Teaching Writing Informed by Systemic Functional Linguistics: "I never would have thought of doing that..."

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TEACHING WRITING INFORMED BY SYSTEMIC FUNCTIONAL LINGUISTICS:

“I NEVER WOULD HAVE THOUGHT OF DOING THAT…”

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ABSTRACT

Teaching Writing Informed by SFL: “I never would have thought of doing that…”

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Writing is an essential tool for creating meaningful communication and as such it must be taught beginning in elementary school. Although in the past 100 years writing has become more common in our everyday lives, methods of teaching writing and teacher education have not kept pace with changes (National Commission on Writing, 2003). As a result, teachers are underprepared to teach writing and do not teach it enough (Gilbert & Graham, 2010). The goal of this study is to understand how teacher-researcher relationships can facilitate the development of a teacher’s knowledge of the theoretical foundations of teaching writing through systemic functional linguistics (SFL) and the teaching and learning cycle (TLC), and how that understanding affects the implementation of meaningful writing instruction that supports bilingual students as they learn to write.

Using a modified action research methodology (Herr & Anderson, 2005; Reason & Bradbury, 2001; Zeichner, 2001) the data were collected over the course of one school year and analyzed utilizing the action research spiral by examining interactions between a teacher and a researcher through seven vignettes, including planning lessons, teaching, and reviewing lessons. These vignettes reflected particular instances of support, the evolution of the teacher’s understanding of teaching writing informed by SFL, and changes in instruction relating to the TLC. Student writing was also analyzed using rubrics informed by SFL theory.
The findings suggest that a complex relationship exists between teachers and researchers and that multiple factors are involved in successful change initiatives. The factors include the process of change through individualized support over time, negotiation, and two types of tension: disequilibrium and resistance. In the current study, these factors helped develop the teacher-researcher relationship in ways that promoted changes in the teacher’s practices and, to some extent, her beliefs about writing instruction which resulted in the creation of a hybrid pedagogy. While this pedagogy did not demonstrate a full implementation of instruction informed by SFL theory, it did improve the quality of writing instruction and the resulting student writing.
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Chapter 1: Statement of the Problem

Writing is an essential part of elementary school in all subject areas, but in the past 20 years of school reform writing instruction has been sorely neglected and change is needed (National Commission on Writing, 2003). The National Commission on Writing (NCW) states, “What is required is not another educational fad forced upon overworked teachers, professors, and administrators, but a fundamental reformulation of what this society means by learning and how it encourages young people to develop their full potential” and they continue, “In short if students are to learn, they must write” (2003, p. 9). On average, studies have shown that elementary teachers spend just 15 minutes a day on the teaching of writing (Gilbert & Graham, 2010) and students write a paragraph or more just 20 to 25 minutes a day (Cutler & Graham, 2008; Gilbert & Graham, 2010). But before we can find solutions to this problem we first must ask who today’s teachers and students are and we must understand their needs. We also need to assess the current state of education through policy and standards to understand what is being done and what changes can be instituted.

In order to understand the current state of the teaching of writing it is helpful to step back and examine the larger theoretical underpinnings of writing theory. The teaching of writing cannot be defined simply, and theories of teaching writing abound. Analysis of these theories of writing, however, may offer a more effective approach to implementing changes in writing instruction by offering a deeper understanding of the history of writing, the purposes for writing, and the current role of writing in our lives. Teachers educated in the theoretical foundations of the teaching of writing are better
informed and better able to make rational decisions about which practices best support their students in learning to write.

Horan (2007) presents a framework for understanding the various orientations to teaching writing which includes four broad theoretical approaches. The first is a Traditional-Textual view which focuses on language skills, structure and the final product of writing. The underlying epistemology is that truth and knowledge are pre-existing and constant. The impact on teaching is that students learn a three-stage linear procedure of pre-writing, writing and rewriting which amounts in many cases to learning to write as recopying with a focus on mechanics. The second approach is the Individual-Dialectical Theoretical or process writing, which emphasizes the individual writer, their ideas and habits. It focuses on the act of writing through a process of prewriting, drafting, revising, editing and publishing. Conceptualizing writing as a process where an individual plans for writing, writes drafts, revises, and reviews their work with peers is helpful in understanding how individuals structure their time when creating texts. Process writing emphasizes the exploratory nature of writing to discover ideas and create meaning (Zamel, 1983). It does not, however, explain how writers learn to become better writers (Hyland, 2003). The third approach, the Social-Dialogical, explores writing as a social endeavor to construct knowledge with an explicit emphasis on language use, context, purpose, and the influence of culture on language and language use. Writing in such a context provides many opportunities for learning both from a teacher and from peers through discussions and interactions about how genres are structured and how language functions to make meaning. It empowers students by teaching them how cultural capital works and how they can engage in it, especially with regards to dominant social groups.
It also empowers students by recognizing the value of students’ own cultural capital in the form of funds of knowledge (Moll, 1994). The fourth approach, the Socio-Critical Theoretical, exposes the assumptions of writing theory through a critical approach, problematizes some aspects of the Social-Dialogical orientation, and emphasizes multiple forms of knowledge and literacies. For example, it goes beyond seeing language choices for meaning to more political views of language as a tool to promote change, and it challenges cultural norms, such as the teacher as the authority.

Traditionally, in American education, writing has been viewed as a way to assess the factual or declarative knowledge that the teacher as transmitter has given and the students as receivers have gained and can show in writing (Langer & Applebee, 1987). This approach reflects the Traditional-Textual orientation. A more productive approach would be to use writing as a tool for learning where students learn and develop ideas with emphasis on procedural knowledge and they gain an understanding of how they are learning (Langer & Applebee, 1987), as in the Individual-Dialectical Theoretical orientation. For the past 30 years many teachers have begun this work by engaging students in process writing as described by Donald Graves (e.g. 1994), Lucy Calkins (1986) and others. Students have learned the process of writing through planning, creating drafts, revising, editing and publishing, which has helped to increase students’ narrative writing abilities, but narrative writing is not the only type of writing necessary for school and life beyond school. The pedagogy of process writing “did very little to prepare students for learning across the curriculum in primary school, [or] for writing in the specialized subject areas of secondary school” (Martin, 2009, p. 11). Writing instruction is not about reporting memorized factual information, nor is it only about
creative writing or narrative writing. Writing instruction should be about teaching children to create meaningful texts that fulfill specific purposes through different genres and language, and within that goal there is room for both creativity and relaying factual information (Martin, 2009), which reflects the Social-Dialogical orientation. Writing instruction can also focus on teaching students critical literacy skills as in the Socio-Critical Theoretical orientation, where they can question current practices and challenge them (Hyland, 2007).

Even in light of several decades of research on writing theory, educational policy has not served teachers and students well because policy makers have not taken a strong stand on the issue of teaching writing, favoring other areas of the curriculum instead. For example, the No Child Left Behind legislation (2001), which has dominated educational policy in the past decade, neglects writing in favor of reading. When writing is mentioned, it is alarming to note that the idea that there may be “features of students’ writing other than correctness – such as thinking, expression, inquiry, and purposeful communication – is absent from the stated goals of No Child Left Behind” (Lesnick, 2005, p. 82).

Since this legislation there have been several reports which appeal to policy makers, educators, and the public to enact change. The National Commission on Writing (NCW) has written multiple reports emphasizing the importance of teaching writing at all levels (2003, 2005, 2006), and a report by Applebee and Langer (2006), and a national survey of teachers by Gilbert and Graham (2010) have called for improvements in the teaching of writing in schools. Gilbert and Graham (2010) recommend increasing the quality of teacher education in the teaching of writing (NCW, 2003), spending more time
teaching writing, having children spend more time writing (Applebee & Langer, 2006; NCW, 2003), teaching children to write meaningful texts for a greater variety of purposes to better prepare them for the rest of their schooling and for work (Applebee & Langer, 2006; NCW, 2003), and using evidence-base practices more often, and yet we fail to make progress in instituting change.

While there is new hope that the Common Core State Standards (CCSS) (2011) will guide us to an era of change (Sloan, 2010; Toppo, 2012), I would question whether this change goes far enough for two reasons. The first reason is that although the CCSS address writing in English and the content areas in grades 6-12, writing is only addressed in language arts in K through 5. The current standards for math are the only separate content area standards, and they do not include writing. While the K-5 language arts standards include the teaching of three genres of writing (narrative, informative/explanatory, and argument) and they recommend that language arts teachers teach content area writing as part of their curriculum, the standards do not yet address the teaching of other content areas, such as science, and the role writing plays in those classrooms. This is problematic if students are to learn to write for the many different purposes required by different disciplines because writing in science is different from writing for language arts (Halliday & Martin, 1993). While it is critical that writing be included for content area topics in language arts, teaching writing in language arts alone is not enough, writing needs to be both taught and used in content areas too in discipline appropriate ways (NCW, 2003). The Next Generation Science Standards (2013) will attempt to bridge this gap. Although they are not part of the CCSS, the Next Generation Science Standards (NGSS) will explicitly link science to language arts (and math as
well). For each relevant science standard they will include a link to a language arts standard. For example, if the standard is for creating a scientific argument to show understanding of a science concept, it will be linked to the language arts CCSS for persuasive writing. However, these new standards will create a new gap for teachers who have not been trained to teach writing, both those trained as elementary generalists and those trained as content area specialists.

The second reason I would question whether this change goes far enough is that the CCSS (2011) clearly states as one of its limitations that it is

…beyond the scope of the Standards to define the full range of supports appropriate for English language learners and for students with special needs. At the same time, all students must have the opportunity to learn and meet the same high standards if they are to access the knowledge and skills necessary in their post–high school lives. Each grade will include students who are still acquiring English. For those students, it is possible to meet the standards in reading, writing, speaking, and listening without displaying native-like control of conventions and vocabulary. (p. 6)

While this outright disclaimer is honest, it does nothing to support educators in their quest to teach ALL learners in their classrooms. The children in our classes are becoming increasingly diverse in keeping with the larger U.S. population. Shin & Kominski (2010) report that the 2007 American Community Survey (ACS) from the U.S. Census Bureau show that there has been a 140% increase in the number of people over the age of 5 who speak a language other than English at home since the 1980 census. They also report that the 2007 ACS also shows that 21 % (10.9 million) children from ages 5-17 speak a
language other than English at home. It specifies that 8.2 million of those children speak English “very well” and 2.8 million of them speak English “less than very well”. Of the 8.2 million children, 7.9 million of them speak Spanish as a first language. With 21% of the school age population speaking a language other than English at home, teaching English learners (ELs) needs to be an integral part of standards, not an add-on. While learning to write in a second language (L2) is similar in many ways to learning to write in one’s native language (L1), there are also important differences. There is abundant research on theories relating to learning to write in one’s L2 and there are many different strategies to support students in doing so (Brisk, 2007; Herrera, 2010; Menyuk & Brisk, 2005; Peregoy & Boyle, 2008). These theories need to be understood by teachers and those who advocate high quality learning and they need to be incorporated into teachers’ philosophies of education and daily practices.

The need to teach writing across the curriculum brings the issue of teachers and their needs to the forefront. At the level of teacher education there is a lack of teacher preparation and knowledge with regards to teaching writing. Writing is underrepresented in teacher training programs and teachers report feeling ill-prepared to teach writing (Cutler & Graham, 2008; Gilbert & Graham, 2010; Schleppegrell, 2004). In a study of primary grade teachers (grades 1-3), 28% of teachers reported that their college preparation in teaching writing was poor or inadequate (Cutler & Graham, 2008). In a study of elementary teachers of grades 4-6, teachers reported receiving “minimal to no preparation to teach writing through their college teacher education program” (Gilbert & Graham, 2010, p. 511). While 80% of those teachers reported that they had acquired adequate to extensive preparation through a combination of personal efforts to learn
about teaching writing and post-college experiences, 20% of teachers still did not feel prepared to teach writing, and teachers who lack an understanding of the theories of teaching writing are unlikely to have the resources to develop high-quality writing curriculum. Taken together, policies which neglect writing and teachers who are ill-prepared to teach writing, result in the lack of an appropriate knowledge base to teach writing and a lack of appropriate curriculum resources for teachers (Christie & Derewianka, 2008).

The fact that teachers feel inadequately prepared to teach writing is perhaps reflected in the National Assessment of Educational Progress (NAEP), which tests the writing ability of a sampling of students across the U.S in grades 4, 8 and 12. The assessment consists of three types of writing: narrative, informative and persuasive. In the 2002 NEAP 139, 200 students in fourth grade were tested (Persky, Daane, & Jin, 2003). Scores for fourth graders increased from 1998 to 2002 for all racial/ethnic groups. Increases in scores from 1998-2002 for students at or above Proficient were statistically significant for students who were White, Black, Hispanic, and Asian/Pacific Islanders; this is important because this continues to represent a small percentage of each racial/ethnic population. The majority of students continue to score at or above Basic where score increases were only statistically significant for White and Black students. In 2002, lower percentages of Black and Hispanic than Asian/Pacific Islander or White students performed at or above Basic and at or above Proficient. When scores were examined for urban schools 83% of students scored Above Basic, while only 23% scored above Proficient. When the test was administered again in 2007 and 2011 only grades 8 and 12 were tested.
While there are relatively few studies of elementary writing (Cutler & Graham, 2008; Gilbert & Graham, 2010), studies of teaching writing in middle school and high school are more common (Applebee & Langer, 2011; Applebee & Langer, 2009; Kiuhara, Graham & Hawken, 2009) and again they reflect the need for teachers to be better educated in the teaching of writing. In the National Study of Writing Instruction (NSWI), a study of 20 middle schools and high schools “selected for local reputations for excellence in the teaching of writing”, it was found that on average the explicit teaching of writing strategies occupied a little more than three minutes of a 50-minute English class period (Applebee & Langer, 2011, p. 21).

In terms of student writing, results of both the NSWI (Applebee & Langer, 2011) and a report on the NAEP (Applebee & Langer, 2009) showed that students in middle schools and high schools are being asked to write, but not very much and not very often. Teachers do report teaching writing across the curriculum especially through process writing, but what teachers mean by process writing is not defined. It was found that 80% of students’ writing was comprised of filling in blanks, writing short answers and copying teacher’s notes with few extended writing assignments of a paragraph or more. For example in a nine-week grading period, students were asked to write an average of 5.5 assignments of a page or less in English class and 3.5 assignments of a page or less in science; an average of 2.6 assignments of one to two pages for English and 1.5 for science; and an average of 1.1 assignments of three-plus pages for English and 0.5 for science (Applebee & Langer, 2011, p. 15). The statistics for writing in math and social studies are similar to those for science. While this demonstrates that students are in fact writing in the content areas, these kinds of writing are having a minimal impact on
allowing students “to use composing as a way to think through issues, to show depth or breadth of their knowledge or to go beyond what they know in making connections and raising new issues” (Applebee & Langer, 2011, p. 16).

The lack of attention to writing is especially important when one considers learning in the content areas. Research shows that writing is not a focus for curriculum, especially in subjects such as science (Applebee & Langer, 2006) even though students are developmentally ready to begin learning to write in genres associated with the content areas in early elementary school (Christie & Derewianka, 2008) and they begin understanding and using the more abstract forms of language needed at age 9 or 10 (Christie, 2010). There are many possible reasons for this lack of attention to writing, the first of which is that “the structure of teacher education virtually guarantees isolation between literacy and science preparation” and teachers at the elementary level are not prepared to teach either science or literacy in science (Pearson, Moje, & Greenleaf, 2010, p. 462). Another reason is that, in some situations, there are foundational problems which need to be addressed before the teaching of writing can occur such as the “limited number of hours spent on science instruction, teachers preferring not to teach science, and the use of primarily didactic approaches” (Brand & Moore, 2011, p. 908). In other situations, writing is taught in science, but it is limited in the range of scientific ideas it enables children to construct (Honig, 2010), or writing is assigned but not taught explicitly. Few studies of writing in science incorporate how to use language in writing and yet, “content and disciplinary knowledge are constituted and presented through language” (Schleppegrell, 2004, p. 2). Writing is an important part of engaging in the discourses of science and learning to be a member of the scientific community and, in
order to be effective, writing must be taught with particular attention to language (Fang, Lamme, & Pringle, 2010; Christie & Derewianka, 2008; Schleppegrell, 2004). The NCW (2003) recommends that “[a]ll prospective teachers, no matter their discipline, should be provided with courses in how to teach writing” and that “successful completion of a course in writing theory and practice [be] a condition of teacher licensing” (p. 3).

While previous research in writing has emphasized the need to look at genres of writing, the research has not always been specific enough. When research is vague about the theory of writing it is difficult to analyze student writing in depth and to learn about children’s development in writing (Christie, 2010). In some research the variety of genres are minimal and often limited to narratives and personal recounts, the teaching is generalized and leaves much for the students to “discover” on their own, the definition of writing includes little or no attention to language and its functions, and rubrics are vague or nonexistent. When writing instruction does not address language in a clear manner, teachers and students alike learn little about how to improve writing (Schleppegrell, 2004; Hyland, 2007). Writers must learn to write for a variety of purposes beyond simply recounting personal experiences in order to write successfully across content areas in school and for real world experiences outside of school (Donovan & Smolkin, 2006).

Essentially, students need to be taught to think critically and be problem solvers in a wide variety of contexts, and then be able to use writing to convey those ideas.

Teachers and students, including bilingual learners need a richer, more complex understanding of writing. They need to be aware that writing is about making choices to make meaning: choices relating to their purpose, to the language they will use to share their ideas, and to the audience they will share it with. When both language and writing
are emphasized, student learning can improve (Gebhard, Harmon & Seger, 2007). One means of providing teachers and students with a deeper understanding of how language can be used to create meaningful writing is Systemic Functional Linguistics (SFL) theory (Halliday & Matthiessen, 2004). SFL is a theory of language which emphasizes the choices available to us as we use language to communicate. When SFL theory is paired with an understanding of the genres of writing and the teaching and learning cycle (TLC) (Rothery, 1996), a powerful tool emerges to teach people how to use both language and purpose to create meaningful texts. This is especially empowering for teachers and students, as it makes the demands of writing transparent from the level of the structure of texts to the level of the linguistic choices needed to make meaning.

In fourth grade, students are 9 to 10 years old and they will begin to face increased demands of learning in the content areas. This means that they will need to learn more complex academic language. At this age children are beginning “to pass from late childhood to early adolescence, and… the transition to successful control of the written language is effected” (Christie, 2010, p. 2). In this phase, children expand their range of linguistic resources which enables them to construct a greater range of meanings. They begin to use more complex language, such as more elaborate noun groups including various types of adjectives, more varied verb groups and tenses, and a wider variety of language to create coherent texts. As they learn new and expanded functions of language, they are gradually able to express more abstract concepts in writing (Christie, 2010). Writing can help students develop ideas and increase retention especially in the content areas (Fang Lamme & Pringle, 2010). For bilingual learners, this phase of development can be even more challenging as the level of academic
vocabulary increases dramatically, while bilingual learners may still be learning less technical, social vocabulary. Increased support is necessary for these learners to be successful and teachers can scaffold the learning experience of bilingual students and increase opportunities for learning by making explicit text structures, language choices and strategies for extracting information to make meaning (Gebhard, Harmon, & Seger, 2007). While SFL theory informs the national curriculum in Australia, it is still developing in North America and much educational research is needed.

With the increasing diversity in classrooms today, teachers and students cannot wait for change; it is already happening in their daily lives. Teacher education in the United States needs to undergo a complete reconceptualization in order to meet the needs of teachers and their students (Gebhard, Demers & Castillo-Rosenthal, 2008). It is also essential that teachers implement pedagogies for teaching writing that match their epistemologies and that they can embrace, while also enhancing the learning of our culturally and linguistically diverse students. These students need to be taught how language functions in academic contexts to make meaning so that they can make it their own and become empowered through language. “Genre pedagogies promise very real benefits for learners as they pull together language, content and contexts, while offering teachers a means of presenting students with explicit systematic explanations of the ways writing works to communicate” (Hyland, 2007, p. 150).

**Purpose of the Study**

The purpose of the study is threefold. The first is to understand the collaboration between a fourth grade teacher and the researcher and whether it had an impact on
change. The second is to understand how the teacher’s practice changed over the course of one academic year with regards to teaching writing in language arts and science when writing instruction was informed by SFL theory and the TLC. The third is to understand how the writing of the teacher’s bilingual students developed during the year as a result. The strengths of the proposed dissertation research include analyzing both the teaching of writing and student writing across an entire school year, and the inclusion of multiple perspectives.

The current study seeks to answer the following questions:

- What's the nature of the interaction between a teacher and a university researcher when they engage in the implementation of a new approach to teaching writing informed by SFL and the TLC? What impact does it have on change in the teaching of writing?
- What happens to the teaching of writing in language arts and science in one 4th grade classroom over the course of a school year when SFL is introduced as a theory that informs writing instruction?
- What happens to the writing of bilingual students in this learning environment over time?

