provides a perspective on negotiation as 'change in meaning' (as discussed in section 7.1.1). The linguistic criteria which clearly distinguish each type of modification can be readily tested against additional data from teacher-led collaborative writing lessons. Other participants and new contexts may reveal additional task types that also focus on supporting students with meaning choices valued in tertiary contexts. Additional studies may well result in refining and extending the existing task network. The current network could also be used to analyse and compare the meanings that teachers and student negotiate in other

forms of writing activity. Such a comparison could increase our understanding of the limitations and affordances of negotiating language choices through collaborative writing experiences.

An important extension of this research involves studying the impact of teacher-led joint construction lessons on student language development. While this study has provided a detailed account of teacher and student activity, one much needed direction is to examine causal relations between the enactment of joint construction lessons and specific learning outcomes, as evident in student independent writing. Such a direction would contribute to literature that explores the impact of 'visible' pedagogic practices on student learning (Bernstein, 1990). In this line of enquiry, the task type network could also be used to quantify student activity during joint construction, i.e. to provide a percentage of time or ratio of task types over one or more lessons. A correlation could then be made between the meanings that are attended to in joint construction and the change (or lack of change) in student independent writing. For instance, we could ask: if the transforming task type is prominent in teacher-student talk, then is there evidence of an increase and appropriate use of grammatical metaphor in subsequent student writing? A similar connection could be explored between joint construction lessons and students' on-going talk about language. Is there, for instance, evidence of students carrying over the same metalanguage in pair or group writing to discuss, select and justify language choices? In other words, further studies could consider whether the 'shelf life' of metalanguage extends beyond a single joint construction lesson. This study serves as an ideal foundation from which to explore such questions in longitudinal research with mixed method approaches.

There are also important practical applications of findings related to the set up and follow up of tasks. This study illuminates specific semiotic resources that teachers use to constrain and expand meanings either side of tasks as well as to make connections between tasks. These findings are suited to re-contextualisation in teacher professional development and, in particular, to researcher-teacher collaborations that build awareness of how teachers negotiate meanings with

students. Further research could, for instance, draw on findings to map 'teacher-talk profiles' in joint construction lessons. Possible dimensions of such a profile include preferences for particular task types and the common semiotic resources that teachers use or do not use to set up and follow up tasks (as well as correspondences between the two).

These profiles could draw attention to re-occurring selections from within a broader range of options. In talk about language, for instance, analyses of teacher-talk could examine the range of entities that teachers repeatedly use to talk about types of meaning choices. It would then be possible to relate these entities to the desired changes in the scribed text, i.e. to illuminate the pairing of language choices in the task set-up with what students are expected to do with meaning.

The rank scale analysis that is exemplified in this study is crucial to such reflective collaboration between researchers and teachers. It enables the comparison of 'like' units of interaction at different levels of abstraction. Similarly, this study's exploration of interaction as ideational, interpersonal and textual meaning-making activity provides 'an array of readings' (Martin, 2000, p. 38) on the linguistics and paralinguistic resources that teachers use. In this study, the findings from these frameworks point to the need for further research into the multi-modal nature of metalanguage in the classroom. In particular, future studies could continue to explore: the role of intonation in guiding students to modify meanings; specific combinations of textual and experiential resources in speech and body movement which identify types of meanings choices; and the linguistic and paralinguistic resources which connect meanings in one text to the future writing of other texts.

Futher linguistic research into the nature of classroom meaning-making has much to offer studies of classroom discourse. As Mercer (2008, p. 7) argues, 'it is only in more linguistic research [that] we find a clearer conceptualization of how meaning is carried through time by language users.'

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Appendices

Appendix 1a: A typological representation of genres (Rose & Martin, 2012, p. 128).

Appendix 1b: A topological representation of genre relationships (Rose & Martin, 2012, p. 131).
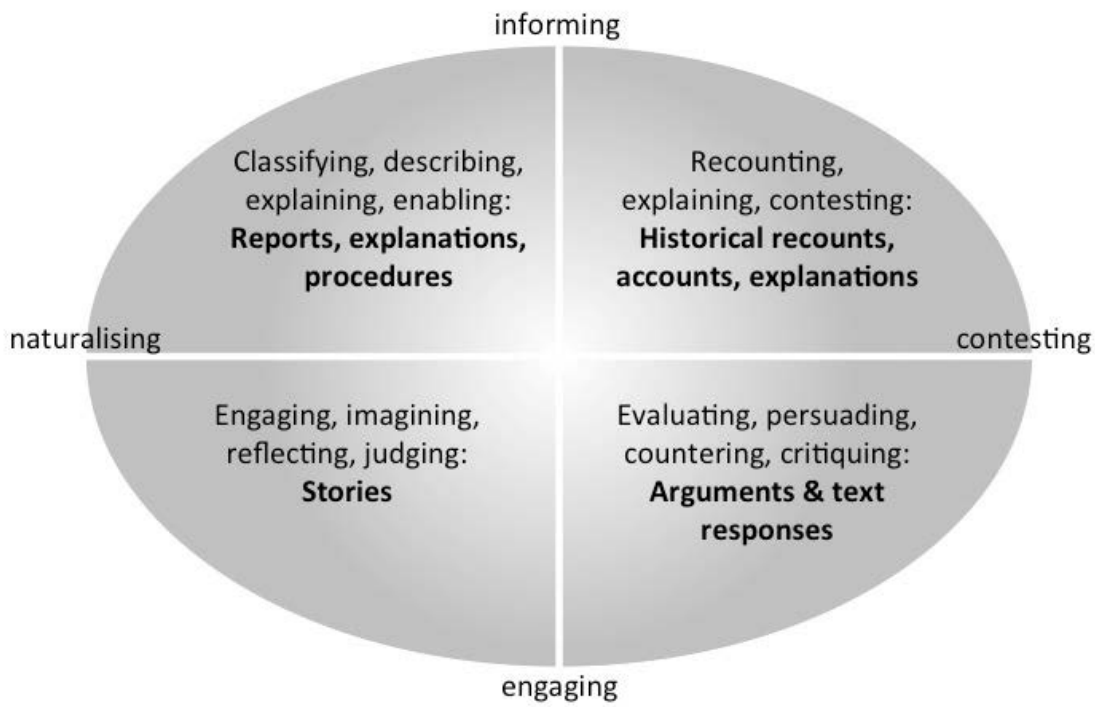
Appendix 2: The analyses of grammar (experiential meaning) from the perspective of rank (adapted from Martin et al, 2010).
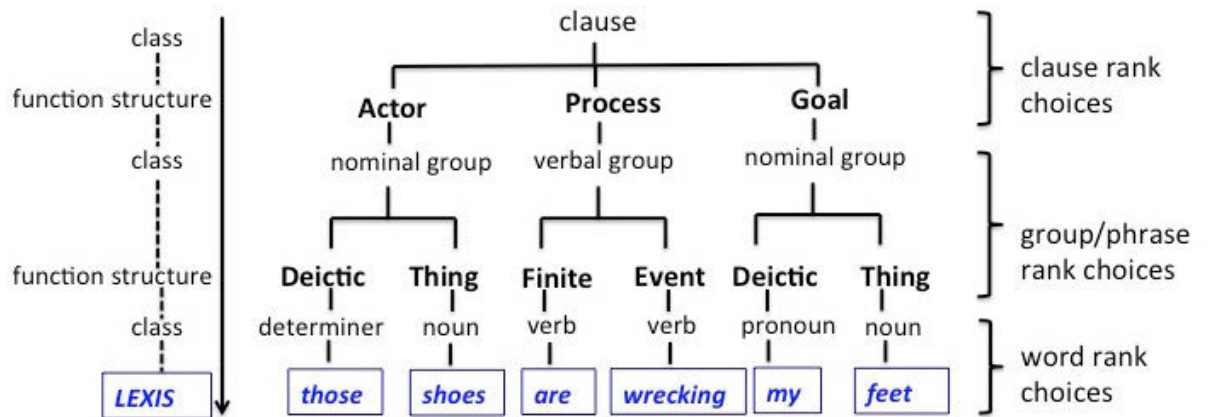
Appendix 3: Ranks in curriculum genres and related key publications

THE RANKS OF CURRICULUM GENRES (highest to lowest discourse semantic units)			
1. curriculum genre *as text* (i.e. a lesson) **< macro-genre (i.e. multiple related lessons)** **2. lesson stage**		**Selected key publications**	
		Rothery 1986, 1996; Callaghan & Rothery, 1988 Martin & Rothery, 1980, 1981 Martin, 1994, 1997, 1999a Christie, 1997, 2002; Christie & Martin, 1997 Martin & Rose, 2005, 2007b, 2008; Rose, 2005, Rose & Martin, 2012; Rose, 2014 Major influences on analysis of text structure: Mitchell, 1957/1975 ; Hasan, 1977, 1984, 1985 Labov & Waletzky, 1967	
3. lesson activity/ learning activity	**Selected key publications** Rose, 2010a, 2014		
4a. learning cycle	Martin & Rose, 2005 Rose 2005 Rose & Martin, 2012	**4b. exchange**	**Selected key publications**
5a. cycle phase		**5b. move** **< move complex**	Sinclair & Coulthart 1975; Berry 1981; Ventola 1987, 1988; Martin 1992; Halliday 1994; Dreyfus 2007; Dreyfus et al 2011; Lander 2014
6. message		Hasan, 1995; Williams, 2006; Martin, 1992; Rose, 2006; Malcolm, 2010	
7. message part		Martin, 1992	

Appendix 4: The jointly constructed texts

Appendix 4a: Class 1's jointly constructed text

Class 1's Writing prompt:

Advances in technology have resulted in many benefits but have also been problematic. What kinds of concerns have transpired? How could they be dealt with?

Innovations in technology have produced a large number of advantages. However, these have also resulted in some unexpected consequences. The advent of modern technology has contributed substantially to enhancing standards of living. Education and health are good examples of this. Despite these benefits, there are still controversial issues regarding this technology. Therefore, it is necessary to find ways to overcome them.

Appendix 4b: Class 5's jointly constructed text

Class 5's Writing prompt:

The responsibility for the environment rests with the individual and not only with the government. Do you agree?