**Significance of the Study**

While there are studies which analyze science writing in elementary school using SFL theory (Honig, 2010; Tower, 2005; Wollman-Bonilla, 2000), there are few studies of teaching elementary students to write in multiple genres in language arts and science using SFL theory (Harris, 2011). Many students for whom English is a second language
and culture will not have intuitive knowledge of English writing, genres, and functional uses of language so those aspects of writing will need to be taught explicitly (Schleppegrell, 2004). “From an SFL perspective, the job of the teacher is to broaden students’ ability to use language more expertly across a variety of social and academic contexts to accomplish specific kinds of work” (Gebhard, Willett, Caicedo, & Piedra, 2011, p. 93). More research is needed on teachers learning to use SFL theory to teach language in the context of teaching the genres of elementary school. This study aims to contribute to a growing field of research on teaching writing and language in language arts and science and the impact on the writing of bilingual students.

Chapter 1 presents an overview of the need for change in the way teachers are prepared to teach writing and the way students are taught to write, focusing on bilingual learners. Chapter 2 introduces the theoretical framework for the current study and reviews the literature on writing in regards to teacher knowledge, children’s writing, teaching writing and language in science, and educational change focusing on teacher change. Chapter 3 explains the methodology used for this qualitative study, including the context for the study and the gathering and analysis of the data. Chapter 4 includes seven vignettes highlighting key points in the evolution of the relationship between the teacher and the researcher, and the teacher’s practice in language arts and science. In response to the first and second questions, the analysis focuses on the teacher-researcher relationship throughout the school year, and whether and how the teacher’s practice changed when SFL theory and the TLC were introduced. In Chapter 5, in response to the third question, the analysis focuses on the students’ writing in language arts and science across the
school year using SFL informed rubrics. Chapter 6 discusses the findings of the study and implications for future research.
Chapter 2: Review of the Literature

This study was guided by a theory of language and a pedagogical approach for teaching writing informed by the theory. I begin this chapter with an explanation of systemic functional linguistics (SFL), the theory of language which provides the theoretical framework for the study. I then discuss the Teaching and Learning cycle, a teaching strategy commonly used to teach writing informed by SFL theory, as it was influential in the approach taken to teaching writing in this study. In the review of the literature I examine issues of teacher knowledge and writing, children and writing, teaching writing and language in science, and educational change focusing on teacher change.

Theoretical Framework

Systemic functional linguistics theory (SFL) is based on the concept that “[a] language is a system of meaning – a semiotic system” (Halliday, 2007, p. 2). In such a system, language plays “an instrumental role in construing the social contexts in which we live…[while] language is, at the same time, construed by social context” (Martin, 1992, p. 141). This interaction between language and context highlights the social nature of language and language development. We do not use language merely as individuals but as individuals interacting in and learning through social contexts (Halliday, 1978).

 “[T]he power of language resides in its organization as a huge network of interrelated choices [which] can be represented in the form of system networks (from which “systemic theory” gets its name)” (Halliday, 2007, p. 8). System networks are models of the “meaning potential” of the language (Halliday, 2007) and represent “a
network of grammatical and lexical choices which can be seen as a ‘tool-box’ or resource for making meaning” (Droga & Humphrey, 2003, p. 1, emphasis original). In order to make meaning we need to make language choices from the meaning potential of the system networks. The networks available to us vary by cultural and situational context. Contexts include many different system networks, also known as registers, which offer a variety of meaning potentials. In schools for example, language choices can involve distinguishing between the need for everyday or academic language, and among the specific types of language used for different disciplines. Within registers, language can be used to explain our experiences of the world, relate ideas to others, and to organize our ideas orally or in writing. In theory these are viewed as three metafunctions of language: ideational, interpersonal, and textual through which language is functional (Butt, Fahey, Feez, Spinks, & Yallop, 2000), but SFL is not meant to be simply theoretical. Functional language “enables us to get things done… and to achieve different goals or social purposes” (Droga & Humphrey, 2003, p. 1). In practice, people make language choices in specific contexts in order to simultaneously discuss a particular topic (field), interact with someone (tenor), and create a coherent message orally or in writing (mode) thus realizing the register (Butt et al., 2000; Martin, 2009). These choices can be understood at the level of the individual clause or through the text as a whole (Halliday & Matthiessen, 2004). While a traditional view of grammar focuses on rules for ‘correct’ language use, a functional view of language focuses on how language is used to create meaning (Butt et al., 2000; Droga & Humphrey, 2003). Writers must consider carefully the language choices they make in order to effectively convey their purpose to readers (Hyland, 2003).
At the clausal level, the field or topic of a text is realized through language choices centered on processes (verb groups), and also including participants (noun groups) and circumstances (adverbials) (Droga & Humphrey, 2003). Processes tell what is happening and because of this they are the focal point around which we build our understanding of experiences (Thompson, 2004). They include action (connected, holds), saying (exclaimed, announced), sensing (think, know), and relating (have, become), and writers must choose both the appropriate type of process and the correct tense (Droga & Humphrey, 2003). Noun groups enact the process through nouns/pronouns or participants, and adjectivals. Participants include people (my friend, the girl, Gabriela), places (the park, Arundel Elementary School), and things (the story, a fish, planets). Adjectivals include determiners (an, that, my), classifiers (Canadian, living), and adjectives of quantity (three, many), opinion (amazing, terrible) or fact (purple, rectangular). They help answer the questions which (one), whose, how many, how much, what type, and who or what, and help provide details such as qualities and degree (Derewianka, 1998). Adjectivals can also be adjectival phrases (or prepositional phrases), which consist of a preposition and a noun group (the plants with green leaves) and adjectival clauses, which include a verb (planted the seed which sprouted quickly). Participants must be introduced clearly, tracked in a text, and developed through adjectivals. Circumstances include adverbs, adverbial phrases and adverbial clauses which help in providing specific information such as time (on Friday), place (in the classroom), manner (very slowly), extent (for a week), and cause (because it was late).

In relation to tenor, or the interaction between the creator of the text and the audience, language choices are used “to negotiate relationships and to express opinions
and attitudes” (Droga & Humphrey, 2003, p. 53). Clause structures are used to interact in a variety of ways, such as making a statement, asking a question, giving a command, or making an exclamation and these can be made more or less personal by the use of pronouns and names. The tenor of interactions also depends on the position taken by the writer through the use of modals, which can show low, medium or high levels of certainty. Interactions can constitute “positive and negative evaluations of people and phenomena [or can grade] and intensify their evaluations” (Droga & Humphrey, 2003, p. 64). Understanding the interpersonal functions of texts can aid students in becoming more critical readers and more selective writers who understand how the linguistic resources of tenor are used to persuade readers (Droga & Humphrey, 2003; Martin, 2009).

Language choices relating to mode help to make texts cohesive for readers by signaling how a text is organized and what the writer will discuss next (Droga & Humphrey, 2003). This organization occurs at both the level of the clause and the level of the text as a whole. It is supported by text and paragraph previews through the use of hyper themes and text connectives, at the clause level through use of theme and rheme, and the text level through reference ties, lexical ties, and ellipsis and substitution.

**Genre and Writing**

In relation to SFL “genres are defined as a recurrent configuration of meanings and … these recurrent configurations of meaning enact the social practices of a given culture” (Martin & Rose, 2008, p. 6). Genres are further defined as staged, goal-oriented social processes. Staged because it usually takes us more than one step to reach our goals; goal oriented because we feel frustrated if we
don’t accomplish the final steps … ; social because writers shape their texts for readers of particular kinds. (Martin & Rose, 2008, p. 6)

These definitions are rooted in the notion of genre as the purpose for writing that determines the structure and linguistic elements appropriate to the context. The stages of any given genre build meaning until the genre achieves its purpose. Although genre is a flexible and evolving concept, understanding the basic structure and linguistic elements of the different genres is a prerequisite for teachers to provide high quality writing instruction and for students to learn to write effectively (Schleppegrell, 2004).

Genres valued in English cultures include purposes such as retelling an event, reporting factual information, giving instructions, persuading someone to action, and explaining a phenomenon. In schools, the most common genres used in language arts are fictional narrative, personal recount, and some response genres (Christie & Derewianka, 2008). Some schools also include expository genres in language arts (Gebhard, Harmon, & Seger, 2007). In science the most common genres are “procedure, procedural recount, report, and explanation” (Martin, 1992, p. 148). Knowledge of these genres is not implicit and the language and structure of each genre must be taught.

**Teaching and Learning Cycle**

Learning to write is a process which can be scaffolded and made explicit using SFL and genre theory. One way of accomplishing this is through the four phases of the cycle of teaching and learning: negotiating field, deconstruction, joint construction and independent construction (Rothery, 1996). Negotiating the field involves both teacher and students in focusing on background knowledge of a topic in order to build more knowledge and language around that topic. Building knowledge and language are a
crucial aspect of preparing students to write about a topic because “[w]e cannot know the field unless we know the language of the field” (Rothery, 1996, p. 103). Students’ knowledge of field usually begins as general topic knowledge which becomes more focused over time as students begin to recognize what is most relevant to their topic. Negotiating the field is ongoing throughout the cycle.

During deconstruction the teacher shows students how to analyze high-quality mentor texts to help them understand the structure of a particular genre, the linguistic structures relevant to a genre, and to gather information on the topic. Through analysis the teacher scaffolds student learning of the metalanguage needed for deconstruction, such as language relating to the stages of a genre such as procedure (goals, materials, method) and the language (noun groups, action verbs). Before engaging in joint construction, “students need to be taught research strategies such as locating sources of information, notemaking and summarising” (Rothery, 1996, pp. 104). Understanding the processes used by professional authors to create high quality texts is the foundation for students to participate in joint construction of text.

During joint construction the teacher creates a text collaboratively with students either as a class or in small groups, guiding them to participate in and understand the process of creating meaningful texts. Both the teacher and students suggest ideas and they engage in a discussion of how to incorporate the ideas into a coherent text. The teacher uses students’ language and rephrases their contributions as needed in order to teach them the “language of the written mode” (Rothery, 1996, pp. 105). During independent construction, students create texts independently, with the knowledge that
they may consult with their peers and their teacher in order to make effective revisions and edits to their texts.

When writing instruction informed by SFL as a theory of language and meaning making is paired with genre theory exciting possibilities for teaching and learning emerge. “[A]n understanding of the ways language is used to create meanings in writing empowers teachers by offering them ways to analyse texts, to reflect on the workings of language, and to provide more robust and targeted support for learners” (Hyland, 2007, p. 162). Teaching teachers to analyze and understand how language functions to create meaning is a crucial part of enabling them to provide explicit instruction in the functions of language, which is essential for bilingual students learning how to write. Genre pedagogy further assists learners as they “pull together language, content, and contexts, while offering teachers a means of presenting students with explicit and systematic explanations of the ways writing works to communicate” (Hyland, 2007, p. 150). When teachers understand the functions of language, the purposes for writing, and how context influences the choices we make to create meaning, they are better prepared to teach writing to all students.

This conception of teaching writing is especially relevant for bilingual students learning to write in English because rhetorical traditions differ from culture to culture (Hinkel, 2002). While critics of SFL theory have argued that the theory is too prescriptive, researchers counter that it is based on analyses of genres already being used in schools, and how to make them more explicit for teachers and students (Thwaite, 2006). Others have argued that authentic literacy practices cannot be learned in the contrived setting of the classroom, but research has shown that bilingual students benefit
from explicit instruction in the norms of writing in English because it helps clarify aspects of culture and language that are essential to learning and that might otherwise remain hidden (Schleppegrell, 2004). It also helps students avoid the long and somewhat dubious process of discovering the functions of language on one’s own. When the teaching of writing includes attention to the context, teachers can make explicit the norms of writing in English in terms of both structure of the genre and the language resources thus enabling students to learn to control these resources to create meaningful texts (Brisk & Zisselsberger, 2011; Hyland, 2003). It is possible to do this in an additive manner, maintaining respect for the value of the first language, by having an understanding of language and language development and using strategies to teach language that enable students to use the resources of both languages (Brisk, 2007; Edelsky, 1982; Fillmore & Snow, 2000). It is also possible that this knowledge could help bilingual students move beyond simply accepting the ways of the dominant culture to questioning and critiquing them. SFL theory can help teachers make the expectations of language and writing instruction explicit thereby empowering students to “exploit the expressive potential of society’s discourse structures instead of merely being manipulated by them” (Hyland, 2007, p. 150).

Review of the Literature

Teacher Knowledge and Writing

Teacher knowledge is a crucial part of teaching writing, although many teacher education programs fall short in preparing teachers to be knowledgeable about writing theory and how to teach writing (Gebhard et al., 2008; Hyland, 2007). In order for
teachers to provide clear, explicit instruction in genres and academic language they need to have in-depth knowledge of these concepts themselves (Aguirre-Muñoz, Park, Amabisca, & Boscardin, 2008; Donovan & Smolkin, 2006; Gebhard et al., 2008; Hyland, 2007). This is especially important in today’s classrooms where students are increasingly diverse but teachers are unaware of how to teach children from varying linguistic backgrounds (Fillmore & Snow, 2000). Better training for teachers through teacher education programs and professional development is essential (Aguirre-Muñoz et al., 2008; Gebhard et al., 2008).

An emphasis on language is crucial for culturally and linguistically diverse students, but many teachers still believe that simply providing high-quality education is enough. This misconception is held by teachers who are unaware of the assumptions they are making about important aspects of culture and language in schools that are inaccessible to bilingual students learning a new language and culture. These features include knowledge of genres, which is culturally-specific, and an understanding of “the ways language is used in specific contexts” (Hyland, 2007, p. 150). While knowledge of these features is usually shared among native speakers, they need to be explicitly taught to bilingual students so that they can learn to “manipulate language to create meaning” (Brisk & Zisselsberger, 2011, p.112). Teachers who have more knowledge of the English language, of bilingual students and the resources they possess that can impact literacy, and the practices that help students become better writers are better prepared to teach them (Gebhard et al., 2008).

Teachers need to be taught how to teach writing and language effectively. Professional development for teachers in using academic language can enable them to use
it to plan lessons and provide feedback specific to improving meaning in student writing (Aguirre-Muñoz et al., 2008). When teachers learn to analyze student texts, they themselves become more knowledgeable about how to create texts focused on meaning and how to guide students in creating them (Hyland, 2007). This knowledge also develops teachers’ understanding of both students’ accomplishments and needs in writing. Teachers who understand how texts are created are also better prepared to teach genre structures and specific, related language features (Hyland, 2007; Gebhard et al., 2008). Although even knowledgeable teachers sometimes focus more on teaching the structure of genres, teaching the structures alone is not enough (Thwaite, 2006).

Teaching beyond the broader category of genres to specifically address issues relating to linguistics and lexicogrammar is essential (Fang, 2002; Fillmore & Snow, 2000; Gebhard et al., 2008; Hyland, 2007; Purcell-Gates, Duke and Martineau, 2007). For example, the teaching of tenor may be most successful when embedded in modeling and collaborative writing of texts (Wollman-Bonilla, 2000) or when taught in terms of use of person and rhetorical voice (Chambliss, Christensen & Parker, 2003). However, even after specific professional development teachers do not always feel prepared to teach writing and they may request more support when they implement writing practices in the classroom (Aguirre-Muñoz et al., 2008).

The teaching and learning of genres and language is a complex process. In some cases, teachers teach a concept, model it, children practice it and then learn it, but teachers must also be aware that their instruction can have unexpected outcomes (Honig, 2010). For example, overemphasis on facts in teaching can lead students to believe that teachers value facts (the more the better) and neglect the idea of writing being unique and
a way of building understanding (Honig, 2010). One possible reason for this is that research shows discrepancies between teachers’ epistemologies relating to teaching and the instruction they are implementing, even when they believe that the two are the same (Thwaite, 2006). Teachers may espouse the belief that they teach genres and language through a functional approach, but really teach through a more traditional product-focused approach without addressing language. On the other hand, it is also the case that when learning seems to happen implicitly and without the conscious awareness of students, it is often the result of carefully orchestrated and deliberate planning on the part of the teacher. Students immersed in literacy-rich environments do learn about genre implicitly and independently to some extent, but teachers also have an important role in providing models and structuring the context so that it lends itself to independent learning about writing and collaboration between students (Chapman, 1994).

At the most fundamental level, teachers need knowledge of their audience. In order for teachers to be effective at teaching writing they must also understand the potential and the limits of what children can do. Teachers rarely err on the side of oversimplifying writing instruction. Instead, it is common in many schools for teachers to assume that children know how to write and to focus on teaching content at the expense of writing instruction.

**Children and Writing**

Children need to be exposed to a variety of genres from an early age on throughout the years of schooling in order to participate fully in school and to be prepared for life beyond school (Fillmore & Snow, 2000; Schleppegrell, 2004). This
means that teaching must go beyond narratives and personal recounts. Students read more narratives, write more narratives, have more instruction in narratives, and know more about narratives than other genres, however, it is possible to teach other genres as early as kindergarten and first grade (Kamberelis, 1999). Although there is a considerable lack of informational text displayed in classrooms, in classroom libraries and in writing activities (Duke, 2000), children are able to write reports, procedures, procedural recounts and explanations with explicit teaching, modeling and joint construction of texts (Wollman-Bonilla, 2000, p. 35). Children begin to acquire knowledge of different written genres prior to schooling and use them meaningfully in their early drawing and writing. Expository writing occurs in the form of lists and labels and it is possible to teach children more about expository genres by building on these natural forms of writing (Newkirk, 1987). Building on what children know may enable them to begin learning the expository genres earlier, which may ensure older students a smoother transition to more complex forms of expository writing which are usually viewed as difficult (Newkirk, 1987).

The transition from genres which focus on personal experience and narratives to genres which focus on providing factual information to analytical genres parallels children’s development in language. Children come to school with everyday language and in school they will learn specialized academic language and critical language relating to the demands of school (Droga & Humphrey, 2003). They will use everyday language in writing in personal genres, specialized language for writing in factual genres and critical language for writing involving analysis. For some children, their everyday language may be in a language other than English and they will be somewhere in the
process of learning everyday language in English, from beginner to fluent. Those who have not reached fluency or near fluency will have the task of learning everyday language in addition to specialised and critical language and literacy skills, which will happen to some extent simultaneously as they learn content (Brisk, 2007). Bilingual children do not need to become fluent in everyday language before learning specialized and critical language, and they can begin developing literacy skills while they are still developing early oral and listening skills.

Children’s writing development has been divided into four phases: the first from 6 to 8 years, the second from 9 to 13 or 14 years, the third from 14 to 15/16 years and the fourth from 16 to 17/18 years and on to adulthood (Christie, 2010). Although these can differ by individual, they provide a more complete description of the stages through which children must pass and the linguistic elements they must learn to control if they are to become mature writers by the end of secondary schooling. The first phase is important in that it introduces children to the basics of reading, writing and simple grammar in school. The second phase (from 9-13 or 14 years) is more critical however in that it encompasses many changes. Children become adolescents during this phase and this growth parallels changes in their writing development. They begin the phase with basic literacy skills and then progress to acquiring a more complete and complex understanding of grammar, which leads to changes in their writing and also in cognition. For example, children begin to have more capacity “for critical reflection on experience, for generalization and for abstract argument…which are among the most important capacities that adolescence requires and control of writing has an important function in
expression of all of these” (Christie, 2010, p. 2). Within this phase, children move beyond primary school and into secondary, and

the demands on children’s written language expand quite rapidly with the developmental changes of adolescence. Children must learn to deal with experience, information, ideas and knowledge in new ways, leading to ability to handle abstraction, judgment, generalization and argument – all of them characteristics of mature writing of a kind valued for school learning and in adult life. (Christie, 2010)

Children learn to use dependent clauses, especially for reason, condition, purpose and sometimes judgment, and non-finite clauses begin to appear. These increases in the complexity of language can be additionally challenging for bilingual students. Children’s repertoires of linguistic resources are significantly increased during this phase and continue to expand and consolidate in the third and fourth phases. Children are better able to create meaning across a broader range of domains, while also learning to be more precise by using judgments and expressing opinions.

Part of the change from childhood to adolescence in school is learning to move from ‘commonsense’ knowledge to ‘uncommonsense’ or specialized knowledge which involves a shift from ‘congruent’ grammar to ‘non-congruent’ grammar (Christie, 2010). The shift from ‘congruent’ grammar to ‘non-congruent’ grammar involves increasing use of grammatical metaphor, such as nominalization, using a verb to qualify a noun, which may begin as early as 9 years, but is quite rare until adolescence is well underway. Grammatical metaphor is necessary for moving from ‘commonsense’ to ‘uncommonsense’ knowledge in order for writers to “construct abstract phenomena, and
/or entities” (Christie, 2010, p.8). For example, it enables writers to move beyond simple conjunctions to show connections in through verbs like ‘causes’. Abstract language helps students move to conveying ‘uncommonsense” knowledge by taking “the writer (and the reader) away from immediate reporting of [an] event towards more abstract understandings and observations” which allows them to interpret the meaning behind the event (Christie, 2010, p. 9). Bilingual learners may require additional scaffolds to understand the content and language of lessons involving such specialized knowledge and grammar. The ability to understand more to specialized knowledge, to use abstract and generalized language, and to show causal relations are all crucial in learning to write not only in language arts but across the content areas.