Public awareness of environmental issues is important. Some of these issues are air pollution, water pollution and forest fires. It is not only the responsibility of the government but also of the public to ensure the protection of the environment. Citizens should reduce the excessive use of their own private vehicles, use environmentally friendly products and prevent the causes of forest fires.

Appendix 4c: Class 4's jointly constructed text

Class 4's Writing prompt:

Disadvantages of using social networking sites

Disadvantages of using social networking sites are wasting time and stealing personal information. First of all, the use of social networking sites leads to waste of time. Spending a lot of time on these sites makes people procrastinate the things they have to do. Therefore, people become irresponsible towards their work and studies. For example, students who spend a lot of time on social networking loose their concentration on their studies. This might effect their examination results. Due to this, students may fail their course.

The next important disadvantage is information theft. This kind of theft, from such sites, is a serious problem nowadays. People use fake IDs to steal personal information from other people. They might misuse the information to make a fraud. For instance, somebody stole pictures and personal information off one of my friends called Jessica and posted the pictures and information on an adult website. Because of this, she faced so many problems in her personal life. To sum up, waste of time and information theft are the two major limitations of networking on social websites.

Appendix 4d: Class 3's jointly constructed text

Class 3's Writing prompt:

Critically evaluate the Barangaroo development proposal in terms of social, economic and environmental sustainability.

There are various groups that are in opposition to the development proposal as it stands. The NSW Greens point out that the estimated cost to taxpayers is exceedingly high (Nicholls, 2011). Architects are concerned that the buildings may overshadow the waterfront and dominate the harbour (DBS, 2011). There are also claims that the development may cause damage to the health of humans and of marine life (Cousins, 2011).

The Barangaroo project will impact in several ways on economic, social and environmental sustainability. Lend Lease obtained a discounted rate for the use of the land, leading to a situation where the NSW taxpayers will have to subsidise the project. However, with approximately 9,000 new job opportunities created (DBS, 2011), Sydney's economy will receive a strong boost. Moreover, taxpayers will reap benefits from the new investments that the project will attract (Barangaroo, 2011).

Appendix 4e: Class 2's jointly constructed text

Class 2's Writing prompt:

How important is the cashmere industry in Mongolia? How has it been changed since globalisation? What are the consequences?

Cashmere is a soft and warm fibre which comes from goats and is widely used for the production of high quality clothing. The cashmere industry has played a crucial role in Mongolia's economic growth. With the increase of globalisation, there has been a profound impact on this industry. Consequently, this has had a negative effect on Mongolia, both economically and environmentally.

The cashmere industry in Mongolia is one of the most significant for the people and the economy. This industry is important because Mongolia constitutes 21% of the world market, providing income and employment for over one-third of the population and involving 1.25 million goat farmers. Furthermore, it has become the third largest export industry whose value has amounted to $57 million. Overall, it has contributed greatly to the growth of the economy related to exports, employment and manufacturing.

Appendix 4f: A sample of Class 2's summary notes for use in joint construction

Importance
Text 1
3,000 tons/year = 21% of world market
Over half exported to China for processing
1.25 million Mongolians raise goats
Text 2
Provides income and employment for over 1/3 of the population
Cashmere products are 3rd largest export
Contributes to growth of economy: manufacturing sector, employment and exports
Value of exports = $57 million

Appendix 5: Key to transcription (repeated from chapter 3)

Notation	Meaning
T	Teacher.
S1 (2, 3, etc.)	Individual student contributions – as identified by voice.
S+	Simultaneous responses from multiple students.
S?	Unidentified student.
(?)	Inaudible speech
?	un-identifiable field (in relation to field analysis)
~~	Overlapping speech.
* 6 seconds silence *	Silent period counted in seconds (as per the software program's time automation).
[*nodding and smiling*]	Description of physical movement.
(said quietly)	Description of voice qualities.
'__text____'	Quotation marks identify that the speaker is reading out <u>scribed text</u> from the whiteboard. (This convention is to distinguish the text of classroom talk from the scribed text).

Appendix 6: Task wavelengths in Class 2, Excerpt 3 – extended version

Time: [00:03:09.10] to [00:12:58]

Pedagogic activity			Task wavelengths		
T#	Sp.	Text	short	medium	long
1	T	Ok. Any suggestions for a topic sentence?	set-up	paragraph part *Topic sentence*	explanation genre (Cashmere industry in Mongolia)
		* 6 seconds silence *	**(task)**		
		Rob? Any ideas?	set-up		
		* 2 seconds silence *	**(task)**		
		Lilly, how about you?	set-up		
2	S4	(inaudible)	**(task)**		
3	T	So we want to include, importance, Mongolia, and Cashmere Industry in one sentence. How can we put those 3 ideas together to make one sentence? Simon (S5's name) you try.	set-up		
4	S5	Yeah,.I think, ahh, cashmere industry ahh in Mongolia is most significant industry for the local people, for the local government.	**task 1 initiating (TFW)**		
5	T	*[Scribing: 'Cashmere industry in Mongolia is most significant industry for]*	follow-up		
		Industry for? What did you say? for?	set-up		
6	S5	for local mmm	**task 2**		