Teaching Writing and Language in Science

Learning the language of science is an essential part of learning the academic language needed for success in school. The language of science can initially be learned through colloquial language, then a hybrid of colloquial and scientific language and eventually students will be able to use scientific language fluently (Gibbons, 2003). Another way of making the language easier for students to grasp is to have them translate from the formal scientific language to colloquial and vice versa. This can be done orally or in writing and will serve not only to make students more fluent with the academic language of science but which will deepen their understanding of the content as well (Lemke, 1990). As with the learning of any language, fluency and deeper understanding occur after many exposures and years of practice. Gee (2008) states that, “to learn academic language, students must hear and practice academic language with adults and more experienced peers who know those language forms and are using them in rich
contexts – such as inquiry – in which their meaning and function are clear.” (p.67) All students need to have academic language modeled and scaffolded, they need to actually use the language in scientific inquiry, discussions, reading and writing, and they need to discuss how language functions in science (Gee, 2008). Developing this knowledge of language takes time and it is not uncommon for children to inadvertently be taught that science is hard. This has been an undercurrent in science classrooms for generations of science teaching and continues today.

However, Lemke (1990) holds that this need not be the case. He explains that science is one way of seeing and talking about the world, and he believes that teaching the language of science can give all students access to scientific content. The language of science has its own vocabulary, grammar and style, however, teachers can begin to demystify it by explicitly teaching the features governing formal scientific language. Students need to be taught academic language and how language is used in the content areas (Schleppegrell, 2006). Halliday (1993) states, that “language is the essential condition of learning science, the process by which experience becomes knowledge” (p. 94).

Students need to learn this process of how language is used to construct knowledge in specific content areas in order to be able to understand the language of science. They need to gain knowledge through experience, and then use academic language orally and in writing to share that knowledge. The learning of academic language is complicated by the fact that it is not only different due to a different register, but because the language “used in schooling has developed resources for condensing information, presenting an authoritative stance, and organizing texts to achieve the goals
of schooling” (Schleppegrell, 2006, p. 50). This contributes to the language of schooling being more dense, abstract, technical, and multisemiotic with specific expectations for text structure and voice (Schleppegrell, 2006). The nature of academic language then, makes it essential for content area teachers to also be teachers of language and literacy (Fang 2004; Lemke, 1990) even beyond elementary school. When students are able to understand the language demands of a subject area, they are better equipped to participate, learn and build knowledge (Fang, 2004; Schleppegrell, 2006).

In addition to being able to understand the academic language of science, students must be able to use it to demonstrate learning through writing. The genres of science writing, which entail much cultural capital to those who can write them well, are not often seen outside of the science classroom and may be difficult to learn implicitly (Wollman-Bonilla, 2000). Therefore it is necessary to introduce the genres of science writing explicitly to students and to jointly construct them in order for them to be learned. When composing texts in the genres of science is supported by teacher-student collaborative writing of models and then independent writing practice, “emergent and beginning writers can learn the basic components of science genres” (Wollman-Bonilla, 2000, p.58).

Authentic literacy practices do have a significant effect on students’ writing development in science. Scientific explanation, for example, must be taught in an authentic manner so that it does not become formulaic and devoid of meaning (McNeill & Krajcik, 2008). Explaining the rationale behind writing scientific explanations is an important factor in increasing student learning, however just explaining the features of the genre produces variable results. When teachers give both a rationale and explanation
of the features, students are more successful at writing explanations than when they learn the features without the rationale. Authentic literacy practices have a significant effect on students’ writing development for informational and procedural texts but the explicit teaching of the linguistic features of the genres alone does not necessarily contribute to increasing students’ writing abilities (Purcell-Gates et al., 2007).

For bilingual students, learning science and increasing literacy skills are interrelated processes in which literacy skills help students learn science and demonstrate their understanding, and science provides a more authentic context for increasing literacy skills. However, this is not as simple as it sounds. “First, elementary teachers require extensive support to effectively teach science while also supporting English-language development of ELL students in urban schools” (Lee, Mahotiere, Salinas, Penfield, Maerten-Rivera, 2009, p. 165-166). In addition to needing support, teaching hands-on science instruction which is especially effective with bilingual students, also requires materials which are simply unavailable in many urban elementary schools (Lee et al., 2009). Another potential difficulty is the amount of time dedicated to teaching science, which in some schools is lacking either due to increased emphasis on basic literacy skills and or due to a lack of resources and overreliance on textbooks. While writing in science seems to be important at the classroom level, in order to be truly effective and increase student learning across grade levels, the change needs to be school-wide. While interventions targeted at increasing the literacy skills of bilingual students in science have been effective, gains in writing improvement are still small and more research is needed (Lee et al., 2009).
Interventions have addressed literacy strategies in relation to science, such as teaching students to activate their background knowledge, increasing students’ comprehension of science texts and their understanding of the functions of language, and they have also examined how these impact students’ ability to participate in science, write in different genres, use graphic organizers to support understanding, demonstrate understanding in multiple ways, read trade books and respond to writing prompts (Lee et al., 2009). Teachers have learned to modify instruction to make instruction comprehensible to bilingual students by teaching related vocabulary, using multiple exposures to content, modifying the pace of activities, and making explicit ways of learning that may be culturally specific. Research has also emphasized using students’ first language (L1) when possible through cognates, encouraging them to use their first language, having bilingual students with the same L1 help each other, and making connections between school experiences and students’ cultural experiences outside of school to increase understanding (Lee et al., 2009).

While these interventions emphasize teaching bilingual learners to learn the language of science and to build comprehension, they do not teach students to compose texts. Students need explicit instruction in understanding the different purposes for composing texts and the actual process of composing. Texts which help explain scientific concepts can provide factual information (reports), give instructions (procedure), retell the events of a process (procedural recount), provide an explanation for a phenomenon (explanation) or argue for or against a perspective (exposition) (Christie & Derewianka, 2008; Martin & Rose, 2008). In order to be literate in science students cannot simply use the event-oriented or storytelling genres of personal recount and narratives. Instead they
must learn “a technical language and a set of written text types or genres which encode scientific principles and procedures” (Christie & Derewianka, 2008, p. 149). Bilingual students “learning both the language and the cultural demands of writing in school” need to understand “why genres are structured as they are and the role language plays for particular discourse patterns required of academic writing in school settings” (Brisk & Zisselsberger, 2011, p. 114). Teaching the genres of writing, including the genres of science and the language necessary to convey scientific concepts requires major changes in the way writing is taught in schools.

**Educational Change**

**An overview of change.** Change is normal; as the world changes so does teaching. While change is a necessary part of the evolution of education, it does not occur in isolation, but in waves in response to politics, economic factors, and social issues (Hargreaves & Shirley, 2009). However, “good intentions and the power to legislate” are not enough to effect educational change, although it sometimes seems to be what most people rely on (Fullan, 1991, p. 112). Educational change itself has undergone changes: in the 1960s and 1970s it was at the grassroots level, in the 1980s it became more controlled and systematic, in the 1990s it became standards-based (Hargreaves & Shirley, 2009). The trend of standards-based reforms which took hold in the United States in the 1990s has evolved into an environment of standards and high-stakes testing. Hargreaves & Shirley (2009) advocate for education continuing to move forward from environments dominated by standards and high-stakes testing to environments of collaboration among policy-makers, administrators, teachers and students, re-professionalizing teaching
through collaborations, building communities around and within schools, and financial support from governments and private corporations.

Education in the United States is still following standards-based reforms even knowing they don’t work (Hargreaves & Shirley, 2009). It is important that we learn from earlier attempts at change and continue trying to find better ways of meeting the needs of students by attempting to find more equilibrium among educators, policy-makers, politicians and the public. “Innovations that have been succeeding have been doing so because they combine good ideas with good implementation decisions and support systems” (Fullan, 1991, p. 112). Change needs to be understood at a micro level and it is essential to consider both “what changes to implement (theories of education) and how to implement them (theories of change)” (Fullan, 2007, p. 40). What matters is whether change is actually implemented and whether it really changes what it set out to.

**Teachers and change.** Research shows that while teachers are interested in changes that include opportunities for teachers and administrators to update skills, more innovations, more professional development, and opportunities for collaboration and learning by observing other teachers, they are currently mired in a situation where they give a lot of time and energy in an environment of increasing demands, which in turn offers teachers little in terms of planning, collaborating with colleagues, thinking or engaging in discussions (Fullan, 1991; Hargreaves & Shirley, 2009; Sikes, 1992). In the past, teachers have invested a lot of personal time and energy in reforms only to be rewarded with a sense of failure and no tangible evidence of positive change, but “when the changes involve a sense of mastery, excitement, and accomplishment, the incentives for trying new practices are powerful” (Fullan, 1991, p. 129). Unfortunately, this
understanding comes “only after some experience with the change” (Fullan, 1991, p. 128).

When change is linked to a perceived need there is a greater chance of successful implementation because change is grounded in context and dependent on the people involved (Fullan, 2007). It should be understood that each person will experience an innovation differently depending on their personal lives, teaching experience, and how the innovation matches their aims and purposes (Sikes, 1992). While innovations in schools and teacher change can come from teachers themselves, large-scale changes usually stem from outside change initiatives such as federal or state governments and policy-makers, or school districts. Even innovations from principals can be viewed as external by teachers if the teachers themselves haven’t been involved in planning the change. Innovations must make sense to the teachers who will implement them, not just to governments and policy-makers, university professors, or local committees of teachers (Fullan, 1991). The key is that “promoters of change need to be committed to and skilled in the change process as well as in the change itself” (Fullan, 2007, p. 108). When innovators understand the process, they tend to understand that each person has a different perspective and it is through that lens that they will understand and evaluate the innovation. When teachers assess whether they should engage in change, they tend to use the following four criteria:

1. Does the change potentially address a need? Will students be interested? Will they learn? Is there evidence that the change works, i.e., that it produces results?

2. How clear is the change in terms of what the teacher will have to do?
3. How will it affect the teacher personally in terms of time, energy, new skill, 
sense of excitement and competence, and interference with existing priorities?

4. How rewarding will the experience be in terms of interaction with peers or others?

(Fullan, 1991, p. 127-8)

Ideally, teachers could then make a rational decision about whether or not to participate. Unfortunately, teachers do not always have a voice in selecting innovations that are useful to them and they are not always given the choice to opt out of innovations that don’t meet their criteria for a perceived need or that are led by people who are only interested in their own vision for change. Two things must change: the first is that it is crucial that teachers have a say in identifying high priority needs and in selecting and implementing innovations, and the second is that society needs to view teachers as professionals who can and must participate in the decision making process. The professionalization of teachers is an essential element of successful change (Hargreaves & Shirley, 2009).

**Factors of change.** In addition to collegiality and collaboration among teachers involved in innovations, change also requires ways of engaging teachers in a deeper level of understanding of the necessary knowledge and skills (Fullan, 2007). Factors such as time, support, tensions and negotiation are integral to the process of developing deeper understanding and, when combined with purposeful action, they can facilitate the process of creating shared meaning among participants (Fullan, 2007).

**Time.** It is critical that people involved in change initiatives realize that it “is a process, not an event” (Fullan, 1991, p. 130) and teachers do not internalize a new idea or
innovation all at once. Change takes time and teachers must have long-term support in order for enduring and legitimate change to be the outcome (Aguirre-Munoz, 2008; Fullan, 1991, 2007; Gebhard 2008; Hart & Lee, 2003). In addition to support during innovations an infrastructure must be put in place so that support continues beyond the initial implementation if changes are to become institutionalized.

**Support.** Teachers tend to work in isolation even though they work within a school community. It is common for teachers to work in a school for years and not share ideas or resources with other teachers. However, in terms of teacher change “collegiality among teachers, as measured by the frequency of communication, mutual support, help, and so forth, was a strong indicator of implementation success” (Fullan, 2007, p. 138). In order for significant change to occur, teachers need to have one-to-one and group opportunities to receive and give help and more simply to *converse* about the meaning of change. Under these conditions teachers learn how to use an innovation as well as to judge its desirability on more information-based grounds; they are in a better position to know whether they should accept, modify, or reject the change. (Fullan, 2007, 139, emphasis in original)

When real change occurs, it is because teachers have undergone a change that goes beyond changing the materials they use in the classroom to changing their teaching style, their practices, and most importantly their beliefs “which can come about *only* through a process of personal development in a social context” (Fullan, 2007, p. 139, emphasis in original).
Innovations also require a combination of the support of the surrounding community such as the principal of a school, the directors, or the neighborhood, in addition to the development of relationships among those implementing the change, such as teachers. For example, while principals might not be directly involved in creating the change, they need to be active supporters of teachers implementing innovations. Principals can show their support by attending training sessions related to the innovation so that they understand the theory behind it and what teachers will need to implement it effectively. This knowledge will enable principals to create a school environment which provides teachers with both the psychological support and the resources needed for successful implementation (Fullan, 2007).

_Tension as disequilibrium._ Change is often accompanied by a sense of disequilibrium when people attempt to merge their own beliefs with new ideas (Nadler, 1993). “Disequilibrium refers to an individual’s awareness that the previous way of processing information no longer applies to [a]…new experience” (Nadler, 1993, p. 59). This awareness creates tension which is an essential part of change. When people identify the need for change or when changes are imposed, the people affected may embrace the change and attempt to understand what the potential changes are, whether they are appropriate, and how the proposed changes compare with what they are already doing. Tension and a sense of disequilibrium can also drive people to continue trying an innovation and to think more deeply about an innovation, even if it clashes with what they know and believe. However, disequilibrium and tension can also cause people to retreat into the comfort of what is known, safe and familiar thereby rejecting the change.

Change can be facilitated by placing people in a new environment, establishing
collaborative relationships, gradually introducing new skills and experiences in which to use them, acknowledging responsibility for successes, reflecting on the experiences and related emotions, and eventually the integration of the new knowledge and behaviors into their daily lives (Nadler, 1993). Ultimately people need to work through and move beyond tension to regain some equilibrium and really effect change, however, without disequilibrium there is no change (Nadler, 1993). “Commitment is needed [by teacher leaders or advocates of an innovation], but it must be balanced with the knowledge that people may be at different starting points, with different legitimate priorities, and that the change process may very well result in transformations or variations in the change” (Fullan, 1991, p. 139).

**Tension as resistance.** “Change is a highly personal experience – each and every one of the teachers who will be affected by change must have the opportunity to work through this experience in a way in which the rewards at least equal the cost” (Fullan, 1991, p. 127). One way in which innovations are often ill-conceived is that innovators don’t consider issues of resistance. It is essential that innovators consider why people resist and that they understand it more thoroughly as part of creating lasting change (Gitlin & Margonis, 1995). In some reforms, researchers push forward, “ignoring initial resistance, keeping demands high, and achieving engagement by bringing in outside consultants [to] help teachers gain mastery of the new innovation” (Gitlin & Margonis, 1995, p. 383). In others, researchers aim to develop collaborative cultures within schools with the view that “noncollaborative schools tend to be marred by cynicism and routinized practice, while collaborative schools [support] continuous change” through teachers working alongside principals to build knowledge and improving practices
school-wide (Gitlin & Margonis, 1995, p. 383). Neither of these views takes into account why teachers might have resisted in the first place.

Researchers need to be cognizant and prepared by “[b]eing aware of resistance, [i]dentifying sources and types of resistance, [d]eveloping and applying proactive strategies for managing resistance” (Janas, 1998, p. 2). Part of being aware of resistance is acknowledging that teachers who have experienced negative innovation experiences may recognize when innovations are not going to be helpful to them. This type of resistance can be constructive in that it emphasizes the need to change authority structures in schools and basic working conditions (Gitlin & Margonis, 1995). This resistance can actually serve to protect teachers from wasting time on innovations that won’t work, pretending to participate in changes, overload, and burnout. Although it can be a difficult process, researchers need to attempt to identify the source of resistance which can be related to concerns over personal issues such as time and workload, philosophical or ideological issues such as changes to teaching philosophy, authority structures, or decrease in autonomy (Gitlin & Margonis, 1995). Resistance can range from being aggressive where people completely refuse to participate, to passive where they seem enthusiastic and agree to change but they never actually participate (Janus, 1998). Lack of awareness regarding reasons for resistance can lead to dismissal of resistance as “[o]bstructionist acts [which are] expected and viewed as a ‘natural’ part of the school change process. Resistance represents a problem that must be dealt with, not a potentially insightful act” (Gitlin & Margonis, 1995, p. 389). While not all resistance is based in common sense, its origins are worth investigating as it can serve to radically reduce the effectiveness of reforms if not stopping them altogether (Fullan 2007).
**Negotiation.** Negotiation is an important aspect of action research and the nurturing of a collaborative relationship. Research has shown that in order “[f]or research to be truly collaborative, it needs to be a process of ongoing negotiation” (Cole & Knowles, 1993, p. 484). It is important to note that while negotiation can have negative connotations, the change literature emphasizes that it is a respectful process and that it is through the process of negotiation that researchers and teachers can arrive at *shared meaning* which enables them to work toward common goals (Fullan, 2007, p. 9). Including teachers in creating shared meaning through negotiation also enables teachers to move beyond being participants in the research to being collaborators who are involved at all stages of the research (Cole & Knowles, 1993, p. 488).

**Conclusion**

The teaching of writing is an important topic in education today because change is needed. Students need to be skilled writers to succeed in school and in their lives beyond school (Fillmore & Snow, 2000; Schleppegrell, 2004). In light of this, it is essential to see whether teacher-research collaborations help teachers change their practice when SFL is introduced to them as a framework for teaching writing and if change does occur, how collaboration influences their practice. An important issue for teachers implementing changes is measuring improvement (Fullan, 1991). Change can be measured in terms of the SFL theoretical framework and the TLC. In addition to analyzing the teaching, it is important to analyze the students’ writing for additional indications of change.

Bilingual students come to school with differing levels of language proficiency in English and they have varying degrees of awareness of culturally-based expectations for
English school contexts. These students “may need to focus on the ways that language contributes to meaning-making as they engage in new social and cultural practices in order to succeed in achieving advanced literacy” (Schleppegrell, 2004, p. 6). SFL is a theory of language which can offer teachers a more explicit way of teaching language while providing the content of writing instruction in the contexts of language arts and science and thereby helping students achieve advanced levels of literacy.
Chapter 3: Methodology

The current qualitative study was designed to examine whether and how teachers incorporate new theory into their teaching practices with respect to the teaching of writing. The decision to conduct this study as a modified action research project emerged from my goal of working in concert with teachers to assist and empower them to improve practices in teaching writing (Herr & Anderson, 2005). I conducted a study of the teaching practices of one fourth grade language arts and science teacher using a modified version of participatory action research (Lather, 1986; Lykes, 2001; Lykes & Crosby, 2012). The study included an intervention that introduced the teacher to teaching writing informed by SFL and the TLC.

I analyzed the data collected over the course of the school year to further my understanding of the changes that took place and what they might mean for the teacher and for the broader teaching and research communities. The analysis consisted of examining iterative cycles of teaching for the process of change in the teaching of writing. This resulted in a series of seven ethnographic vignettes that documented the process of change, leading to the creation of a model of change. Within my analysis, I examined the writing of eight bilingual focus students to see whether and how their writing developed over the course of the year in this particular classroom environment. Data were analyzed using both the SFL theoretical framework (Halliday & Matthiessen 2004; Martin, 1992) and change theory (Fullan, 2007, 1991) outlined in Chapter 2. It is important to note that while the teacher did not participate in the full analysis of the data and the writing of this dissertation, she did participate in the ongoing analysis throughout the year.
The current study seeks to answer the following questions:

1. What's the nature of the interaction between a teacher and a university researcher when they engage in the implementation of a new approach to teaching writing informed by SFL and the TLC? What impact does it have on change in the teaching of writing?

2. What happens to the teaching of writing in language arts and science in one 4th grade classroom over the course of a school year when SFL is introduced as a theory that informs writing instruction?

3. What happens to bilingual students’ writing in this learning environment over time?

**Overview of Action Research**

Action research in its simplest form is a call to action. While it may take many different forms depending on the perspective of those conducting the research, according to Reason & Bradbury (2001), it has five common features. The first is its purpose, which is the production of practical knowledge that people can use in their everyday lives. The second is increasing the well-being of people and their communities while seeking “a more equitable and sustainable relationship with the wider ecology of the planet” (p. 2). The third is “about creating new forms of understanding, since action without reflection and understanding is blind, just as theory without action is meaningless” (p. 2). The fourth feature is that “action research is participative research, and all participative research must be action research” and it “is only possible with, for and by persons and communities, ideally involving all stakeholders in both the questioning and sensemaking that informs the research, and in the action which is its
focus” (p. 2). The fifth feature is that the process and the outcomes of conducting inquiries are comparably significant and, as people learn and develop the skills necessary for inquiry, action research can lead them to internalize to new ways of creating knowledge.

The different forms action research takes are also important and they depend on the perspective of those conducting the research. Zeichner (2001) states that:

The dimensions along which action research in education have varied include the purposes and motivations of those who engage in the research, the conceptions of the action research process and the form and content of action research studies, the ways in which the findings of the research are represented by researchers to others, the relation of action research to externally produced research, the sponsorship and organizational location of the research, the structures in place to support the research, and the assumptions about knowledge and teacher learning that are reflected in particular research programmes. (p. 276)

Variation in researcher’s purpose and motivation include whether it is for personal knowledge and improvement, knowledge building in a broader context, or for the greater good of society. While the impetus for the current study did not come entirely from within the school community itself, it was not strictly imposed either. My goal in conducting any education research is to work with teachers and students in making positive changes to enhance learning. The research conducted during this study was a modified version of participatory action research in that it initially came from outside the community but the goal was to help teachers improve practice through collaboration and gaining teacher input regarding interests and needs (Lather, 1986). Variations in how a
researcher conceptualizes process include many options, such as whether the process stems from research questions and whether it follows the spiral of action research of “plan, act, observe and reflect” (Zeichner, 2001, p. 277). Although the particular research questions used in this study were my own, in following the spiral of action research the questions were modified according to changes in the innovation that occurred during the school year.

Action research may include people from within the context of the study, people from outside the context or both working together, but the goal is to take action to enact change. Action research can be used to engage participants in the process of conducting research to create meaningful and sustainable change that is relevant to their current environment (Stringer, 2007). According to Reason & Bradbury (2001),

[A]ction research is a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purpose, grounded in a participatory worldview which we believe is emerging at this historical moment. It seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people and more generally the flourishing of individual persons and their communities. (p. 1)

The current study attempts to implement this vision of action research to create a sustainable model for improving professional development and the teaching of writing in elementary schools. Although initially, the teacher and I didn’t know each other and neither of us knew how the other person worked, we eventually grew to a more equal insider/outsider relationship as she realized that we had the same goal of improving the
teaching of writing but different roles. This led us to collaborate more. The fact that the research was conducted over an entire school year was a crucial element in the design of the study that provided us time to negotiate the research relationship (Cole & Knowles, 1993) and enabled our collaborative relationship to develop. Collaboration is key in making sure that researchers “respect and support participants in a study, not further marginalize them” (Creswell & Miller, 2000, p. 128). The teacher I worked together throughout the school year to make decisions regarding the teaching of writing which influenced the content of the support I offered her and even the content of the PD offered as part of the larger study. The impact of these decisions also included modifications to the original plan for the study, such as adding the instruction of one genre that the teacher deemed necessary while excluding another that was not as relevant.

In educational contexts, involving teachers in research on improving practices is a crucial part of both understanding the problems they face daily in the classroom and using collaboration to find solutions that teachers can enact to increase student learning (Gebhard, Willett, Caicedo, Piedra, 2011). Involving teachers “enhances the probability for local interpretations and understandings to ‘travel up’” and become part of the body of knowledge of the research (Lykes & Crosby, 2012, p. 44). Collaborations among insiders to the community and outsiders often offer benefits in the form of varied expertise, feedback and support which the researcher(s) could not have on their own (Herr & Anderson, 2005) and they ensure the “building [of] the participant’s perspective into the study” (Creswell & Miller, 2000, p. 128). The perspective of those traditionally thought of as participants, is crucial in order for the action or change to occur because it is essential that the perceived need for the research be felt by insiders and not simply
imposed by outsiders (Lather, 1986). This is a critical factor in the current study since the study was initiated outside of the school.

Researchers must ask the question, “Who benefits from these actions?” to ensure that the research is not simply done to build knowledge in the field, but also to enact change and inform the practices of those within the immediate context. “[T]he goal of emancipatory research is to encourage self-reflection and deeper understanding on the part of the persons being researched at least as much as it is to generate empirically grounded theoretical knowledge” (Lather, 1986, p. 266). In keeping with the spiral of action research the teacher and I reflected on our work together and those reflections informed practice throughout the study. Knowledge building for outside contexts is also an important function of action research and the balance between “local knowledge” and “public knowledge” is another way in which action research is valuable (Herr & Anderson, 2005, p. 10). The data from the study will be shared at the level of this school through the teacher and the ongoing PD, and at a broader level through conference presentations and publications.

Action research is cyclical in nature in that it follows some form of a “plan, act, observe and reflect” spiral that is both iterative and reflexive to what goes on in the study (Zeichner, 2001, p. 277). As the research progresses, researchers analyze data that informs decisions impacting and often changing the research as it moves forward. This research process can contribute to increasing the self-awareness, knowledge and skills of both participants and researchers (Herr & Anderson, 2005; Lykes & Crosby, 2012). As they build knowledge together, this increased awareness can lead to praxis by alerting participants and researchers to the need to change the status quo, by helping them find
ways of doing so, and by making sustainable changes leading to greater social justice (Lather, 1986).

Both the teacher and I were frustrated with the status quo of teaching writing in elementary school, and the spiral of action research was a collaboration between us, where the teacher did have choices in what she implemented and how (Zeichner, 2001). She welcomed me into her classroom and was open to trying new theory and methods. As I engaged in the research alongside the teacher, we each learned about how change could be enacted in the context of the school. I brought knowledge of SFL and teaching writing to the project and she brought her own knowledge and expertise in teaching as well (Cole & Knowles, 1993; Herr & Anderson, 2005). I respected her knowledge, decisions and input throughout the school year and, while I made suggestions as someone who knew more about this particular theory, ultimately the decision of what to teach and how to teach was hers. She is an experienced teacher and is knowledgeable of the content to teach, but she was also interested in learning more about teaching writing. Whether she implemented SFL and how much was her decision. This represents “a more nuanced understanding of power” where it is not taken for granted that the researcher is in control and this balance is an essential element in collaboration (Stevens, 2004, p. 13).

Over the course of the year the teacher and I shared a sense of reciprocity in our work together. Reciprocity is an essential part of research in that it helps us avoid imposing our ideas on other people and it helps us to gather better data, but more importantly it is crucial to praxis and we should employ it to “consciously use our research to help participants understand and change their situations” (Lather, 1986, p. 263). We acted as “true collaborators in conducting the research [which demanded]
willingness to adapt and share decision making” (Dodson & Schmalzbauer, 2005, p. 954). While it was not always easy because we each maintained our own goals (the teacher’s goals of teaching her curriculum and mine in observing the use of SFL in teaching writing), our interest in mutual learning was essential to our collaboration (Dodson & Schmalzbauer, 2005). This interest enabled us to work together to help her find ways of improving practices in teaching writing that were practical and helped her improve daily practices, that helped her continue to learn and reflect on her teaching while learning to become aware of her potential to act as a researcher in her own classroom, and that may have fostered her sense of self-efficacy in teaching writing (Reason & Bradbury, 2001).

It was also important that we were both “willing to be explicit about [our] beliefs, and in fact, staying in conversations where [our] beliefs were challenged and probed by the other person” (Stevens, 2004, p. 19). Although the teacher did not participate in the final analysis of the data for this study, she did share ideas with me and offered her perspective on the findings of the study and reporting them to a larger audience. This is an example of “negotiated and mutually agreed upon involvement” based on our roles in the collaboration and what we deemed reasonable time commitments (Cole & Knowles, 1993, p. 486). I have also asked her to consider writing an article to disseminate more of the data to teachers and she is considering it.
Research Methods

Context of the Study

The context of the study is a small private Catholic school in an urban area of the Northeastern United States. The current study is part of a larger study of teaching writing across the curriculum in grades four through eight, which is a collaboration between a large private university and the small private Catholic school. The larger study aims to examine whether changes occurred across grades 4-8 in the broader school setting and at the level of individual teachers and it is ongoing. In the larger study, teachers participated in four levels of professional development (PD) on using SFL as a theory of language and writing instruction: they attended one six-hour summer institute prior to the school year that introduced the SFL theory of language and the teaching of writing genres, they participated in monthly PD sessions on teaching genres and language, they attended weekly meetings where individual teachers worked with a researcher to review teaching and plan lessons, and they received weekly in-class support from a researcher. None of the teachers had experience with SFL as a theory of language (Halliday, 1978; Halliday & Matthiessen, 2004) or with genres of writing (Martin, 1992; Martin & Rose, 2008) as defined in the previous chapter.

The summer institute was the first meeting of teachers and researchers (including myself) and its purpose was to introduce both the theory of language and genre theory to the teachers. The session included a variety of writing activities designed to enable the teachers to experience teaching writing through the use of both SFL and genres, and to demonstrate methods they could use in their own teaching. Activities also demonstrated
a variety of grouping strategies, such as whole group, small groups and pairs, to encourage teachers to get students actively involved in building knowledge of writing through the teaching of genres and language. It also introduced them to the teaching and learning cycle (TLC) as a strategy to teach writing which they would continue to learn about and use throughout the school year. Each teacher received a binder divided by genre that included information on how to teach the structure and language of each genre, sample genre units, graphic organizers, and suggestions for mentor texts (high quality trade books used as exemplars).

The monthly PD sessions provided the five teachers involved in the larger study with more in-depth instruction in specific genres and language features based on their interests and teaching needs. While I did not attend the PD sessions, the principal investigator shared the content of each PD with doctoral students involved in the project. Prior to each session the principal investigator, another doctoral student working in the school and I met and we discussed each teacher’s current teaching interests and needs based on what teachers had told us and what we observed in their classrooms. For instance, when a teacher was preparing to teach reports, the principal investigator prepared information and activities in that genre to help the teacher familiarize herself with activities and assessments relevant to the genre. After each session, the principal investigator sent us detailed notes on topics covered during the PD and teachers’ reactions.

During the weekly meetings, teachers met with a research assistant (either me or one other doctoral student) to discuss lessons they had taught and to plan future lessons referring to the binder to guide teachers and help them create lessons. The weekly in-
class support included answering teachers’ questions, giving feedback when asked during lessons, and working with groups and individual students on writing.

It should be noted that while the larger study included five teachers in grades four through eight, not all teachers participated to the same degree. Two teachers resisted passively throughout the school year by indicating that they were going to participate without actively engaging in the project. One teacher engaged partially by implementing some of the theory and strategies taught through the PD while keeping her own goals and methods in place. Two teachers chose to employ SFL theory and implemented writing units based on teaching genres and language. The teacher involved in the current study is one of the teachers who chose to engage in teaching using SFL theory and genres of writing.

The current study focuses on the teaching of writing in science and language arts in the fourth grade and seeks to understand the relationship between the teacher and the researcher, whether there were changes in the teaching of writing in the fourth grade classroom and the writing of bilingual students, and whether there were changes within the teacher’s beliefs about teaching writing during the 2011-2012 school year. It is hoped that the study will contribute to a growing knowledge base on teaching writing informed by SFL.

The Researcher’s Positionality

Reflexivity is a critical stance in research that involves researchers consciously locating themselves in the research, and acknowledging the effect of their own positionality on their interpretations by reporting “on their personal beliefs, values, and
biases that may shape their inquiry” (Creswell & Miller, 2000, p. 127). I am in the position of being both an outsider and an insider in this study and my positionality shifted as I took on different roles and as my relationship with the classroom teacher developed over the course of the school year (Herr & Anderson, 2005). My positionality also shifted at the end of the school year as I took on the role of the doctoral student analyzing and reporting on the data independently. It is essential that I consider all related aspects of my identity how they position me in relation to this study (Sipe & Ghiso, 2004).

Although this study was part of a larger study, the particular research questions used in this study were my own (Herr & Anderson, 2005). I was interested in writing in science, which fit the overall goals of the larger study of teaching writing across the curriculum. My positionality played a role in developing these questions (Sipe & Ghiso, 2004). I framed my questions based on my interests and my knowledge of the needs identified in the broader education research community, not on a particular need identified in the school community that I studied. In this sense, the research did not follow the action research tenets that the questions should emerge from within the context in which the research will take place from those who will engage in the process (Reason & Bradbury, 2001). However since the study was based on a demand for increased attention to the need to improve the teaching of writing in the broader educational community, it seemed like my questions would be relevant to this school community. With this in mind, I was prepared to be open to the needs and interests of the teacher and to support her in meeting her own goals while still attempting to answer my questions and I believe I succeeded.
My role as a doctoral student, a researcher, and someone familiar with SFL positioned me as an outsider to the context of the school because I came to the school through a university-school partnership, I was invested in promoting change, and I was unfamiliar with this particular school context and classroom. Prior to this study, I had worked in an urban public school on a similar project teaching writing informed by SFL for three years and had seen many benefits for both teachers and students. My own knowledge and experience led me to believe that this was a method of teaching writing that could be successful when implemented consistently over time (Sipe & Ghiso, 2004). However, I knew that by engaging in a research project from a theoretical perspective unfamiliar to teachers within the school it was possible that I would meet with skepticism and resistance. Again, I was prepared to listen to the teacher to get a better understanding of her perspectives and needs in teaching writing, while at the same time presenting the SFL theory of language and the teaching strategies offered by the TLC that are the basis of the study. I hoped to engage her not only through a new process and new content but by changing her beliefs through positive teaching experiences (Fullan, 2007).

I was also an insider to the general elementary school context in that I am a member of the field of teaching, having worked as both an elementary classroom generalist and a reading specialist for over a decade (Sipe & Ghiso, 2004). In my teaching, I experienced the challenges that many teachers face: planning lessons for multiple subjects and differentiating them to meet the needs of individual students; the constant cycle of assessing student’s abilities, teaching and assessing again; working through the joys and frustrations of repeatedly adapting my teaching to new curriculum and/or methods of teaching (some of which turn out to be ineffective and are then
replaced with something new); feeling nervous about being observed and possibly evaluated while teaching; all while trying to get to know my students on a personal level to understand their needs. Therefore, I feel that I understand the difficulties of teaching and the hesitation of teachers to participate in a new program of professional development that requires them to modify their teaching and may place them outside of their comfort zone (Fullan, 2007; Nadler, 1993). It is also important that the study took place in a small private Catholic school. I attended Catholic school for several years of my own elementary education and did a teacher internship in a Catholic school, so I am familiar with some of the expectations, beliefs and traditions of the religion.

There are benefits to this dual positionality, the most obvious being that it lessens the potential for a dichotomy between researcher and teacher (Hammond & Spindler, 2001). An outsider/insider perspective is positive in several ways. It enabled me to integrate myself into the school environment fairly quickly and smoothly, and I established good relationships with the teacher in this study and her students. She welcomed me into her class and offered to change her schedules when necessary to accommodate the need for me to work with two or three teachers in a day. The ideas I suggested to the teacher and her students were practical and related to curriculum (not just a research perspective). I had some understanding of how she might implement change and of potential difficulties that might arise and I helped find solutions to unanticipated problems, such as the need to teach fourth grade students to write science fair projects that used multiple genres. It is also important that I understood the pace of classroom life and therefore had some concept of the possible pace of change.
Given this dual positionality, I need to be conscious of understanding and making explicit what is taken for granted because I am a teacher as well as a researcher (Herr & Anderson, 2005). As a teacher I may not see all of the factors involved in the classroom, in teacher change, and in student change because they are familiar to me. However, since this is not my classroom, it is in a new school in a different context, and I am coming from the perspective of a researcher as well, I believe that the insider view enables me to understand the setting more clearly while still being able to analyze it critically (Herr & Anderson, 2005).

I also need to be conscious of the extent to which I, as a researcher, influenced the teacher I worked with in this study. I had the goal of helping her understand SFL theory and how she could implement it in her teaching, and I wanted to see how much it could help her enhance the teaching of writing in her classroom. In this context, I need to be conscious that my role as a researcher dominates in order for me to document the events of the school year accurately to the best of my abilities. For example, throughout the study I encouraged her to try to implement SFL theory in her teaching and offered support in many ways, but let her choose how she did so. However, one way that I did try to influence her more directly was in diminishing the exclusive reliance on textbooks in her teaching.

Through a process of reflexivity or “the explicit self-naming of the analyst’s perspectives and subjectivities” I have tried to articulate my stance, which is that I believe that teaching writing using SFL theory and TLC can help teachers engage in better practices (Stevens, 2004, p. 19). However, I am also aware that the teacher I worked with ultimately decided whether or not to institute these practices in her teaching.
It is essential to approach work with teachers from “a collaborative stance, one that allows for mediation and negotiation of power and knowledge from the onset by both the researcher and participant” (Stevens, 2004, p. 19).

**Participants**

The research includes a longitudinal study of one fourth grade classroom teacher in language arts and science over the course of the 2011-2012 school-year. I first met Myrna (pseudonym) at the Summer Institute at the beginning of the school year. Although she had 23 years of teaching experience at the time of the study, this was her first year teaching writing informed by systemic functional linguistics (SFL) theory. Myrna was selected through purposive sampling (Patton, 2002) because of her interest in teaching writing and her willingness to try implementing SFL theory in her classroom throughout the entire school year, all of which aligned with my research goals. At the time of the study she taught language arts (writing), science and math to students in fourth and fifth grade. The fifth grade teacher taught social studies, religion and reading to students in the two grades. Myrna was continuously interested in improving her teaching and, prior to the study, had participated in summer sessions of professional development offered through a local public school district, and she also tried new activities, graphic organizers and writing projects in her classroom. After the summer institute, Myrna expressed interest in learning about the SFL approach to teaching writing, but she also explained that she was very concerned with covering required curriculum in both writing and science.
Her class included twenty-one fourth-grade students, all of whom were asked for assent/consent to participate in the study, nineteen of whom assented/consented. Although the majority of students attending the school were born in the United States, they represent the linguistic and cultural diversity of the surrounding communities. Eighteen students were bilingual, speaking languages such as: Vietnamese, Spanish, and Haitian Creole. All students participated in the writing of four genre units and their writing was analyzed. I selected a purposeful sample of eight bilingual focus students from the nineteen participants (Patton, 2002). The selection was made post-intervention based on students with most complete data.

Table 3.1: Student Demographics

<table>
<thead>
<tr>
<th>Name (pseudonym)</th>
<th>Age</th>
<th>Gender</th>
<th>Language Background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daisy</td>
<td>9yrs.</td>
<td>female</td>
<td>Spanish/English</td>
</tr>
<tr>
<td>Nadia</td>
<td>9yrs. 1mo.</td>
<td>female</td>
<td>Vietnamese/English</td>
</tr>
<tr>
<td>Alazne</td>
<td>9yrs. 1mo.</td>
<td>female</td>
<td>Spanish/English</td>
</tr>
<tr>
<td>Rosalie</td>
<td>9yrs. 2mos.</td>
<td>female</td>
<td>Creole/English</td>
</tr>
<tr>
<td>Tam</td>
<td>9yrs. 3mos.</td>
<td>female</td>
<td>Vietnamese/English</td>
</tr>
<tr>
<td>Ariela</td>
<td>9yrs. 8mos.</td>
<td>female</td>
<td>Spanish/English</td>
</tr>
<tr>
<td>Helene</td>
<td>9yrs. 9mos.</td>
<td>female</td>
<td>Creole/English</td>
</tr>
<tr>
<td>Kenneth</td>
<td>10yrs.</td>
<td>male</td>
<td>Spanish/English</td>
</tr>
</tbody>
</table>

*Students are listed by age at the beginning of the study. Selections were made post-study by the researcher.*
Data Collection

Data collection included weekly field notes from 38 classroom observations of language arts and science lessons as a participant-observer, notes from 26 weekly meetings with the teacher that included my personal notes and reflections, student texts from each of the units taught, a teacher survey conducted during the summer PD, an end-of-the-year interview with the teacher and a post-study teacher interview (for protocols see Appendices A-C) (see Table 2). During the end-of-year teacher interview I asked Myrna each question and typed her response as accurately as I could because of Myrna’s reluctance to be recorded (either audio or video). I verified the accuracy of what I had written during the interview by rereading the answers to her once I had completed typing them to ensure I had captured what she had said. I also reviewed the interview data with her after the study to ensure it was accurate with respect to her opinions and ideas. So while the interview data was not recorded verbatim, I don’t believe it has distorted what she said.

Table 3.2: Data

<table>
<thead>
<tr>
<th>Participants</th>
<th>Data Source</th>
<th>Frequency</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>One 4th grade classroom teacher</td>
<td>Field notes for classroom observations</td>
<td>24 once a week and 14 twice a week</td>
<td>38 observations</td>
</tr>
<tr>
<td></td>
<td>Notes from teacher planning sessions</td>
<td>26 weekly meetings</td>
<td>26 weekly meetings</td>
</tr>
<tr>
<td></td>
<td>Interviews</td>
<td>1 end of year semi-structured interview interview</td>
<td>Two interviews</td>
</tr>
</tbody>
</table>
Field notes included descriptions of classroom activities and lessons, including what the teacher and students said and did, for example students’ questions, the teacher’s questions to students, writing and diagrams from the SMART board and chart paper, graphic organizers and notes from student conferences. Although classroom sessions were never recorded (also as per the teacher’s request), field notes were verbatim whenever possible. Myrna occasionally asked me questions about SFL theory or implementing aspects of the theory during the lessons and I would respond. I also included these interactions in the observation notes. Classroom observations spanned 30 to 60 minutes, depending on the day and the project. When writing projects were in the revising and conferencing stages, I visited twice a week to assist Myrna with conferences.