		people,	**attending by repeating**		
		or local economy.	**adjusting: replacing by alternating**		
7	T	*[Scribing: 'local people']*	follow-up		
		Ok. We'll start with that. And we can have a look at this and see if we can, if we like it or if we can change it or improve it.			
8	S2	Yep.			
9	T	I think you've given us a good start.			
10	S+	Yeah.			
11	T	So what do you think of this sentence everybody?	set-up		
12	S+	*[shoulder shrugs]* ** 2 seconds silence **	**(task)**		
13	T	Ahh, is it accurate? The grammar ~~ accurate?	set-up		
14	S5	~~ the most. the most.	**task 3 adjusting by specifying**		
15	S2	I think 'industry' repeating, it can be replaced by 'one'.	**replacing by referencing**		
16	T	Ok.	follow-up		
		So, because we've already mentioned the	set-up		

		word "industry", do we need to mention the word "industry" again?			
17	S2	Mmm. *[shaking head]*	**task 4 initiating (KAL)**		
18	T	So Sarah (S2name) is suggesting we could take that out and?	set-up		
19	S6	~~one	**task 5 attending: by repeating**		
20	S2	~~one			
21	T	Most significant one.	follow-up		
21	T	Ok. Another option we could have here is actually, we could actually take that word out all together.			
22	S6	Because it means the most significant.			
23	T	Yes. Because it means the most significant industry, you don't have to repeat the word industry.			
24	S2	Yep.			
25	T	Umm, I can see error.	set-up		
26	S7	the	**task 6 adjusting by specifying**		
27	T	Tommy? (S7's name)	set-up		

28	S7	the ~~cashmere industry	**task 7 attending by repeating**		
29	S5	~~cashmere industry			
30	T	You mentioned in the introduction. Cos it's a specific industry. Good.	follow-up		
31	S7	Can I, can we use the 'underpin'? 'underpin'?	query		
32	T	Underpin?	response to query		
33	S7	Yeah.			
34	T	Yeah. How would we, the verb to underpin, that's what we would call a less common lexical item. Underpin. It provides the foundation [*gesture: hands together then opening in circular shape*].			
35	S7	Yeah.			
36	T	It's so important it's like a fundamental~~			
37	S7	~~Ohh (inaudible).			
38	S+	~~ underpin.			
39	T	Ok umm. Now, If we want to use the verb 'to underpin', we'd either have to ahh make some quite major changes to the sentence.			
		* 6 seconds silence*			

		We'd need to make some very big changes to the sentence to use that word. It's a great word, but we'd need to make a lot of changes to accommodate that word. So maybe we'll leave that. We might come back later, cos what I'd like to do is, I'd like to write the paragraph and then once the paragraph is finished we might go back and we might make more changes and we can do more paraphrasing. At this stage, let the paragraph done. And then we might come back later. I think that is a really good word that we could incorporate but because it takes a long time make that change, we'll keep that on one side and think about that later.			
		Ok. So is everybody happy with this sentence, or is there anything we can improve? Or change?	set-up		
		* 3 seconds silence*	**(task)**		
		Do we know it's the most significant? Are we sure about this? Is	set-up		

		it the (stress) most significant?			
40	S5	No.	**task 8 initiating (KAL)**		
41	S?	~~ No.			
42	S?	~~ Not sure.			
43	T	We know its very important, don't we?	follow-up		
44	S?	Yeah.			
45	T	But, you know, we have to be clear about or facts. If we are not sure, what could we, how could we ~~modify?	set-up		
46	S2	~~ may	**task 9 replacing by alternating**		
47	S?	may be			
48	T	may be one of the most significant.	follow-up		
49	S5	one of the most	**task 10 adjusting by specifying**		
50	T	Ah one of the most.	follow-up		
51	S4	~~ one of			
52	T	Yes. So "the cashmere industry in Mongolia is	set-up		
53	S4	one ~~ of	**task 11 attending by repeating**		
54	T	One ~~of the most significant for local people.	follow-up		

		Ok.			
		Is it just for the local people?	set-up		
55	S4	and the economy	**task 12 initiating (TFW)**		
56	T	~and the economy	follow-up		
57	S+	~ the economy.			
58	T	Yeah so the people and the? e~conomy	set-up		
59	S+	~ economy.	**task 13 attending by repeating**		
60	T	Umm, the word 'local', do we really need that word because we have already mentioned the word Mongolia?	set-up		
61	S5	~ ~Ya	**task 14 initiating (KAL)**		
62	S?	~~Yes we need (inaudible)			
63	S?	~~ At the front we need.			
64	T	Perhaps if we take out 'local'.	follow-up		
65	S5	Just economy.	**task 15 replacing by alternating**		
66	T	We could say people, ~~and	set-up		
67	S?	~~and	**task 16 attending by**		
68	S5	economy.			

			repeating		
69	T	The economy. Ok. It's getting better, isn't it?	follow-up		
		Now ahh, one more, we say 'people and the economy'.	set-up		
70	S1	(inaudible)	**(task)**		
70	T	Here we have an article. (using mouse to point to text? not in camera). What about here?	set-up		
72	S1	No (we don't have one).	**task 17 initiating (KAL)**		
73	S+	No.			
74	T	Do we need an article here?	set-up		
75	S5	No. We can't use an article here.	**task 18 initiating (KAL)**		
76	T	We can't?	set-up		
77	S5	No.	**task 19 attending by repeating**		
78	T	Which people are we talking about?	set-up		
79	S+	Mongolian.	**task 20 adjusting by specifying**		
80	T	*[gesture: fingers to thumb]*	set-up		
81	S2	The	**task 21**		
82	S4	The	**adjusting by**		

			specifying		
83	T	*[gesture: fingers to thumb beating centre to right]*	set-up		
84	S?	Mongolian ~~people	**task 22 attending: repeating**		
85	T	~~People.	task follow-up		
		Or, the ~ people	set-up		
86	S+	people	**task 23 adjusting by specifying**		
87	T	~~of	set-up		
88	S+	~~of	**task 24 adjusting by specifying**		
89	T	Mongolia.	follow-up		
90	S+	Mongolia.	**task 25 adjusting by specifying**		
100	T	So we do actually need to use the article, because we are talking about a specific group of people, the people of Mongolia, or, the Mongolian people. And also it gives us a nice ahh, parallel structure, (scribing while talking) because we've got 'the people' and ~~'the economy'.	follow-up		

101	S2	~~the economy.	task 26 attending by repeating		
102	T	So we get that nice parallel structure there which we like to have in English to make our sentences well balanced.	follow-up		
103	T	Ok. So Yasmine, let's read this sentence again.	set-up		
104	S4	"The cashmere industry in Mongolia is one of the most significant for the people and the e-con-om-y"	task 27 attending by repeating		
105	T	Economy ~~ economy.	follow-up		
106	S4	~~ economy.	task 28 attending by repeating		
107	T	Is this a good topic sentence, ahh Robin?	set-up		
108	S8	Yes it is.	task 29 initiating (KAL)		
109	T	Yeah I think it's clear, isn't it? It's really going to set-up our, ahh, second stage of the essay which is talking about the importance of this industry.	follow-up		
		Ok. Let's have a look at our list of phases	set-up	paragraph	

				part	
110	S3	What is the Cashmere Industry? *[reading aloud from handout]*	**task 30 attending by repeating**	*Definition*	
111	T	Yes. So somehow who is reading this essay may know nothing about Cashmere.	follow-up		
		Do you know ~ much about Cashmere?	set-up		
112	S3	Definition?	**task 31 initiating (KAL)**		
113	T	Definition	follow-up		
114	S+	Definition			
115	T	People say 'but what is Cashmere?' I don't know what Cashmere is. So it might be a good idea to provide some information about ~ this.			
		So the first question is "What is cashmere?" What is it? Kim?	set-up		
116	S3	Ahh Cashmere is one of the softest and warmest and longest-lasting materials.	**task 32 initiating (TFW)**		
117	T	So you're quoting directly from the text.	follow-up		
118	S3	Ya			
119	T	Use the ~~ notes. Try and explain this in	set-up		

		your own words. Don't just read it from the paragraph, from the research, just try to explain it in your own words			
120	S3	~~Yeah. Cashmere is	**task 33 replacing by alternating**		
121	S?	soft			
122	S3	a soft, soft and warm materials.			
123	T	[*scribing: 'Cashmere is a soft warm'*]	follow-up		
		What other words could I use for material?	set-up		
124	S8	fabric	**task 34 replacing by alternating**		
125	S+	fabric			
126	S?	fiber			
127	S+	fiber			
128	S6	fiber			
129	T	These are all good words.	follow-up		
		Kim which one would you like to use? Material, fabric or fiber?	set-up		
130	S3	Ahh fibre. fibre	**task 35 attending by repeating**		
131	T	[*scribes: 'fiber'*]	follow-up		

Appendix 7: Task wavelengths in Class 4, Excerpt 4 – extended version

Time: [00:20:26.29] to [00:25:24.18]

Pedagogic activity			Task wavelengths		
T.	Sp.	Text	short	medium	long
1	T	Let's introduce the first point. *[pointing to paragraph phase list on the whiteboard].*	set-up	paragraph part	explanation genre
2	S1	First of all.	**task 1 initiating TFW**	*Introducing the first point*	(Disadvantages of social networking)
		Signal word. Ahh.	initiating KAL		
3	T	Ok *[scribes: 'First of all']*	follow-up		
4	S1	Wasting time.	**task 2 initiating TFW**		
5	S6	First of all, people spend more time, ahh, sitting ~~at their computers working (? inaudible).			
6	S2	~~ spending more time on social.			
7	T	Just a minute Penny (Telling S2).	follow-up		
		Ok. Say it again *[Looking at S6].*	set-up		
8	S6	First of all, people,	**task 3 attending**		

			by repeating		
		nowadays, the people use computers more time	replacing by alternating		
		that that one became before.	initiating TFW		
9	T	Ok.	follow-up		
10	S6	Right?	query		
11	T	But it's more like explanation of the time, rather than introducing the time. We just need to introduce it now.	response to query		
		Umm, Barbara you were saying something.	set-up		
12	S6	Yeah. I said, ahh, uses of sites social networking sites is wasting time.	**task 4 attending by repeating**		
13	T	Say it again.	set-up		
14	S5?	Uses of sites or networking sites is, are sites, is wasting time.	**task 5 attending by repeating**		
15	T	Ok. We can use that. Ok. Let me put it that way. Umm, it might be a good idea like you have said, to start with the theme again.	follow-up		