I kept detailed notes on on all aspects of the project: meetings with the teacher, ideas for future units during the school year, and my own personal thoughts, ideas and questions. In my notes from weekly meetings, I included what we had discussed regarding Myrna’s teaching, questions we had, and future plans for lessons and units. After each observation and meeting I returned to my notes to make corrections, add details missed and include my ideas, comments, concerns, and questions for Myrna and for my advisor. During these revisions of the notes, I also noted how SFL was or was not used and any suggestions for modifying the teaching for future lessons. I tried to understand when Myrna might be making assumptions based on her prior experiences of
teaching writing and kept notes on how to support and guide her through the process of basing all of her writing instruction in SFL theory.

I collected student writing artifacts from all nineteen students who provided parental consent to participate for each of the units taught. Although I collected student writing across the four genre units: reports, procedure, procedural recounts, and a hybrid genre for the science fair, only the data from the September pre-write and the two report units (one on ecosystems and one on animals) were used in the current study. In September, students wrote independent pre-write texts in response to the following prompt, “Write about how animal and plant cells are the same and different. Try to use vocabulary from our lessons”. Myrna and I created the prompt and Myrna administered them to the class. She read the prompt to students and told them they needed to write independently. I also collected writing completed at the end of the ecosystem report unit, and the final reports from the animal unit from the same nineteen students. From those, I selected the writing of the eight bilingual students who had completed all three texts, for a total of 24 student writing samples. I also collected student writing on subtopic choices for the animal reports. These were lists or webs of subtopics students identified as important to the topic.

Data Analysis

Teaching and change. After the school year ended, I analyzed Myrna’s practice for change (Fullan, 1991, 2007; Hargreaves & Shirley, 2009; Sikes, 1992) to understand our collaboration and her teaching throughout the school year, examining factors such as negotiation (Cole & Knowles, 1993), disequilibrium (Nadler, 1993), and resistance
(Gitlin & Margonis, 1995; Sikes, 1992), transformations or variations to the original innovation, what worked for Myrna and what did not (Fullan, 1991). The goal of the analyses was to create two models: one of the process of change to understand the teacher-researcher relationship throughout the study, and a second of Myrna’s practice showing whether and how her teaching changed over the course of the year.

I returned to the notes from classroom observations, meetings and my personal notes to analyze them deductively using the SFL theoretical framework and also inductively to code for themes and patterns that emerged using grounded theory (Glaser & Strauss, 1967; Patton, 2002). I then analyzed the codes to determine which aspects of SFL theory Myrna implemented and to what degree, those that were not implemented, and which other codes emerged. I re-examined the data for patterns and inconsistencies over time and formulated various possible interpretations of the data in light of the theories of writing (Miles & Huberman, 1994; Neuman, 1994; Ryan & Bernard, 2000).

I also analyzed the data to see if elements of the TLC (Rothery, 1996) appeared in Myrna’s instructional approach to teaching writing. I reviewed the data for use of negotiation of field, deconstruction, joint construction and independent construction of text and compared their use to descriptions of the TLC in SFL literature. I wanted to know if all elements of the cycle were implemented, to what degree they were implemented, and Myrna’s questions and comments throughout the process.

I created units of analysis based on the action research spiral “plan, act, observe and reflect” (Zeichner, 2001, p. 277) to answer my first question regarding what happens to the teaching of writing when SFL is introduced as a theory that informs that writing.
Each unit of analysis includes the planning of a lesson (P), teaching and observing the lesson (T), and reviewing the lesson (R), which I called a PTR unit. The process thus included three steps: (1) plan, (2) teach and observe, (3) review and reflect and then the process began again. The teaching and observing step was analyzed to determine what the teaching of writing included to see if SFL theory was used, and how the content was taught to see if the teaching and learning cycle (TLC) was used. For the final analysis I analyzed 7 PTR units from across the school year to understand the process of change. In order to create the PTR units, I read through all of the observations to organize them with meeting notes on planning and reviewing, the teacher interviews and my personal notes to analyze them deductively using the SFL theoretical framework and change theory. I read through them in reverse order to understand Myrna’s practice at the end of the year and then to move back through the year to analyze what she had added as she learned more about the theory. As I read through the data, I made notes in the margins and I created codes as a method of tracking the information that would determine what was eventually included in each PTR unit.

Once the units were created, the analysis of each PTR unit consisted of reading each unit and noting whether it included notes on planning and notes on reviewing the teaching, and then analyzing each unit for examples of the features of SFL and the TLC. I wanted to know which, if any, elements of SFL and the TLC were implemented, to what degree they were implemented, and Myrna’s questions and comments throughout the process. As part of the PTR analyses, I also analyzed my own practice throughout the year to see what my role in the study had been. I analyzed the observations, meeting notes and my own notes for examples of how I had contributed to building a
collaboration with Myrna, whether and how I had influenced her, whether and how she had influenced me. Once all of the PTR units had been analyzed, I then selected seven of the most complete units each one showing distinct characteristics of Myrna’s experience and different time points in the school year. These analyses all contributed to the construction of both the two model of our relationship and of Myrna’s practice.

**Student writing.** A corpus of 32 student texts from the eight bilingual students was examined in order to answer my third question, “What happens to bilingual students’ writing in this learning environment over time?” The corpus consisted of the initial pre-write on cells in September, the report unit on ecosystems from November and December, the final report unit on animals from May and June, and the writing on subtopics for the animal reports. I performed deductive analyses (Patton, 2002) of the 24 reports that were complete texts for evidence of SFL informed instruction using a genre-specific rubric created with and informed by SFL theory and genre theory. I also examined the texts to get a perspective of change throughout the year. Due to the limited amount of text in the subtopic writing samples, they were not analyzed using the rubric, but a separate analysis was conducted to see if the eight students had understood that subtopics needed to relate to important subcategories of the topic they had chosen.

The rubrics were created by a university professor and expert in the field of SFL theory and bilingualism, and they passed through an extensive iterative process of revision with input from teachers, a literacy coach, and doctoral students familiar with both SFL theory and elementary education over a period of four years (see Daniello 2012 for a more detailed explanation of these rubrics). The rubric for the report genre unit included details on the structure of the genre and language relevant to specific genres.
Genre was broken down into stages which vary depending on the type of genre. The stages for reports are a general opening statement that introduces and classifies the topic, several subtopics to organize the information (for example, characteristics, habitat and diet) and an optional conclusion. Language was broken down into categories such as participants (noun groups), processes (verb groups), and circumstances (adverbials), text connectors, and referents. Student texts were analyzed for these aspects of genre and language using a rubric on a scale of either 1 to 3 or 1 to 4 depending on the aspect, where a score of 1 means that the student has demonstrated little or no knowledge of the concept in their writing, 2 means they have demonstrated some knowledge, 3 means they have demonstrated grade level knowledge, and a 4 is that the student demonstrates mastery of the concept in their writing and exceeds the standard. I read each student text multiple times in order to provide a score for each aspect of the rubric. For each student I included notes on exact language used, missing aspects of writing, strengths and weaknesses in a scoring sheet (Appendix E). The report genre focused on 17 aspects of language (Appendix D for a rubric sample).

Validity

By virtue of the action research methodology, I worked closely and, as the project progressed, collaboratively with the practitioner and students in this study. In light of that, I have taken steps to attempt to show the clearest picture possible and to relay the data in the clearest manner possible. I will examine validity primarily from the perspective of and Herr and Anderson (2005), Lather (1986) and Maxwell (1992), and blend them in order to offer a more complete account of the validity of my findings. Herr and Anderson (2005) have linked “five validity criteria (outcome, process, democratic,
catalytic, and dialogic) to the goals of action research” that include “(a) the generation of new knowledge, (b) the achievement of action-oriented outcomes, (c) the education of both researcher and participants, (d) results that are relevant to the local setting, and (e) a sound and appropriate research methodology” (p. 54).

Catalytic validity relates to change occurring within a study and includes change within the participants and the researcher in that they re-orient “their view of reality as well as their view of their role” thereby addressing the potential for transformation (Herr & Anderson, 2005, p. 56). Outcome validity relates to the goal of achieving action-oriented outcomes or of assessing whether change actually occurs as a result of the research. Both of these are encompassed in Lather’s (1986) view of catalytic validity which examines how a study is a catalyst for change by engaging participants in changing their view of the reality they are in, and includes the ultimate goal of having “respondents gain self-understanding and, ultimately, self-determination through research participation.” (p. 271). One important aspect of catalytic and outcome validity was the tensions we experienced throughout the project relating to our individual views on incorporating SFL into the teaching of writing and the teaching of content. Tensions such as these can lead to feelings of disequilibrium which have the potential to bring about enduring change (Nadler, 1993). This was evident in the way Myrna and I reframed the problem in various ways throughout the year to more closely align the goals of the study with her teaching goals and philosophy so that we could be more effective and produce more enduring change. We discussed making changes so that her teaching aligned itself with SFL, while also changing our expectations to meet her goals and keep the changes to teaching writing manageable for her in the context of the rest of her
responsibilities. Our constant interchange of ideas led to a method of teaching writing that had the potential to transform the paradigm of teaching writing in Myrna’s classroom while aligning with both my goals and hers. This ongoing dialogue was facilitated by the relationship of trust I built with Myrna during the repeated observations over time. Outcome validity was enhanced by a combination of prolonged engagement in the field and collaboration (Creswell & Miller, 2000) which allowed a thorough analysis of the data to determine whether there were clear indications of change in Myrna’s teaching by the end of the school year.

Process validity evaluates the processes used to conduct the research and is dependent on the use of “a sound and appropriate research methodology” (Herr & Anderson, 2000, p. 55). It was achieved when Myrna and I looped back to “reexamine underlying assumptions behind problem definition” in order to realize which of our expectations were realistic, which were unrealistic, and to adjust them as necessary (Herr & Anderson, 2005, p. 55). For example, Myrna and I revised our expectations of how many new genres it would be possible to teach, we discussed whether she could use the full rubric and we created a shorter revised version, and we continually examined to what extent she was using SFL. It should be noted that some of these expectations were uniquely mine, some were the teacher’s and some were common expectations. We developed a good working relationship and she was comfortable telling me what she could do and would do, and what she couldn’t. I included multiple methods that led to multiple perspectives in the study, which enabled me to triangulate the data gathered through classroom observations, teacher interviews, teacher surveys, meeting notes, my personal notes, student work and student interviews in an attempt to avoid an overly

Dialogic validity examines the generation of new knowledge through research and can be linked to construct validity (Lather, 1986) and theoretical validity (Maxwell, 1992). It is the process of examining theory construction or applying the theory to the data and includes both “the concepts or categories that the theory employs, and the relationships that are thought to exist among these concepts” (Maxwell, 1992, p. 291). Construct validity means that we must be aware of the weaknesses of theories we are constructing and whether “constructs are actually occurring… [or whether they] are merely inventions of the researcher’s perspective” which requires us to be self-critical and aware of the effects of our preconceptions on the research (Lather, 1986, p. 271). Having several people involved in this study of Myrna’s classroom and the larger study of St. Catherine’s School evaluate whether what I report is accurate and valid, whether it examines the problem from different perspectives, and acknowledges assumptions is essential (Flyvbjerg, 2006; Lather, 1986). My collaboration with Myrna throughout the school year was akin to informal member checks because we were in constant dialogue about whether the project was meeting her teaching needs and therefore valid. I also conducted more formal member checking after the study when I presented the preliminary findings to Myrna to engage her in evaluating the accuracy of what I was reporting and to ensure that I was including her perspective and voice in the study (Creswell & Miller, 2000; Flyvbjerg, 2006). Member checking is used to validate “findings and works to consider data from an emic perspective that brings into question power inequities between the researcher and the ‘researched’” (Sipe & Ghiso, 2004, p.
I have tried to be explicit in my descriptions of my experiences in the study and I have also attempted to reduce the biases inherent in qualitative work through self-reflection of my role in the study as a researcher gathering data, as a coach teaching Myrna new theory and strategies, and as a teacher interacting with students. I have tried to be aware that Myrna’s teaching was based in her own view of education and theory and when her teaching did not follow SFL theory or the TLC, I sought to understand her rationale and motivation (Sipe & Ghiso, 2004).

Throughout the school year, I met weekly with the Principal Investigator (PI) of the larger project on teaching writing at St. Catherine’s School that led to this study and another doctoral student who was also conducting research at the school to discuss the project. We all visited the school on a regular basis and interacted with the teachers throughout the school year. During our weekly meetings, we discussed the project at length focusing on the process of gathering data on the teaching writing and analysis of data to plan further professional development for the larger project, and individual classroom support for teachers including my work with Myrna. These two individuals also helped with the process of peer debriefing (Creswell & Miller 2000) since they both read my analyses of the data, the PI as the chair of my dissertation as the chair, and the doctoral student as a peer who knows both SFL theory and the context of the study. They were able to provide me support, while challenging my assumptions, questioning my interpretations of the data and pushing me to think more deeply about those interpretations (Creswell & Miller 2000).

I have also been as explicit as possible about the methods used in this study so that others can replicate the study if they feel it is relevant to their context (Anfara, et al,
2000; Herr & Anderson, 2005). I am working from a mid-range theory perspective and a phronetic approach to research (Flyvbjerg, 2006) where the conceptual categories I have used to analyze the data stem from SFL theory of language, change theory and my own interpretation of how the teaching of writing might be changed for this teacher and her students. This phronetic approach seeks to promote “reflexive analysis and deliberation about values and interests aimed at praxis” (Flyvbjerg, 2006, p. 38). I am aware of the potentially positive outcomes that include improving the teaching of writing through collaboration with this teacher, keeping in mind that this study will not answer all questions pertaining to teaching writing in elementary school. The goal of this study is to contribute to the ongoing discussion of teaching writing in elementary schools by implementing a different approach to teaching writing and judging whether it brings about praxis (Flyvbjerg, 2006). This topic is one being considered in broader education circles and it is important to add more voices to the debate thereby contributing to the creation of an “ongoing process of public deliberation, participation, and decision making” (Flyvbjerg, 2006, p. 39). Although this classroom may be representative of many classrooms, in that it has an average number of linguistically and ethnically diverse students and one teacher working without support in the classroom, I cannot claim that this study will apply to other educational contexts and leave it up to readers to decide whether it applies to their particular context (Anfara, et al, 2000; Herr & Anderson, 2005).

**Limitations**

I acknowledge that there are limitations in the data, including that it is limited to one teacher and her classroom, and the longterm impacts of this study are unknown.
Throughout the project I asked myself questions such as how the implementation of SFL in writing would continue after the school year ended. One year is not long enough for a teacher to change her practices, and the teacher and I discussed how the work would continue and what would be realistic (Bradbury & Reason, 2001; Fullan, 2007). Myrna said in the end-of-year interview that whole school involvement would be helpful but that she would continue using what she had learned about SFL and teaching writing regardless. She decided that she would teach the genres that she had learned throughout the study again next year because she had seen the difference in her students’ work. The funding for the larger study was extended for the 2012-2013 school year so the PD and the larger study will continue for at least another year, although I am not part of the ongoing study.

Summary

“Action research is by nature holistic, and, therefore, it cannot easily be used to study a phenomenon independent of the various layers of social context within which it is situated” (Herr & Anderson, 2005, p. 65). This study grew out of a multifaceted and layered series of factors. The first layer is my own teaching experiences and my desire to learn more about writing. The second is the collaboration between the large private university and their Center for Catholic Education, which provided the site for the research and the funding. The third layer is the principal and teachers at St. Catherine’s School who were already making changes to teaching and planning within the school through professional development. They were also interested in having a common language and starting a dialogue about teaching writing. The principal encouraged teachers to rely less on textbooks and trying to cover a broad range of topics at the
surface level and more on teaching fewer topics in greater depth. At the beginning of this study, the principal also encouraged teachers to stop teaching language from the grammar textbooks and to teach from the perspective of functional language that we were teaching them. The fourth layer is the students who participated enthusiastically in the writing project throughout the school year, learning to use a more in-depth writing processes through the TLC (Rothery, 1996), writing in new genres (Martin & Rose, 2008), making language choices (Halliday & Matthiessen, 2004) and being open to all the changes.
Chapter 4

Findings: Teaching and Change

In this chapter, I discuss the nature of my relationship with Myrna over the course of the school year and her teaching during that time. The experiences Myrna and I shared throughout the school year seemed to fall into three phases: dependence, collaboration and moving toward independence. The framework for analyzing our experiences throughout the school year is grounded in change theory (Fullan, 1991, 2007; Hargreaves & Shirley, 2009; Sikes, 1992).

The three phases of our relationship were subdivided into seven action research cycles or spirals to analyze Myrna’s teaching. The action research spiral includes four iterative steps, which are “plan, act, observe and reflect” (Zeichner, 2001, p. 277). Each of the seven units of analysis revolved around one lesson and included the planning (P), teaching and observing (T), and reviewing (R) of that lesson, which I called a PTR unit. I analyzed seven PTR units to understand the process of change throughout the school year. Analysis of the teaching and observing step revealed the content of the teaching of writing and whether SFL theory informed the teaching, and whether the teaching and learning cycle (TLC) strategies were employed to teach the content. The three phases formed a continuum of change which can be seen in the description of each phase and the analysis of the PTR units within them. A summary of the three phases, the seven PTR units and the use of the TLC are included in Table 4.1.
Table 4.1: Overview of Results

<table>
<thead>
<tr>
<th>Description of Phase</th>
<th>PTRs</th>
<th>TLC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Myrna depended on her prior knowledge of teaching writing</td>
<td>PTR 1: Isolated Lessons</td>
<td>Negotiation of Field Isolated Joint Construction</td>
</tr>
<tr>
<td>• Myrna depended on me for knowledge of SFL</td>
<td>Isolated writing lessons relating to language arts and science</td>
<td></td>
</tr>
<tr>
<td>• I depended on her for knowledge of her curriculum and how SFL could relate, and I made suggestions for adding SFL informed instruction to her plans</td>
<td>PTR 2: Procedure</td>
<td>Negotiation of Field Deconstruction</td>
</tr>
<tr>
<td></td>
<td>• Myrna saw a need for the genre in the science content and I suggested ways to create lessons informed by SFL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Myrna followed the plan we made</td>
<td></td>
</tr>
<tr>
<td><strong>Collaboration</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Myrna and I planned units and lessons together and determined which genres to use for science fair (learning for both of us), creating shared meaning and goals</td>
<td>PTR 3: Reports Ecosystems</td>
<td>Negotiation of Field Deconstruction Joint Construction Independent Construction</td>
</tr>
<tr>
<td>• Myrna continued building her knowledge of SFL and using it in planning and teaching</td>
<td>• I planned beginning of unit she taught lessons informed by SFL as I guided her</td>
<td></td>
</tr>
<tr>
<td>• I began working directly with students to conference with them and scaffold some of the research processes as Myrna did</td>
<td>• Myrna was committed to the science content but uncertain about SFL</td>
<td></td>
</tr>
<tr>
<td>• Myrna and I sometimes interacted during lessons</td>
<td>PTR 4: Procedure Science Fair Projects</td>
<td>Negotiation of Field Deconstruction Joint Construction Independent Construction</td>
</tr>
<tr>
<td></td>
<td>• Myrna was more engaged in teaching informed by SFL and therefore more engaged in the planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PTR 5: Explanation</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>• Myrna decided not to teach explanation once it was clear that we could complete the science fair projects without explanations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PTR 6: Procedural recount Science Fair Projects</td>
<td>Negotiation of Field Deconstruction Joint Construction Independent Construction</td>
</tr>
</tbody>
</table>
Moving Toward Independence

Myrna and I planning the overview of the unit together
Myrna planning individual lessons independently
Myrna building her knowledge of SFL and using it in planning and teaching writing lessons as part of a unit: reports

<table>
<thead>
<tr>
<th>PTR 7 Animal Reports</th>
<th>Negotiation of Field Deconstruction Joint Construction Independent Construction</th>
</tr>
</thead>
</table>

Within each of the three phases Myrna experienced tensions (Table 4.2). In the first two phases these tensions stemmed from Myrna’s sense of disequilibrium, but by the third phase she seemed to have overcome her internal conflict and engaged in changing her practices and her beliefs regarding the teaching of writing. A second tension was resistance to changing certain practices, which decreased over the course of the school year, but which continued to inform Myrna’s beliefs about teaching language.