16	S1	Mm.			
17	S2	But, if we're use, oh.	query		
18	T	*[nodding]* Speak. Speak.	response to query		
19	S2	I forgot ~~ (laugh)	query cont.		
20	T	~~ (laughter)	response to query		
		[scribes 'using social networking sites']	follow-up cont.		
21	S1	is a wastage of	**task 6 replacing by alternating**		
22	T	Alright so have started with the theme of the whole thing. And I'm gonna to introduce the first point. *[tapping this phase on the board list]* And the first point is wasting time *[leaves space then 'scribes wasting time']* What do I need here? *[taping space after 'wasting time']*	set-up		
23	S5	Verb.	**task 7 initiating KAL**		
24	T	Verb.	follow-up		
25	S5	Is	**task 8 attending by**		
26	S+	Is			

27	S5	~~ Is	**repeating**		
28	T	~~Is 'Using social networking sites is wasting time'.	follow-up		
29	S7	of ~~ of	**task 9 replacing by alternating**		
30	S1	~~ wasting of			
31	S5	~~ wastage of time.			
32	T	Ok. Alright	follow-up		
33	S1	wasting of time.	**task 10 attending by repeating**		
34	T	Wasting of ~~ time is also ok. Wasting of time is also fine, but it's not always wasting of time. Some people use it really effectively.	follow-up		
35	S1	~~ wasting of time	**task 11 attending by repeating**		
36	S6	spending time. ~~ spending sites	replacing by alternating		
37	T	~~ So here I need a verb that connects these two things together	set-up		
38	S7	of	**task 12 attending by repeating**		

39	T	Umm. It's not gonna help me.	follow-up		
40	S1	(? inaudible) both sides.	**task 13 initiating TFW**		
41	S2	And there is, and there is ~~ (? inaudible)			
42	S6	~~ In both. No. ~~ in both is (? inaudible)			
43	T	~~ A simple one.	set-up		
44	S?	will.	**task 14 initiating TFW**		
45	T	Huh?	set-up		
46	S?	will	**task 15 attending by repeating**		
47	S5	leads to	replacing by alternating		
48	T	Leads to. Ok. I think we can use that.	follow-up		
49	S?	Huh?	query		
50	T	'Using social networking sites?'	set-up		
51	S2	Yeah leads to.	**task 16 attending by repeating**		
52	T	Leads to *[scribing]*. Leads to wasting	follow-up		

		time. Ok.			
		I think the introduction of the first point is over *[ticks that item on RH list].*			
		Ok. So we need to go into	set-up	*Explaining the first point*	
53	S1	Explain	**task 17 initiating (KAL)**		
54	T	Explaining it.	follow-up		
55	S6	Due to	**task 18 initiating TFW**		
56	T	So what are we explaining?	set-up		
57	S6	We need to introduce something like connect.	**task 19 initiating (KAL)**		
58		Like a due to, due to or ~~ as (? inaudible) wasting time, because, due or people ~~spend more time	initiating TFW		
59	S2	~~ (? inaudible)	?		
60	S9	~~ People face lots of problems, ahh, sometimes that they can't reach to their destination within times, because they waste most of the time social networking, like they can't wake up from	initiating TFW		

		the mornings. They sleep late ~~ night			
61	S5	~~ Ah.			
62	T	~~ Ok. Yep. ~~ Fine that might be an idea.	follow-up		
63	S5	~~ Lack of, lack of sleeps and lack of study.	**task 20 initiating (TFW)**		
64	S9	Yeah lack of sleep.	attending by repeating		
65	T	Yeah sure.	follow-up		
66	S2	Wasting time becomes turn lazy.	**initiating TFW**		
67	T	Wasting time?	set-up		
68	S2	becomes people lazy.	**task 21** replacing by alternating		
69	T	(Laughing)	follow-up		
70	S2	(Laughing)			
71	S1	make	**task 22 replacing by alternating**		
72	S2	makes ~~ people lazy	replacing by alternating		
73	S1	~~ people lazy.	attending by repeating		
74	T	Ok. Wasting time makes people lazy.	follow-up		

		Ya, we can use that.			
75	T	You know, but the thing is we need to explain the first point. And what is the first point?	set-up		
76	S1	Wasting ~~ time.	**task 23 attending by repeating**		
77	S2	~~ Wasting time.	attending by repeating		
78	T	Wasting time. Ok. let's start the sentence with that	follow-up		
79	S2	Wasting time.	**task 24 attending by repeating**		
80	S1	Theme. Now it's a theme.	initiating (KAL)		
81	T	Now it's the theme. *[scribes: 'wasting time']*	follow-up		