Table 4.2: Tensions

<table>
<thead>
<tr>
<th>Disequilibrium</th>
<th>Resistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependence</td>
<td></td>
</tr>
</tbody>
</table>

PTR 1: Isolated writing lessons
- New theory for teaching writing
- New strategies for teaching writing
- Being observed
- Changing her teaching and possibly giving up some practices
- Preparing students to create science fair projects

PTR 1: Isolated writing lessons
Myrna resisted:
- Giving up the use of the grammar book
- Teaching less of the science textbook but teaching content in more depth
- Using the metalanguage of SFL
- Using science activities in the classroom

PTR 2: Procedure
- New theory for teaching writing

PTR 2: Procedure
Myrna resisted:
<table>
<thead>
<tr>
<th>Collaboration</th>
<th>PTR 3: Reports</th>
<th>PTR 3: Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Implementing a full unit informed by SFL</td>
<td>• Myrna resisted:</td>
</tr>
<tr>
<td></td>
<td>• Learning and using the metalanguage of SFL</td>
<td>• Using joint construction of text</td>
</tr>
<tr>
<td>PTR 4: Procedure</td>
<td>• Genres to teach after procedure to prepare students for science fair projects</td>
<td>• Giving up the use of the grammar book and teaching language only from a functional perspective</td>
</tr>
<tr>
<td></td>
<td>• Giving up grammar book and only teaching language from a functional perspective</td>
<td>• Teaching less of the science textbook but teaching content in more depth</td>
</tr>
<tr>
<td></td>
<td>• Not teaching whole science textbook</td>
<td></td>
</tr>
<tr>
<td>PTR 5: Explanation</td>
<td>• Whether or not to teach explanation</td>
<td>• Teaching the explanation genre</td>
</tr>
<tr>
<td>PTR 6: Procedural Recounts</td>
<td>• Giving up grammar book and teaching language from a functional perspective</td>
<td>• Giving up the use of the grammar book and teaching language from a functional perspective</td>
</tr>
<tr>
<td></td>
<td>• Learning and using the metalanguage of SFL</td>
<td>• Using the metalanguage of SFL</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Moving Toward Independence</th>
<th>PTR 7</th>
<th>PTR 7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• None</td>
<td>• Giving up the use of the grammar book and teaching language only from a functional perspective</td>
</tr>
</tbody>
</table>
A narrative of each of the three phases is described in detail below followed by the relevant PTR units: two during dependence, four during collaboration and one during moving toward independence.

**Dependence**

The first phase was one of dependence. The spiral of action research during this phase developed in two stages: Myrna and I getting to know one another, and beginning to work together. It is important to note that during this time all teachers at the school were being required to use a new lesson planning system by the principal and their plans were being checked monthly by her. Myrna found this new system complicated and a stressful addition to her busy schedule.

In order to understand this phase of our relationship it is important to know about Myrna’s prior teaching and goals. After participating in the summer institute provided by the larger study, she was interested in learning more about writing through the SFL study and collaborating with me in creating lessons, although she did express some nervousness about being observed for a whole year. She was mainly interested in the practical daily knowledge, implementation of lessons and benefits for students. While Myrna was interested in learning about the SFL approach to teaching writing, she was also very concerned with covering required curriculum in both writing and science. Prior to the study, Myrna relied on textbooks to teach both subjects. She taught language using a grammar book where she read a chapter with students, reviewed chapter questions with them, and students then answered questions orally or in writing. She taught science by reading the science text with students and having students answer questions orally at
intervals during the reading. They did not conduct science experiments on a regular basis, but Myrna did direct students to use the experiments suggested in the textbook to get ideas for the school science fair. She emphasized that she used both textbooks from cover to cover over the course of the school year. For example, Myrna told me that she had divided the science textbook into two to three page sections to ensure that she could cover the whole textbook over the course of the school year.

In September, Myrna and I were becoming acquainted, learning about each other’s teaching philosophy and goals for the year. Initially Myrna and I worked to get to know each other while sharing ideas to try to find common ground. I learned about her language arts and science curricula and she learned about my research on writing including SFL theory, the TLC, and the genres I hoped she would teach during the year which included procedure, reports, and explanations. Throughout this process Myrna was gradually beginning to learn the metalanguage of SFL and genre theory.

This stage was initially characterized by us working independently and then sharing our ideas with one another. Myrna planned her own lessons and implemented them. On most days, Myrna taught from the front of the room and I sat beside the rows of students while I observed and typed my notes. Myrna already had a good grasp of the science content from the textbook and she occasionally had students write creative texts for language arts or science, sometimes combining the two. For example, at the beginning of the year after a science unit on plants, she had students pretend they were seeds and they wrote letters to their parents telling them about the journey they had as they were carried by the wind to different settings. During a different science unit she taught a compare/contrast writing lesson on snakes and snails (PTR 1) by teaching
students to use a graphic organizer and to extract information from the textbook. She also directed students to be creative and think about their audience. For example, she encouraged them to create engaging titles and an author’s page for two of their projects during the year. These activities were fun and some helped students learn content, but they seemed to be isolated as writing lessons. Myrna did not seem to have an overall writing agenda, except using the grammar textbook to teach students about language rules and mechanics. She said, “I think I just followed what the book said and did it like that” (Interview, 5/9/12). In September the principal told Myrna to stop using the grammar book to teach language and to use the SFL binder to teach functional language instead. The principal felt that students did not apply the traditional grammar from the textbook in their writing. Myrna said that after teaching language using the grammar book for 23 years she wasn’t sure how to teach the grammar in the context of the student writing.

During this stage I focused on learning about Myrna’s curriculum and finding ways in which we could integrate the teaching of writing informed by SFL theory. I helped her familiarize herself further with the SFL binder by showing her the samples of writing unit plans and rubrics that I thought might be useful to her. I made suggestions regarding units to teach which aligned with her goals. In the last week of September she said that she was confused about not using the grammar book and teaching language through the students’ writing. We discussed the functional view of language in our weekly meeting and I shared my analysis of the students’ September pre-writing texts with her. I explained how I had graded the texts using the report rubric and showed her how I had analyzed the texts for both structure and language.
During the study Myrna experienced several ideological tensions which caused her some degree of internal conflict. One of the most enduring was between teaching writing informed by SFL (a functional view of language) versus teaching writing using the grammar and science textbooks (a traditional view of language). A second related tension was covering all of the science content versus covering fewer topics in greater depth. Myrna worried that by teaching writing using SFL theory she would not have time to cover the textbook in its entirety because the writing lessons took up some of the time she would have spent teaching from the science textbook. She worried that students would not learn all the science content necessary to prepare them for fifth grade, even though she knew that the fifth grade content was very similar since she taught it as well.

I encouraged her to use the science textbook very selectively based on a careful consideration of what students needed to know in fourth grade and how she could divide the units between fourth and fifth grade and still be assured the students were getting all of the content. The textbook had the potential to be a good scaffold because Myrna was so familiar with it and it provided an opportunity for us to compromise. The science text did offer some appropriate content and language, and we discussed how through selective use of the text (combined with various other mentor texts) students could focus on gaining deeper knowledge of fewer topics. The textbook contained texts in some of the genres she wanted to implement, such as reports and procedures, so it could serve as a mentor text for genres as well as content.

In language arts, I encouraged Myrna to stop using the grammar text entirely and to teach grammar in the context of writing lessons on authentic topics, such as writing for science. She was concerned that the students would be lacking knowledge in some
aspects of language if she did not use the textbook. For example, she was concerned that students would not be able to use adverbs effectively if they were taught only in the context of lessons on teaching writing from a functional perspective.

A third tension was the use of SFL metalanguage. She often mentioned that teaching writing and language using SFL theory made her nervous and she did not like that there was so much metalanguage to learn. I offered her encouragement and suggested ways in which a functional perspective of grammar might be incorporated into her teaching using the SFL theory and metalanguage. I also tried to scaffold her learning of the metalanguage by using it when it was most relevant; she could then begin to see the benefits of us having a common terminology, but without overusing it. For example, metalanguage was used for discussing plans for units, the content and strategies she would teach, and what we saw in student writing. In one lesson (PTR 2) I tried to use the traditional terms to lessen the tension around metalanguage.

A fourth tension for Myrna was revealed when she expressed feelings of concern about using science activities in the classroom. She said that she liked to let the students choose from the activities in the textbook for their science fair projects. Her reluctance was understandable since she had no science materials in her classroom other than the textbook. My goal was to have her students experience the science activities so that they could learn the language during the activities, which would facilitate writing about them. Through my work with another teacher at the school searching for science materials, I found several plastic pots and some seeds. I bought soil and brought the supplies to Myrna because she was teaching the parts of a flower from the textbook. I strongly suggested that we plan an activity for the students to plant seeds, conduct observations
about how plants grow, and write procedures about how to plant a seed. I also thought that we should plant or bring in a plant with a flower since it matched what they were studying and my goal was to get them to go beyond the text and experience some of the things they were learning about. She explained that she didn’t like projects involving plants since she didn’t feel that she could grow them and then the experiments often did not work due to seeds not growing. While she didn’t like the uncertainty of activities with plants, she did agree to engage students in an activity on the effects of light on plants and later in the year she also had students complete an activity to learn about the effects of crowding on seedlings. Both activities were from units that she taught using the textbook.

During this time we were constantly negotiating as we learned to work together. In our initial planning in September we decided to begin a unit on the genre of report writing in October. We began planning report-related lessons and Myrna taught them, but these were still somewhat isolated lessons. At the beginning of the month we met weekly to discuss teaching writing, but the lessons were exclusively Myrna’s. Myrna said that she thought the Classifying Plants and Animals unit in the science textbook lent itself to report writing and she had an idea for several lessons on creating “Who am I?” or “What am I?” posters. We discussed the report genre and how the posters could be related to the genre. Myrna planned and implemented the lessons for these posters. I wasn’t sure that they would actually constitute reports and expressed my concern, but it seemed like it might be a way for us to discuss our goals for teaching writing and to see how we could combine our interests. The lessons were very focused on the science content and language, and the projects did show students’ learning of the concepts. The
project did not lead to the writing of extended texts, but it could be considered related to reports since the purpose was to inform. Myrna also still taught lessons that were unrelated to our discussions but that clearly showed her interest in trying out different aspects of SFL. For example, she wrote a report about the school, brought it to class and deconstructed it with students to examine the language of reports.

In the middle of the month of October, we began planning lessons together often planning for a week at a time, as we did with the mini unit on procedures (PTR 2). The mini procedure unit was done in relation to the science textbook which included many science experiments. Each experiment included a procedure and images showing the experiment. I encouraged Myrna to do the experiments with the students. Although we had started learning about reports at the beginning of the month, Myrna decided that students would benefit from learning about the stages and language used in procedures in relation to a lesson she was teaching in the textbook on plants and light. She was concerned that procedure was a genre students needed to know for the science fair projects they would do in the spring. We discussed several lessons together in our weekly meeting. I made suggestions for creating writing lessons informed by SFL and Myrna made suggestions that related to her curriculum. Myrna did say at this point that she enjoyed doing the deconstruction of texts and she did a lesson on deconstructing a procedure in the science textbook (PTR 2). Although I had envisioned this as a unit lasting several weeks when Myrna suggested it, she decided to do it for only one week. We then created the report unit which began in the last week of October and continued for nine weeks until the end of December.
**PTR 1 – Plan, teach/observe, and review.**

*Introduction.* The lesson described here was part of the first chapter in the Scott Foresman Science (2010) textbook on Classifying Plants and Animals. Myrna had read the section on the life cycles of animals in a previous lesson. Her teaching strategy was to engage students in a discussion where they orally shared content they extracted from the textbook, which she then organized on the SMART board using a Venn diagram. She then engaged students in creating sentences from the diagram which she wrote on the board and, as a group, they organized the sentences to create a coherent paragraph. This was an example of one form of joint construction, although it was not entirely consistent with the TLC, since the joint construction was done in isolation and did not address the structure of the text or functions of language. However, it would have been an excellent opportunity for me to point out the value of her lesson as a precursor to a more complete use of joint construction. The lesson is also an example of a traditional view of grammar that emphasizes labeling parts of speech and sentence types rather than a functional view of language where the emphasis would be on how the language functions to make meaning.

*Planning: September 21, 2011.* We did not plan this lesson together since it was so early in the year and I had only visited the school for the first time the previous week. During our planning time we had discussed science writing and reports, and giving a pre-write prompt for reports so that we could assess students’ prior knowledge of the genre and begin a report unit in October. We also discussed helping students to use more scientific vocabulary by reformulating their responses. For example, if a student made the observation, “The potato is in the water” Myrna could say, “That’s right. In science we
would say that it is *submerged*.” It was important to me to make sure they were using strong science language orally so that it could also be used in their writing.

**Teaching and Observation: September 27, 2011.** During this lesson Myrna taught and I was an observer taking field notes on my computer. Myrna taught the lesson on comparing and contrasting the life cycle of snakes and snails to teach students to take notes from the textbook using a graphic organizer and then to write sentences. The lesson lasted for one hour. Before the lesson she told me that she was still feeling confused about how we were going to integrate science into language arts, so we agreed to talk more about it later. She was still using the grammar book to teach language even though the principal was telling her to use the SFL binder instead.

Myrna asked the students to take out their science textbooks while she got the SMART board ready. She began the lesson by asking whether anyone could tell her why we use a Venn diagram and what a Venn diagram is. One student responded that is was a graphic organizer and Myrna replied, “Right it’s a type of graphic organizer that helps me organize my thoughts. Can anyone tell me what type of information?” She reviewed how it was used by prompting students to tell her where to put information that was different and the same. Then she said, “I thought we would take some of the information and put it in the graphic organizer then we are going to make some sentences and maybe a paragraph after that. We are going to label the diagram [graphic organizer], red for the snake and green for the snail.”

Myrna led the class in a discussion by asking what the text was about. A student replied that it was about the animals’ life cycle. Myrna replied, “Right from the time they
are born until they die. Tell me about the snake, tell me about the snail. Anything you want to tell me.” Students gave a lot of suggestions based on information in the textbook which Myrna wrote in the Venn diagram. They discussed the life span for each animal and wrote the information into the appropriate outer circles of the organizer, and they added the fact that they both lay eggs to the middle of the organizer.

S1: the snake has 100 eggs and the snail has 85.
M: okay the snake… [writing on SMART board]
S2: the snake, when it lays its eggs it stays with the eggs, but the snail leaves.
M: okay so the mommy snake stays with them she doesn’t leave, not even to what?
Students chorused: Eat!
M: right.
S3: the mommy snail leaves right away.
M: right, the mommy snail lays the eggs and then she leaves them.
S4: they both have to find their own food.
M: so for both, once they are born they have to fend for themselves and find their own food.
S5: sometimes the snails will eat eggs.
M: that’s right sometimes the snails may eat unhatched eggs.

Myrna paused from gathering facts from the textbook to ask students whether they knew what bullet points were because she was using them in the organizer. She explained that she was using them so they would know that each point was a separate piece of information.
Then Myrna said, “Let’s try to make some sentences now. Do you remember when we do compound subjects and compound predicates? Like a sentence can have baseball and basketball as the subjects. So can someone come up with a sentence for me using the information we have in our Venn diagram? It doesn’t have to be in any order right now. Just give me a sentence using the information.” One student said, “The snake does not eat the unhatched eggs.” Myrna reformulated the student’s use of the snake to the generalized snakes when she replied, “Snakes do not leave the unhatched eggs.” This was a missed opportunity to explain why she had used the general category of snakes to refer to a class of things instead of the specific the snake used by the student. Instead Myrna continued the lesson saying, “That’s a nice sentence. Don’t forget when you write a sentence you need what?” The student replied, “Capital and end marks.” Myrna confirmed the answer while emphasizing correctness in writing rather than relating punctuation to its role in making meaning.

Another student said, “Both snakes and snails lay eggs.” Myrna wrote the sentence on the SMART board and asked whether the sentence had a compound subject and students replied that it did. She complimented the student and added that sentences didn’t have to be combined all the time. She explained, “You can have separate sentences too. Like Snakes can live up to 25 years and then talk about snails in the next sentence. Or you can add to it and snails can’t.

When a student suggested the sentence snails and snakes have babies Myrna explained that it was already expressed by the fact that snails and snakes lay eggs and she asked the student if they wanted to suggest another sentence. Then Myrna, “There is still something we haven’t talked about.” One student pointed out that the two animals were
related and Myrna asked if they meant that the animals had things in common. The student replied yes and Myrna replied that the purpose of the Venn diagram was to show that they had things in common.

She directed students to look at the graphic organizer to see if any information had not yet been written as a sentence and she began checking off information they had written sentences about. She prompted students about whether the snail leaves her eggs. One student answered, “Sometimes the mother snail leaves.” Myrna responded that using sometimes was a nice way to start a sentence. Another student suggested, “Sometimes baby snails may eat unhatched eggs.” Myrna wrote the sentences and said she thought there was something else they hadn’t said yet. A student suggested, “Both snakes and snails lay eggs but the numbers could be different. Snails could lay 85 and snakes could lay 100.” Myrna reformulated the sentence and said, “So snails could lay 85 eggs and snakes could lay 100. Is that how you want to write it?” The student said yes.

A different student said, “I know something different about snakes and snails. Snakes are reptiles and snails are mollusks.” Myrna responded that it was a good point, but it was unrelated to their life cycle. In my notes I wrote, “This would have been a good comment to follow up on for creating opening general statements [in report writing]. For example ‘Snakes are reptiles that can live for up to 25 years.’ This could be a good way to begin a report on the life cycle of snakes.” I didn’t want to interrupt her teaching but I wanted to bring this idea up with Myrna in our planning of a report unit. Since we hadn’t discussed the structure of reports in our meetings yet, it was natural that she did not see the potential in the student’s comment and it was not related to what they were doing in this lesson.
A student said, “As soon as they are born they have to fend for themselves.” Myrna asked, “How do you want to start that?” The student replied, “When the babies hatch they fend for themselves.” Myrna then asked what it meant if they had to fend for themselves and a student explained that they have to find their own food and try to stay away from predators. Myrna asked whether the students had to fend for themselves and they said no. Myrna then had students read the sentences and said that she thought some of the sentences could be rewritten to sound a bit better. One student suggested that some of the sentences were the same so they found two sentences that contained the same information and they eliminated one sentence.

Then Myrna suggested that they organize the sentences. Students suggested Both snakes and snails lay eggs as the first sentence and Myrna had students vote with a thumbs up. Then she asked them what type of sentence it was and they discussed that it was a declarative sentence and Myrna reminded them that it begins with a capital and ends with a period. In a functional view of language sentence types show voice, but she hadn’t learned that yet since it was so early in the project. She wrote the number one next to the beginning of the sentence. She asked, “Which would you pick second?” A student replied that they should put a sentence about them being born. Myrna asked what else could be second and a different student replied, “Snails leave their eggs.” Myrna replied, “That’s after their mommy lays them. That’s another possibility. So those kind of go together. What other sentence can I talk about?” A student suggested snails can lay 85 eggs and Myrna agreed saying that the content was related to the first sentence. She continued guiding them along saying, “We just talked about how many eggs they can lay, what would come next?” One student suggested how they hatch but Myrna said
something else needed to come first. A student suggested *snakes do not leave* and she wrote number three next to it while asking, “What would come next because it’s directly related to that?” A student suggested *snails do leave* and she wrote four next to it.

Myrna asked whether their work on the SMART board looked neat and students said no. She explained that, “It’s okay for it to look messy while we are trying to arrange it and when we are finished it will look neat. This is called a rough draft, we can cross things out and number things and fix things.” They discussed editing, although she was talking about both editing and revising. I wrote myself a note wondering whether this writing the sentences and organizing them was contradictory to the graphic organizer. They were not writing by similarities and differences, but reintegrating the information into the life cycle of the animals again.

Myrna asked what would be next and students made some suggestions. Most students were rereading to themselves and thinking. Myrna prompted them, “We have two left. What should come next? Which one should come next? Which would be good for the ending statement?” A student suggested *when the babies hatch they fend for themselves.* Myrna added the numbers to the sixth and seventh sentences and said, “So we did a good job putting them in order, we will leave this for now and maybe we will put it together with our clock buddies. Now that we put them in order we can make them better. Throughout all of our sentences we said snakes and snails. What would be better words?” One student suggested *reptiles and mollusks* and Myrna specified, “My first sentence says snakes and snails. What could I say? What kind of snake were we talking about?” A student suggested *the Burmese python* which as in the textbook. Myrna asked what kind of snails they were and another student said *garden snails.* Myrna suggested
that they continue to think about this [revising] when they worked on this writing again. Several students thanked Myrna for the lesson.

**Review of the Lesson.** We briefly reviewed the lesson together the next day and I told Myrna about my concerns regarding the graphic organizer not matching the life cycle she was discussing. I had written notes to myself during the lesson which I discussed with her after the lesson. I thought that Myrna’s language was very colloquial when she said “the mommy snake” and “the mommy snail”. The textbook says “mother”. I also noted that I should discuss the difference between editing and revision with Myrna since she was using editing for both. However, she did engage students in revising the text after they had written the sentences and then they reorganized them to create a paragraph which is an example of creating text cohesion.

We also addressed her question from the day before about how to make language functional. I had graded some of the initial pre-writes for reports in which students responded to the prompt, “Write about how animal and plant cells are the same and different. Try to use a lot of vocabulary from our lessons.” I showed her how the students had used the academic language relating to cells, and the strengths and weaknesses of the writing. Myrna said she thought they had used the language well and that most students had met the standard. I had graded the use of language as approaching the standard. We discussed her view of the language students needed for the text and Myrna said that she thought they had done well overall since it was a difficult topic. I agreed and suggested that the texts could have been improved if students had been taught the structure of reports and if some students understood more of the content relating to the structure of a cell.
** PTR 2 – Procedure: The first unit.**

*Introduction.* Myrna decided to teach a science lesson on deconstructing a procedure in the textbook because it followed with the unit on plants they were doing and she felt that they needed to understand how to write procedures for the science fair, even though we had already started planning a unit on report writing. Procedure also matched the science content and both reports and procedures are generally the genres teachers are most familiar with so either one was a good place to begin.

Myrna engaged students in deconstructing a science experiment from the textbook on plants and light. When deconstruction is used as part of the TLC, it should be informed by SFL and a functional view of language to support students in understanding how authors make language choices to create meaningful texts. Myrna went through the steps of the procedure with them line by line and asked the students to identify different types of sentences and elements of language such as parts of speech. Her teaching was mostly based in a traditional view of grammar, but she occasionally gave functional explanations for language such as that adjectives can provide more specific information for readers and that adverbs can tell how to do something. This resulted in a modified form of deconstruction of text.

As students identified language in the text Myrna wrote it in a table on the SMART board with the categories nouns, verbs, adjectives and adverbs. I had hoped to have her create a table which helped students understand how the adjectivals were part of the noun group and their different functions, and how the function of the adverbials is to describe the verb group. However, we used traditional terms instead of the SFL
metalanguage and the table ended up reinforcing traditional grammar and identifying parts of speech.

**Planning: October 12, 2011.** This was our first attempt at collaborating to plan writing lessons informed by SFL theory and using the TLC strategies. We planned the unit based on a conversation we had during our weekly meeting. I made suggestions regarding what Myrna could teach in relation to the procedure in the textbook based on ideas for teaching procedure in the SFL binder she had been given at the beginning of the year. She was very nervous and repeated the ideas for lessons to me several times so I suggested that I would write up the overview of our plan for the next week based on our discussion and email it to her the next day.

I emailed her a plan which included five activities, beginning with an initial uncoached pre-write to see what students knew about procedures prior to the unit and what we would need to teach them. I encouraged Myrna to have the students do a pre-write because I thought it was important to assess the students’ prior knowledge and it was also an important part of gathering information for the study. She agreed and we decided to ask students to write about how to make a sandwich without specifically telling them that we wanted them to write a procedure. The second step of the unit plan was to have students look for procedures at home and to bring them to school. They would look for written instructions telling someone how to do something and they would deconstruct them in class at the end of the lesson on deconstruction. The third part of the unit was an in-class activity in which Myrna would give oral instructions and students would follow them. I suggested a “Draw a bug” activity or any simple drawing activity. Myrna chose to do an activity that involved her giving instructions on folding a paper and
then drawing items on specific parts of the paper. The fourth part of the unit was to conduct the “How can you show that a plant needs light?” experiment from the textbook (Scott Foresman, 2010, p. 44) in class, and the fifth was to deconstruct the language of that procedure including verbs, nouns, adjectives, and possibly adverbials if Myrna felt comfortable with the idea. I also encouraged Myrna to draw students’ attention to the structure of the text to see if she could get them to notice that it was not written in paragraphs, but in numbered steps, looking at the title, the purpose, the materials and I included these ideas in the unit plan. I also included a table of the relevant language (verbs, nouns, adjectives, and adverbials) from the “How can you show that a plant needs light?” experiment as an example of what she could do on the SMART board with students when they deconstructed the text as a class.

Myrna hadn’t checked her email so she hadn’t seen what I had written up from our conversation last Wednesday. On the other hand, she did all of the lessons we had planned except for the pre-write, and she was ready to do the deconstruction even though she hadn’t seen the suggestions I had made for the deconstruction lesson. I showed her briefly using my computer because I had forgotten to print it off for her. I realized that I should have printed it for her in case she hadn’t seen the email and also so that she could add it to her SFL binder to keep as a reference for future procedure units.

**Teaching/Observation: October 18, 2011.** During this 45 minute lesson Myrna taught the whole class and I observed. She didn’t ask me any questions throughout the lesson, although she did stop teaching to tell me about the paper folding procedure they had done. It was an activity from our mini-unit plan and was relevant to this lesson. Myrna used deconstruction as a strategy to help students analyze the language of the
“How can you show that a plant needs light?” experiment from the science textbook. She focused the deconstruction primarily on the language of procedures, although she did refer to structure when she asked students about the purpose of the procedure, the title and the materials. She did not specifically address the steps as an important part of the structure even though they deconstructed the language of the steps. The textbook also included a list of the materials needed for the procedure although Myrna did not address that within the lesson. She addressed it briefly at the end.

Myrna began the lesson by asking students to turn to the experiment in the textbook. She said, “We are going to do something called deconstruct. Can everyone say that?” Students repeated deconstruct and Myrna asked if anyone knew what it meant. She told them to think about construct and what it meant. One student said to build something and Myrna said, “Right. So if I said deconstruct what would that mean?” One student replied, “Take it apart” and another said, “Oh, like decomposer.” Myrna answered that they were right and deconstruction meant taking apart or doing the opposite of construction. Students made several personal connections to construction projects they had seen and also to demolitions which they related to deconstruction.

Myrna accepted these personal responses and got them back on track by addressing the whole class and asking a question referring to the text and yesterday’s lesson, “What was the word for all the steps we have to take?” A student answered procedure and Myrna confirmed that they would look at the procedure for what they had done yesterday. She asked if students remembered what they had done and students replied that they did. She reminded them that they had talked about how they were going to see a lot of things from English lessons in their science writing and she asked for
examples of what they might see. Students responded with imperatives, nouns, verbs, predicates (Myrna reminded them that verbs and predicates are the same thing), explanatory sentences, and adjectives reflecting their knowledge of traditional grammar. Myrna replied, “Yes, remember we said tall tree?” and a student added, “Caution hot” referring to a procedure (a recipe) she had brought from home. Myrna said, “Yes, they have to give people warning so they don’t get burned.”

Students continued giving ideas for the language they might see in their science lessons such as common and proper nouns, and adverbs. Myrna said, “Yes, I know we haven’t really looked at adverbs yet, but we did a bit yesterday. So something like the boy runs quickly. Or the newspaper came early. When did the newspaper come?” Students chorused, “Early!” Myrna said, “Time place and manner. The girl stepped down. Where did the girl step?” Students chorused, “Down!” This discussion was limited in that the discussion of function was simply Myrna identifying three types of circumstances and the examples did not include adverbial clauses or phrases.

Myrna asked a student to read the title of the text and the first sentence. She then asked what the purpose of the procedure was. A student replied, “So we know what to do.” Myrna said, “Yes, so we know how to do something. Remember when I wrote my paragraph (referring to a paragraph she had written about the school on 10/11/11), what was my purpose?” And a student said, “To tell about.” Myrna said, “Yes my purpose was to inform. Let’s go back to number one. Let’s try to put some words in their proper category. What type of sentence is the first, “Cut 2 pieces of paper”? A student responded that it was an imperative. Myrna asked what they saw on the page. A student answered, “An adjective ‘black paper’.” Myrna asked, “What is the adjective?” The
student responded, “Black.” Myrna reminded them that all colors are adjectives. She did not point out that colors can also be used as nouns or even verbs. As students gave answers Myrna wrote them into a table on the SMART Board. The table had four columns: nouns, verbs, adjectives, and adverbs. A student said, ‘Cut 2 squares.” Myrna said, “Pick a word.” The student said, “Cut.” She asked what kind of word it was and the student replied that it was a verb. Myrna asked for more answers and a student suggested cover.

Myrna asked whether there were any nouns and students responded paper, leaf, and square. Myrna said, “Square. Notice when they are giving us a procedure they have to be very specific. Notice they said take 2 pieces of black paper. Why do you suppose they said black?” A student replied, “Because the light won’t go through the black paper as easily.” Myrna agreed, “Right, the heat won’t go through the black paper as easily. Right, the more specific you are with your instructions the less confusion there will be. They were very specific, they said ‘two black pieces’ and they should be in a square and they should be big enough to cover the leaf.” This exchange showed attention to the functions of the language and how it was used to make the procedure more specific.

Myrna asked a student to read step number two. The student read, “Place the plant in a sunny place. Water it every other day for a week.” Myrna asked what kind of sentences they were and a student said imperative. Myrna said, “We have two imperatives. When you do your procedure you can actually do one comment per step. One: place the plant in a sunny place, two: water every other day for a week. They actually did two in one step. I want you to write each step separately. What words do you see?” A student suggested sunny as an adjective, another student suggested water
and Myrna said, “Water it every day. This brings up a good point. If I say, “Water it every day.” What is water, a noun or a verb?” A student said it was a noun and Myrna explained, “Usually water is a noun, but when you start a sentence with water it is a verb. So in English in some sentences water can be a noun but in this sentence it is a verb.” Myrna was trying to explain that some words have more than one function in English which is important for bilingual learners to know, but her explanation did not refer to the function of water as a process, in this case an action, versus water as a participant in a process, and she was not entirely right because using water at the beginning of a sentence does not necessarily mean it will be a verb.

Myrna asked for a student to read step number three in the textbook. A student read, “Remove the squares. Record your observations of the covered and uncovered leaves.” Myrna asked what kind of language was used. One student said leaves and Myrna said, “This is something we have been talking about. We have leaf and leaves. What is leaves?” A student replied that it was plural and Myrna replied, “Right leaf is singular and leaves is plural.” Then a student suggested record and Myrna asked, “What do they mean? Do they mean a tape recorder (people don’t even use those anymore) and you press the button? What does it mean in a science classroom? ‘Record your observations’ what does that mean?” A student responded that it was a verb and Myrna said, “It’s a verb but what does it mean?” A student suggested that it meant to write something and Myrna said, “Right, write what you see. And what do we call that thing that we keep while we are doing an experiment?” A student answered that it was an observation log. Myrna said, “So when they say record your observations they mean
write what you see.” This would have been another good opportunity for Myrna to explain that *record* was a process that showed an action.

A student said, “I think I see an adverb in the first one [the first sentence], *completely.*” Myrna replied, “Right. That is an adverb because it tells how to cover the leaf. Remember I told you yesterday how some adverbs end in –ly, but some don’t. Many adverbs of manner end in -ly. How should I cover the leaf?” The students chorused, “Completely!” Myrna did explain the function of adverbials here when she said “it tells how to cover the leaf” but then she added the traditional grammar rule of many adverbs ending in –ly emphasizing structure over function.

The next student suggested *observation.* Myrna asked what kind of word it was and the student said it was a noun. A student suggested the word *squares.* Myrna asked if they had already written *square* on the SMART board, looking back up the list, which they had. She asked, “So *squares* is the what?” and a student replied that it was the plural. Myrna restated that *squares* is the plural of *square* and asked another student to answer. The student said *remove* and Myrna commented that there seemed to be a lot of nouns and a lot of verbs in a procedure. Students agreed and she continued, “So we learned that we have to be very specific. Why do we have to be very specific?” A student answered, “So that we don’t get confused.” Myrna reformulated the student’s answer saying, “Yes so that the person following the directions doesn’t get confused. So we noticed we have a lot of nouns, a lot of verbs and what type of sentence do we see a lot of?” Students chorused, “Imperative!” Myrna explained, “Yes, because we are giving a lot of commands. Yes, when we did the paper folding activity I was very specific. I said fold the paper in half, and I said put the heart in the middle of the folds, when I said
where to put the square did I tell you where to put it?” This was an explanation where Myrna emphasized the functions of nouns and verbs in making procedures more specific. Myrna showed me the activity on following a procedure that they had done last week and said she would give me a copy of the procedure. She said that the students had fun with it and right away they all wanted to do it right.

Myrna turned back to the class and, referring to a project they would complete later in the year, asked, “Remember when we talked about the science fair yesterday? What did we say we need to do?” A student responded, “Make a hypothesis.” Myrna said, “Right. What is a hypothesis?” A student responded that it was a guess. Myrna continued, “So a science fair project has a hypothesis, [and] a procedure…” A student added that it had a conclusion and Myrna referred to page 44 in the textbook saying, “Well let’s see what else is in here?” A student said materials and Myrna said, “Right we need to list our materials. Right we also need a title. What’s the title here?” Several students answered that the title was, “How can you show that a plant needs light?” Myrna said, “Right. What I want you to do right now is take the procedure that you brought from home and deconstruct it. Look through the procedure and deconstruct it. What does that mean everybody? I want you to find all the…” Students chorused: “Verbs.” Myrna prompted, “And …” Students chorused: “Nouns.” Again Myrna prompted, “And …” Students chorused: “Adjectives.” And Myrna said, “Yes and adverbs if you can.” This closed the lesson on a very traditional note. Myrna did not discuss with students what real authors do with language to create meaning or the functions of language. Students got into pairs and prepared to deconstruct the procedures
they had found at home the night before. They had brought in labels from cans, a page from a magazine, food boxes and wrappers.

Figure 4.1: Analysis of Language

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
<th>Adjectives</th>
<th>Adverbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper</td>
<td>Cut</td>
<td>Black</td>
<td>completely</td>
</tr>
<tr>
<td>Leaf</td>
<td>Cover</td>
<td>Sunny</td>
<td></td>
</tr>
<tr>
<td>Square</td>
<td>Water</td>
<td>Covered</td>
<td></td>
</tr>
<tr>
<td>Plant</td>
<td>Place</td>
<td>uncovered</td>
<td></td>
</tr>
<tr>
<td>Day</td>
<td>Record</td>
<td></td>
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</tr>
<tr>
<td>Week</td>
<td>remove</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaves</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Squares</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No student writing came out of the procedure lessons in this unit. Students did not do any joint constructions of texts as a class, nor did they do any independent writing of procedures during this mini-unit.

**Review of the lesson.** Myrna said after the lesson that she knew there were more adverbs than she listed but she thought that was enough for today. I said that it was fine because deconstructing can happen on more than one occasion. She said she liked deconstructing and seemed to feel positive about the lesson overall. I accepted her modified deconstruction as a sign of her willingness to try to teach writing in new ways, although I continued to talk to her about emphasizing the functions of language over classifying it. Her deconstruction did not necessarily help students understand the social purpose of the text, and she had only briefly addressed the metalanguage of structure when she mentioned purpose, title and materials which showed that she was still in the early stages of understanding teaching writing informed by SFL.
We had discussed the importance of using the term *process* instead of *verb* last week in our meeting, but she just used the term *verb* in this lesson. I thought that was interesting because she emphasizes other grammar terms to the students, such as *predicates* but she didn’t seem convinced that the term *process* was helpful. I explained that it showed that we were analyzing the function of the language such as doing, saying, feeling or believing instead of classifying it.

Myrna wanted to discuss teaching the elements of the scientific method and preparing for the science fair so we transitioned our discussion to discussing the results of science fair projects and how they would be written. We talked about how an example of the results could be, “After seven days the covered leaf became white and wilted. So we can conclude that plants need sunlight or they die.” She described the results in the past tense so it is a kind of recount, and then the conclusion could be a report or an explanation. I thought that for this example the conclusion should be an explanation showing cause and effect, “So we can conclude that plants need light in order for photosynthesis to occur, or they will die.”

**Reflection.** In our planning for the procedure lessons I was the driving force because it was ideas, strategies and lessons that I was familiar with. I may have been too assertive with the planting seeds and doing activities from the science book as opposed to listening to which activities she wanted to do and modifying what she was doing to add in instruction informed by SFL. After the lesson our discussion was primarily about planning lessons for the report unit.
In the lesson plan I had created a table for the language that was similar to the one Myrna used but I had put verbs first to emphasize that clauses are focused around the verb, then nouns, adjectives and adverbs. I placed nouns and adjectives beside each other in the table because they are part of noun groups but I think I needed to discuss that more with Myrna. I used the traditional grammar terms to match the language Myrna was comfortable with and this was a very language focused lesson. There were a couple of instances where the deconstruction of the textbook for language was functional in that she pointed out that adjectives provide more specific information and adverbs tell us how to do something. However, it was mostly traditional in that students had to identify the different aspects of language for the sake of identifying them but not to determine their function in the writing. It did not help that I suggested creating the table to examine the language because that removed it from the context of the text, and it missed the opportunity to show students that adjectives and adverbs make the writing more precise. Deconstruction was good strategy for Myrna to begin with since she was comfortable with language and the traditional grammar, but she was also able to begin thinking about the functional uses of language when deconstructing.

**Summary of Dependence.**

This was the beginning of our relationship when she told me what she wanted to teach and I showed her how that would look when informed by SFL. These two lessons show an experienced teacher who is comfortable teaching language through traditional grammar. Even though she didn’t use the grammar textbook for either lesson, she emphasized memorization of rules and choral answers to questions about grammar. Myrna made her first attempts at teaching language from a functional perspective,
however, her talk about language remained mostly focused on traditional grammar. She said that she felt she needed to teach the traditional grammar because it gave students the “ammunition” to talk about language (Interview 5/9/12). In these lessons, the goal was not the social construction of knowledge or the social purposes of texts but of students learning content and demonstrating their learning.

The lessons also show that I didn’t entirely know how to support Myrna at this point in the study. While I was trying some strategies for change, they did not always further her learning right away, although some may have bridged her understanding of teaching writing using new strategies. I used the table in an attempt to link what she knew about language to explanations of the ways in which language functions in text but I needed more resources for guiding her to use language. The table did not teach her about functional uses of language and may even have misled her.

As is the case with new projects, the tensions inherent in this phase of the project which were normal for the beginning of a study involving changes in teaching practices and beliefs. Myrna was in a state of disequilibrium because she was juggling starting a new school year with new students while trying to learn about SFL theory and implementing the TLC for lessons on writing. She resisted changes to teaching using her textbooks, integrating science activities into her classroom and using the metalanguage of SFL.

**Collaboration**

The report unit on ecosystems marked the beginning of a new phase in the study; our relationship was evolving from dependence to collaboration. While Myrna did still
depend on me for planning and implementing a unit informed by SFL and the TLC, we collaborated more frequently on lesson planning and she was carrying out lessons that involved deconstruction of mentor texts. She was engaged in the process and she began to take ownership of the project. It is also important that during this phase her writing instruction began to be part of a broader framework for teaching writing because it was informed by SFL theory.

In our October 19\textsuperscript{th} weekly meeting, Myrna and I began talking about the report unit, we planned the first several lessons together and I took notes. We negotiated successfully to include goals, content and strategies that we were both satisfied with. Myrna wanted to use the topic of ecosystems from the textbook and she wanted the students to create pamphlets to keep the texts short because it was the first time students were writing reports. I encouraged her to use the TLC strategies of deconstruction and joint construction to teach the stages of the genre and the language.

During our meeting we discussed professional development on writing that she had taken through the local public school district. Myrna said that she felt the public schools tried to teach the structure of writing without grammar and she felt that she was doing the opposite, but she recognized that it was necessary to do both. I was very excited by this conversation and wrote in my notes that she was getting close to recommending a functional view of grammar. When she taught, however, she continued to emphasize the traditional grammar she was used to but she began teaching it in the context of texts she read with the class instead of through the grammar text. She often asked students to identify the parts of speech, sentence types, verb tense and other aspects
of language but they didn’t discuss how the grammar was important in choosing language to create texts and convey information.

After our meeting I added details to the unit plan and emailed it to Myrna. It included several lessons on deconstructing the textbook for aspects of structure (title, opening general statements, subtopics) and for aspects of language (present tense, action verbs, noun phrases), several lessons on joint construction (titles, opening general statements, subtopics), a lesson on tenor discussing the audience for the project and a lesson on medium where Myrna would deconstruct a pamphlet with students.

When she taught the first lesson on reports on October 25th, she sat at her desk which was uncharacteristic of her teaching style in other lessons where she taught using the SMART board at the front of the class. She went through the plan we had made and covered a lot of information in one class. I was surprised and impressed by how efficiently she explained what students would be doing in the report unit. Then she led them through the deconstruction of the structure of “What are the parts of our ecosystems?” on pages 79 and 80 of the textbook from the title to the subtopics (Scott Foresman, 2010).

In the beginning of November, Myrna taught a lesson on deconstructing for structure and language using a mentor text called “Crabs” (1998). The following week she engaged students in a small group activity on deconstructing a simple text for the structure of reports which includes the opening statement and the subtopics using a graphic organizer from the SFL binder. Myrna’s lessons emphasized the science content and she continued to include traditional grammar in the deconstruction of texts. Toward
the end of the unit she commented that she had not used the grammar text for weeks and that the students said they missed it. She said that she felt the students were getting the grammar through their discussions of language during the writing lessons, but that she had also given them grammar worksheets for homework. While she was not teaching directly from the textbook, she was clearly still using traditional grammar as the foundation for language instruction.