Appendix 8: The analysis of lexical strings in Class 4, Excerpt 6

Item #	Strings of lexical relations (Class 4, Excerpt 6)			
	String 1	String 2	String 3	String 4
	Hierarchical organisation within the topic for writing	Talk about the classifying taxonomy of the scribed text	Talk about constituency relationships in message organisation	Talk about constituency relationships in a paragraph
1		the main points		
2	wasting time			
	| *co-hyponym (co-subclass)*			
3	stealing information			
	| *hyponym (sub-class)*			
4	disadvantages (of using social networking sites)			
	| *repetition*			
5	disadvantages			
	| *synonym*	| *hyponym (subclass)*		
6	limitations			
	| *repetition*			
7	limitations			
	| *synonym*			

8	the disadvantages		
	| *hyperonym* (super-ordinate class)		
9	wasting time		
	| *co-hyponym* (co-subclass)		
10	stealing personal information		
	| *hyponym* (sub-class)		
11	disadvantage		
12		main topic	
		| *hyperonym* (super-ordinate class)	
13		main ideas	
14		| *co-hyponym* (co-subclass)	themes
15		two things	
		| *repetition*	| *repetition*
16		two things	
17		| *co-hyponym* (co-subclass)	theme
18		main ideas	

			topic	theme		
			| hyperonym (super-ordinate class)			
19			topic			
			| hyponym (subclass)			
20			main ideas			
			repetition			
21			main ideas			
			repetition			
22			main ideas			
23					concluding sentence	concluding sentence
					| hyponym (subclass)	
24					sort of paraphrase	*| co-meronym* (*co-part*)
					| repetition	
25					paraphrase of topic sentence	topic sentence
24				theme		
				| co-meronym (*co-part*)		
27				new information		
				| repetition		
28				new		

				co-meronym (co-part)	
29				theme	

Appendix 9: Class 4, Excerpt 8 – extended version

Pedagogic Activity			Lesson Structure			
Turn	**Sp.**	**Classroom interaction**	**Cycle phase**	**Learning cycle**	**Lesson activity**	**Lesson stage**
1	T	What else?	focus	1		
2	S6	Embarrassing situations.	task: initiating (TFW)			
3	T	Like?	focus	2		
4	S6	Like for example, you put in ahh, you picture from you, and maybe not friends, so somebody may post something in the wrong way ~~ and everybody laughing about that embarrassing situation.	task		building	
5	T	~~Mmm. Ok. Alright. Cool.	evaluate			Text Negotiation
	T	Okay so how can I put **it** using *[pointing to and touching the board]* **the same structure.**	focus	3	reworking	
6	S6	Embarrassing...So embarrassing, no. So, the, I mean, umm	task: attending by repeating			
7	S5	Situation that is embarrassing.				

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8	T	**Just think of a verb, and use the verb with -ing.**	focus	4		
9	S1	Embarrassing	task: attending by repeating			
10	S5	Being	modifying by transforming			
11	T	Ok. Being.	evaluate..			
12	S1	Embarrassed.	modifying by transforming (cont)	5		
13	T	Being embarrassed. We can ~~ say that.	evaluate			
14	S6	~~ Being embarrassed (softly)				

Appendix 10: Resources of TONICITY in Class 2, Excerpt 3 – extended version

Time: [00:03:46.22] – [00:08: 14.16]

Pedagogic Activity			Lesson Structure			
Turn	Sp.	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	lesson stage
1	T	How can we put those 3 ideas together to make one sentence?	focus	1	building	Text Negotiation
2	S5	(?inaudible)	(task)			
3	T	(S5 name) ~~ you try.	direct	2		
4	S5	~~ yeah. I think, ahh, Cashmere Industry, ahh in Mongolia, is most significant industry for the local people, for the local government.	task: originating to create			
5	T	[scribing :'Cashmere Industry is most significant industry']	evaluate			
..... student queries and other modifications to text (see Appendix 11)						
6	T	O*k. *So is everybody *happy with this sentence, or is there anything we can im*prove ,*or, *change?	focus	3	reworking	
		* 3 seconds silence *	(task)			
	T	Do we know its the *most significant? Are we *sure about this? Is it *the most significant?	focus	4		
7	S5	No	task: originating to value			
8	S?	~~ No				
9	S?	~~ Not sure.				
10	T	We know its very im*portant,	evaluate			

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11	S?	~~ Yeah				
12	T	***But,** you know, we have to be clear about our ***facts.**	prepare	5		
		If we are not ***sure,** ***what** could we, ***how** could we ~~***mod**ify this sentence?	focus			
13	S2	~~ may	task: modifying to adjust			
14	S?	may be				
15	T	***may** be the most significant. (spoken slowly)	evaluate			
16	S5	one of the most	task: modifying to adjust	6		
17	T	***Ah.** ***One** of ~~ the most significant. ***Yes.**	evaluate			
18	S4	~~one of				
19	T	***Yes.** ***So** 'the cashmere industry in Mongolia is ~~***one'**	focus	7		
20	S4	one ~~ of	task: repeating to re-vocalise			
21	T	***One** of the most significant for local people. *[Scribes: 'one of']* Ok.	evaluate			
Key						
Tonic syllables (***bold**)						

Appendix 11: Class 2, Excerpt 8 – extended version

Time: [00:16:29.11] - [00:18:32.00]

Pedagogic Activity			Lesson Structure			
Turn	Sp	Classroom interaction	Cycle phase	Learning cycle	Lesson activity	Lesson stage
1	T	'widely used for clothes' Can we improve this? 'widely used for clothes'? Can we make **this more academic?**	focus	1	rework	Text Negotiation
2	S5	for producing	task: adjusting by specifying			
3	T	producing	evaluate			
4	S5	expensive clothes	task: adjusting by specifying			
5	T	Very good ok. Producing. I can use **the gerund,** producing, *[Scribes: 'producing']*	evaluate (continued)			
		or, whenever I use **the gerund**, of course, I always have the option of also using **a noun.**	focus	2		
6	S6	product, production.	task: modifying by transforming			
7	S2	production.	attending by repeating			
8	T	*[nodding]*	evaluate			
		Produce, producing. And what is **the noun?**	focus	3		
9	S+	production	task: attending by			

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			repeating			
10	T	production	evaluate			
		Product and ?	focus	4		
11	S+	~~ production	task: attending by repeating			
12	T	~~production	evaluate			
13	S6	or clothes production (teacher doesn't seem to hear)	task: adjusting by specifying	5		
14	T	Talking about the production ?	focus	6		
15	S2	of	task: adjusting by specifying			
16	T	of	evaluate			
17	S2	clothes	task: adjusting by specifying	7		
18	T	clothes. Ok.	evaluate			
		Do you think **that sounds better?**	focus	8		
19	S2	Mmm.	task: initiating (KAL)			
20	S+	*[Nodding]*				
21	T	'Widely used for producing clothes' (reading out scribed text slowly)	evaluate			
22	S7	*[Shaking head]*				
23	T	or 'widely used for' ?	focus	9		
24	S2	the production	task: adjusting by specifying			
25	T	The production of clothes.	evaluate			
		And S3 said high-quality	prepare	10		
		So widely used for?	focus			
26	S5	high-end products	task: adjusting by			

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			specifying			
27	T	the production *[scribe: 'the production']*	evaluate			
28	S6	of	task: adjusting by specifying	11		
29	T	high	focus	12		
30	S1	quality	task: attending by repeating			
31	T	quality	evaluate			
32		*[scribes: 'of high quality']*				
33	S5	~~end-products	task: attending by repeating	13		
34	T	~~clothes.	evaluate			
		Is there **another word** we could use for 'clothes'?	focus	14		
		Maybe **a little bit more formal.**				
35	S2	costume	task: replacing by alternating			
36	S+	costume (laugh)	evaluate			
37	S?	No! That's too (inaudible)				
38	T	**same family**	focus	15		
39	S5	dress.	task: replacing by alternating			
40	T	*[ignore]*	evaluate			
41	S6	*[quietly chuckles]*				
42	T	**So same family as 'clothes'.**	prepare	16		
		Same family. Another word.	focus			
43	S1	clothing.	task: replacing by			

44	S6	clothing.	alternating			
45	T	clothing. We often talk about the clothing industry. Clothing industry.	evaluate			
46	S?	**More general.**				
47	T	**More general.**				
		Clothes might be **more specific.** What clothes? If I say to you, you know, what clothes are you wearing tonight? We are going out to the theatre. What clothes are you going to wear? I wouldn't say what kind of clothing are you going to wear. **That sounds very formal.** Ah so we might say the clothing industry. High quality clothing. *[Scribes: 'clothing']* Good.	elaborate			

Appendix 12a: Gradual changes to nominal group structure in Class 2, Excerpt 8

Modifications	Proposed wording
Initial wording	*Cashmere is a soft and warm fibre which comes from goats and is widely used* **for clothes**
1st	*for producing expensive clothes*
2nd	*production*
	production
	production
3rd	*clothes production* (Not heard or ignored by the teacher)
4th	*production of clothes*
5th	*widely used for producing clothes*
6th	*widely used for the production of clothes*
7th	*widely used for high-end products* (ignored by teacher)
8th	*for the production of high-quality clothes*
9th	*costume*
10th	*dress*
11th	*clothing*
Completed modified text	*Cashmere is a soft and warm fibre which comes from goats and is widely used* **for the production of high-quality clothing**

Appendix 12b: Analyses of nominal group structure – initial wording
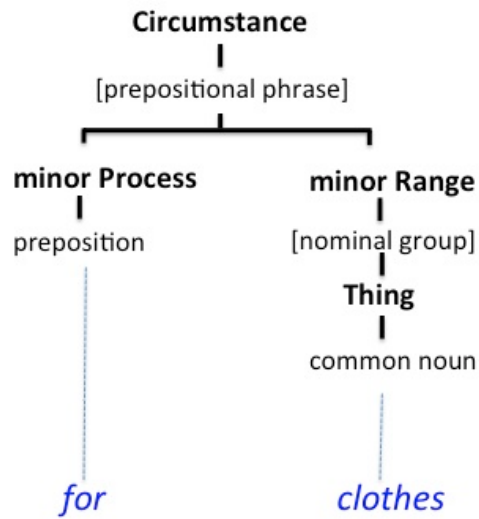
Appendix 12c: Analyses of nominal group structure – final wording