During our weekly meeting on November 1st, we continued our planning for the report unit. We planned that in the first week of November students would deconstruct a report in groups, first for structure and then for language using the four subtopics report graphic organizer from the SFL binder. Students would also select an ecosystem and decide on the subtopics using a graphic organizer web to brainstorm ideas. Then they would read the mentor texts Myrna and I collected for the project, and Myrna would teach them to paraphrase.

Our plans were delayed slightly but when we met November 8th we just reviewed what hadn’t been done yet and planned to teach those lessons on the Thursday and Friday then continued planning the lessons into the following week. I also suggested that Myrna add a lesson on joint construction based on one of the ecosystems, such as deserts, so that students would get guided practice on using information they gathered through reading and note-taking to write a report before attempting it on their own.

Although we planned the joint construction lesson for the following week when I was observing, Myrna did not teach the lesson. Instead she shared information about how she had done research to write a text on deserts of her own, but she never ended up
sharing her actual text with them. Instead she introduced the medium of pamphlets to the class and deconstructed the textbook chapter on Ecosystems. They reviewed the structure of the text and they deconstructed for the content on ecosystems so that students would know how to gather information for their own reports (PTR 3). Myrna did teach one lesson using joint construction during the report unit, but it was on a day when I was not observing. The lesson was on creating opening statements and closing statements for students’ reports based on their subtopics.

Toward the end of November and through December, Myrna had students take notes and write their rough drafts on ecosystems. Myrna conferenced with individual students throughout the process and I began to do the same. At this point my role changed from mostly observing the classroom interactions to participating directly with students as they worked. I conferenced with students and supported some in their efforts to extract content, write notes and create sentences. Students’ notes consisted of writing the name of the subtopic at the top of the page, for example Climate and then they wrote their notes below. Myrna told the students to focus on doing research for one subtopic at a time, although they didn’t all need to be doing the same subtopic. Some students were frustrated by this strategy for taking notes, especially when they found information on a subtopic other than the one they were working on and they wanted to be able to record it. Myrna commented in our weekly meetings that it was helpful to have me conference with students because she couldn’t meet with all of the students often enough to meet their needs as they wrote their texts on ecosystems.

Her main goal in December was to get the students to finish the report pamphlets. Myrna said that she might try a different process the next time she did reports, like
having students work on one subtopic at a time and bringing it all the way to the final
draft before beginning the next. She seemed to realize that it would not really be an
authentic way to write and I suggested we discuss what real writers do in more depth. I
had also suggested to her in November that she devote both language arts and science
time to teaching the report unit, however she was concerned that students would not
finish the science textbook by the end of the year. It was interesting that Myrna was
teaching some of the report lessons on days that I wasn’t at the school which
demonstrated her increasing comfort with teaching writing using SFL and deconstruction,
but at the same time she was also teaching the next unit in the science text so that
students would not get behind in the reading.

In our December 7th meeting I emphasized that it takes practice to teach students
to do research and that they need to be engaged in collaborative note-taking on a regular
basis with her leading the activity and teaching students to take notes. I also introduced
the idea of using a larger version of the graphic organizer in the binder so that students
could take all of their notes at once and then put the books away while they wrote their
rough drafts using just their notes. It also seemed important to me that Myrna had left out
the joint construction lessons in the report unit. I wondered if that was due to the fact that
I had not encouraged her enough to use the strategy. I also realized that the reason could
have been that she was not comfortable using it, that she thought students wouldn’t need
the guidance or that she wanted to save time. I thought the fact that students hadn’t been
guided through the process of writing a report was one reason it was taking students so
long to finish their texts. I made a note to myself to discuss the teaching and learning
cycle more with Myrna and to encourage her to try the joint construction of text in the
next unit. Joint construction was not emphasized in the monthly PD of the larger study until February.

January marked the beginning of a new commitment to our collaboration. Although Myrna and I had begun collaborating in November and December, we were still negotiating the content of the lessons and the strategies Myrna used in teaching, and Myrna was still learning SFL content. In January we began with a different dynamic. Myrna did not need as much direction on how to create the writing unit, she was comfortable using deconstruction as a strategy, she understood how to teach the purpose and structure of the procedure genre, and she began emphasizing the functions of language more often in class. We had arrived at more of a consensus regarding our goals for teaching writing.

This was a time of planning together, discussing which genres were appropriate for the science fair, and implementing multiple units. In the next four months we continued to negotiate, but instead of negotiating about the content of individual lessons, we negotiated about the relevance of teaching of three genres (procedure, explanation and procedural recount) in relation to Myrna’s teaching goals. These discussions also included the teaching of the structure of the science fair projects which included a title, a question, a hypothesis, a procedure, a results section including a graph or table of the data and a procedural recount of the data collection, and a conclusion. I encouraged Myrna to focus students’ attention on three experiments they would conduct in the classroom (decomposers, making butter, and overcrowding of seedlings) and she used these for deconstruction and joint constructions when teaching procedures, procedural recounts and the science fair projects.
The month began with the unit on procedure which we planned together in our January meetings. We planned that Myrna would introduce students to an experiment on decomposers which involved observing bread for the presence of mold and understanding the effects of water on the growth of mold. She would read the procedure with students and explain it, they would follow the procedure and observe the bread for ten days, and she would deconstruct the procedure with them to help them understand the structure of procedures. We discussed the struggles of students during the report unit and how the use of joint construction as a teaching strategy could have prepared them more thoroughly to write independently. We planned a joint construction lesson on procedure using the *making butter* experience that students had engaged in with their first grade buddies as the topic.

Myrna began implementing lessons in the second week of January (PTR 4). She deconstructed procedures in the textbook and did joint constructions of procedures they had done in class. They discussed the language of texts as they deconstructed them and as they created texts together, and the discussions began to focus on what language would make the text better. The focus of these discussions began to shift from understanding the rules of grammar and identifying the parts of speech, to thinking about language as presenting choices to the writer.

At the end of January Myrna began teaching the structure of the science fair projects. Myrna knew that she wanted students to produce a tri-fold poster showing their experiment as well as a paper. She knew the format was to follow the scientific method (title, question, hypothesis, procedure, results and conclusion) and we planned lessons for each of these aspects using the TLC strategies. Mentor texts were difficult to find for
procedural recounts, especially in relation to science projects. Myrna commented that while the textbook included the procedure for conducting experiments, it never showed any written version documenting the results of an experiment. We searched for mentor texts and discussed what it was that she wanted the mentor text to show her students. She decided to use her daughter’s science fair trifold poster as a mentor text since it followed the scientific method in structure and content which was what she wanted to teach. She taught a series of lessons on creating a title, a question, and a hypothesis where she engaged students in deconstructing the mentor text science fair project for one aspect of the scientific method at a time. She also taught these same aspects through joint construction using the science experiments they had done in class as the topic.

Myrna continued to teach procedures in the first week of February. She wondered whether the students should write an independent procedure since she had been teaching the genre for a month, so we planned it for the following week. We also determined that it would be beneficial to students to participate in the joint construction of the procedure for the experiment on overcrowding seedlings that they had done prior to the independent procedure. Throughout the joint construction Myrna emphasized both the structure of procedures and the language. The discussion of language with students included choosing language to improve the specificity of the text which showed Myrna’s developing understanding of and her ability to teach functional language.

By the beginning of February Myrna was worried about the results and conclusion sections of the science fair projects because she wasn’t sure what genre of writing they each required. She knew that for the results she wanted students to include some kind of visual of the data, such as a graph or a table, but she wasn’t sure if the written part should
be an explanation or a procedural recount. We discussed what the purpose of the results section of the fourth graders’ projects would be and what genre would be appropriate. After reading the mentor text science fair project poster board we determined that the purpose was to inform readers of what had happened during the experiment and the gathering of data which is a procedural recount. We created several lessons on procedural recounts and Myrna taught both the genre and how to create a visual of the data gathered throughout the experiment to accompany the text.

I hoped that Myrna would decide to teach explanations because it seemed important for fourth grade students to learn to explain phenomena in science, even at a basic level, and I suggested that it might be the appropriate genre for the conclusion of the science fair project. We decided that she would have the students write a pre-write on explanations the next week to see what they knew about the genre. That way we would be prepared to plan an explanation unit if we determined it was the appropriate genre for the conclusion of the science fair projects.

In the second week of February Myrna followed our plan to have students write an independent procedure on how to make a snowflake and a pre-write for explanations on the bread mold experiment, even though I did not observe since I was sick. Although students wrote the pre-write for explanations, and the PI of the larger study included explanations in the monthly PD, the explanation unit never got beyond the planning stage (PTR 5). After we analyzed the mentor text science fair project, Myrna decided that the conclusion would include a statement about whether the hypothesis was right or wrong and a statement about how what was learned from the experiment related to real life.
In February Myrna expressed that she was feeling tensions between implementing SFL and teaching the content she had planned for the year. In our February 14th meeting, I encouraged her to focus her attention on teaching informed by SFL while diminishing the use of the textbooks. I also encouraged her to continue teaching writing lessons informed by SFL and using the TLC when I wasn’t observing and to broaden the scope of lessons informed by SFL to other subjects. She said that she knew it was a good idea but she felt that she also needed to teach the content of the science and grammar textbooks by the end of the year. She even gave grammar tests to accompany the lessons in the text.

I reminded her that I had talked with the principal about creating a calendar of science topics across all the grades so that each teacher just taught a few topics to students in depth each year and she agreed that it would be great. She was enthusiastic about doing it but seemed reluctant to let go of anything until a new system was in place. Myrna told me that the principal had even encouraged her to modify the teaching of science, noting that she was teaching the same science content in both fourth and fifth grade but Myrna continued to do it. I suggested that, on a trial basis, she divide up topics by grade level for the rest of the year based on what she knew was developmentally appropriate.

I also mentioned that 6th grade spent most of the fall on the Cells unit and they covered it in great depth. Myrna was very enthusiastic about getting children to learn a subject in depth. She said that she had taken many summer courses with the local public school teachers and knew that they only taught a few topics in depth each year. She asked what we could base our vision of science curriculum for the school on and I said that the public schools based it on the state Curriculum Frameworks and that her school
could do the same without feeling bound to it. She asked if we could base it on the local district’s work as well and I said yes, and we could even bring in what other districts did, and then St. Catherine’s science teachers could create a science curriculum across grade levels based on that curriculum. The tension between completing the textbooks and teaching students more meaningful content continued through to the end of the year.

Myrna had the students do a pre-write for procedural recounts on February 15th prior to the teaching so we could assess what they already knew about the genre. The procedural recount unit didn’t begin until March. The topic of the pre-write was to inform readers of what had happened during the procedure on turning cream into butter. The student texts showed that even though some students knew how to recount events in sequence, they didn’t focus on retelling the procedure they had followed. Important information was left out relating to who was involved in the activity, how long they shook the heavy cream, when they checked on it and how many times they checked.

We planned that Myrna would deconstruct the results section of her daughter’s science fair poster with students to begin the procedural recount unit. I recommended that her analysis of the language used in her daughter’s poster include adverbials, verb groups, noun groups and sentence types so that she would discuss the functions of the language, but Myrna continued to use the metalanguage of the parts of speech and to refer to nouns, verbs, adjectives and adverbs. Myrna deconstructed the results section of her daughter’s poster for language with students on a day when I wasn’t observing, but she also referred students to look to it throughout the winter and spring as an example of what they were going to produce for their own science fair projects.
In March, Myrna taught procedural recounts and for the science fair project she taught students about the results and conclusion. I observed two joint constructions of procedural recounts (one of which is described in PTR 6) and two lessons on writing a conclusion. In April Myrna focused on having students work on the written part of their science fair projects in class. Myrna and I conferenced with students and guided them through the process of creating the multi-genre projects. The science fair was held on April 25th and all students presented their experiments with a trifold board and a separate written project.

**PTR 3 – Reports: From planning to pamphlets.**

*Introduction.* This lesson was on the genre of reports on ecosystems including the structure of reports and the medium students would use for their writing projects, which was a pamphlet. As Myrna modelled with a blank pamphlet, she discussed the structure of the report with students and the layout of the information in the pamphlet. They discussed title, opening statement, three subtopics and a summarizing statement. Myrna also deconstructed two pages of the science textbook to engage students in taking notes on the science content and they discussed the other research resources available to students for the project. The topics of the student projects included deserts, swamps, coral reefs, grasslands, tundra, and tropical rainforests.

When I arrived on November 15th, Myrna quickly reviewed what she had done since my last visit. The previous week, Myrna and I had sorted through the mentor texts in her classroom library together to identify those that were reports. On the following day, as a class they had read through some of the reports and together they had identified
the title, opening statement, subtopics, and concluding statement (if there was one). They also discussed how to create some other opening statements for those reports and even generated some concluding statements when the books didn’t have any. She said students were really interested in the books, one of which was *Nests and Homes* (Sunshine). The books had two or three sentences per page, very realistic photos and drawings, distinct subtitles and very clear organization of topics. She also said that the day prior to this lesson (PTR 3) she had given the students the report organizer with the boxes for four subtopics, students had deconstructed a book written as a report in small groups and had found subtopics, opening statements, and closing statements in the mentor texts. Then they had shared with the whole class what they had learned.

**Planning.** I had suggested that she teach a lesson on joint construction of text using one of the ecosystems but due to several delays in the schedule Myrna chose to combine two lessons. She taught part of the lesson on deconstructing the medium they would use, which was a pamphlet, and part of the lesson on deconstructing the pages on ecosystems in the textbook for the structure of reports.

**Teaching/Observation: November 15, 2011.** During this lesson Myrna taught the class and I observed and took detailed field notes of all interactions. However, we did interact at several points during the lesson as Myrna made decisions about organizing the pamphlets and as she walked students through one of the mentor texts to show them all of the resources the book contained. The strategies Myrna used were review, modeling and deconstruction of text. She reviewed the structure of reports with students while she modeled the pamphlets the students would create. Then she briefly used deconstruction of text as a strategy when she was introducing the subtopics in the textbook that students
would use for their projects. At the end of the lesson she modeled how students could use the features of the mentor texts to help them in conducting their research.

Myrna began by saying, “So what we’re going to do today is talk about what we’re going to include in our pamphlets that we are going to prepare, which is a form of what…a pamphlet is a way for us to do what on a given topic?” A student replied, “Inform people.” Myrna agreed and continued, “And that is like a what? When we want to inform people it’s like we are writing a what?” A student replied pamphlet and Myrna said, “That’s the way we are going to write it.” Another student said, “A report.” Myrna answered, “Right, a report. So let’s talk about the necessary components of a report.” Students suggested a title, an opening statement, and an audience showing evidence of their learning in the past week. Myrna agreed that they did need to think about the audience they were writing the report for. The tenor of reports is usually neutral and slightly formal since the purpose is to inform a general audience, but since the medium was a pamphlet the manner of presenting the information and the audience became more important.

Myrna asked what the next necessary part of a report was. A student said subtopics and she agreed. Then Myrna explained that not all reports would have the same number of subtopics and she reminded them of the deconstruction activity they had done and how the books had different numbers of subtopics. She explained that reports usually had three or more subtopics but that she would tell them how many they would have for this project. Then she asked what else they needed for a report and a student said a closing statement and Myrna asked, “And what is it called in our graphic organizer?” Several students said, “Summarizing comment!” Myrna said, “Now that is
optional and what did we say yesterday? They’re optional but they’re nice to have because they kind of wrap up neatly what we are trying to say. And we can always end with an exclamatory sentence like, ‘For more information read more!’ It kind of makes it sound like it’s from the heart and it makes it sound nice in the end.” This emphasis on appealing to an audience is also uncharacteristic of the report genre but Myrna was very enthusiastic about making each final product appealing to audiences and fun for students to produce.

Myrna took a piece of 8 ½ x 11 paper and held it up saying, “So here is what our pamphlet is going to look like I’m just going to take this paper for a moment. How is a pamphlet usually folded?” A student replied, “Side to side.” And Myrna asked, “Is it in half? In four?” A student answered, “Three.” Myrna said while demonstrating with a paper, “So take one side and fold it to about the middle, and then you fold over the other side. So then you have how many [sides]?” A student said three. Myrna said, “Pamphlets are an excellent way to share your knowledge with somebody because they are fun and you can put pictures on them. What do you think we should put on the front?” A student answered the title. Myrna agreed, “The title, so the title would go here and we’re going to talk about different ways to write the title on the front in a moment. So Deserts could go here or what?” A student suggested Ecosystem and Myrna explained, “Well we’re going to talk about a specific kind of ecosystem. You can even say the Terrific Tundra, you can use your imagination and create an exciting title.” This is another example of Myrna’s teaching about tenor and how writers should appeal to audiences, although this type of title does not help the writer to inform the reader about tundra and can even be confusing.
Myrna held up the sample pamphlet while showing the inside flap. She said, “Your opening statement…you kind of want to invite people in, so I’m going to write it on the inside cover. Does everyone know what I mean by that? So then we are going to open it fully up and you have room for your three subtopics.” Then she reviewed the organization of the pamphlet with them saying, “Opening statement inviting my readers in to read more, then inside the three subtopics, and then we need a place for our summarizing statement. Where can we put it?” I asked, “On the back?” Myrna said, “Yes, on the back and then you can add your own little personal publishing statement at the bottom, like ‘Pamphlets by Kenneth’ or ‘Very Valerie’. Do you know how Hallmark cards have something at the back? Yes, so you can do something like that. We are going to talk about it more but this is an overview.”

Myrna wanted students to use a web organizer from the SFL binder but she couldn’t find it. I suggested just having students copy it into their notebooks. She asked students to turn to pages 80-81 on ecosystems in the textbook. Myrna said, “What do you call it when you take your info and you try to organize it?” A student said a graphic organizer. As Myrna drew a circle and four branches she said, “So this is a graphic organizer so your main topic would go here. You can put this in your notes or put it on the back of the graphic organizer you used yesterday. So my topic could also be my title okay…and in my report I want to include a definite opening statement. Now I want to talk about the opening statement for a second. Is it okay for my opening statement to be more than one sentence long?” Students chorused, “Yes!” Myrna said, “Yes, so it could be an opening paragraph and it could be two to three sentences long. So let’s talk about our three subtopics. What are the things that we want to talk about in our pamphlet?”
They talked briefly about making other pamphlets during the school year for their first grade buddies. Myrna asked about audience, “So what’s happening about audience now? For this pamphlet you are writing for me so you want to show me how smart you are. When you are writing for your first grade buddies…” A student said, “You want to make it fun and…” Myrna said, “You need to make it friendly for little people. So depending on your audience that affects your writing. It depends who you are writing for.”

Then they went back to discussing subtopics. Myrna said, “Okay, so let’s just brainstorm possible subtopics for our pamphlet. What do you think we should include? What’s important to share? What subtopics? Look at the little descriptions they have on 80 and 81, if you just read through them quickly what do they talk about in each one?” A student suggested, “What an ecosystem is.” And Myrna asked, “What kinds of things are they talking about in the paragraph?” Another student said, “About the animals.” Myrna wrote animals on the web on the SMART board as she said, “So animals, what else?” Another student said, “Plants.” Myrna wrote plants and said, “Very good. What else?” A student answered, “The nonliving things.” Myrna said, “Maybe, what else?” Another student said, “The climate.” Myrna wrote climate and said, “The climate, that’s what I was looking for. So for our 1st paragraph we are all going to have specific things.” She told them that when they wrote a different text they might want to write about the nonliving things as one of the students had suggested.

She continued, “So Miss Tracy and I were talking about how in our opening statement we might want to talk about some famous ecosystems or where we find some of these ecosystems in the world. So my opening statement is going to include two
things, my topic so I may say “A desert is an ecosystem.” Does anyone know a famous
know another one? Did you talk about any social studies? The Mojave.” Another
student suggested Death Valley. Myrna continued, “So that’s a nice way to start, ‘A
desert is an ecosystem’. Do you think there is enough information in your textbook to
write your paragraph?” A student said no and Myrna said when she had done some
research on deserts the night before she had used an encyclopedia, and a fourth grade
textbook. She said that she would also have used the internet but it wasn’t working. She
directed students’ attention to the textbook saying, “What they have on page 80 is really
nice but it’s not enough. So be prepared, you are going to need multiple resources when
you write a report. So let’s just take deserts on page 80 and see what I can put on my
web.” She asked a student to read the paragraph on deserts to her and after the student
read, “The driest ecosystem on earth is a desert. Some plants and animals have adapted
to the limited water supply. Cactuses, shrubs, coyotes, and roadrunners are desert
organisms.” Myrna said, “Their opening statement is nice isn’t it? Let’s read it again.”
The student read it again.

Myrna said, “That’s nice and then it talks about the fact that some animals and
plants can live in that ecosystem. What can I put under the plants?” She was referring to
the graphic organizer on the SMART board. A student suggested cactuses. Myrna wrote
cactuses and asked, “How about any animals? Did it teach me about any animals there?”
A student said roadrunners and Myrna added, “Coyotes and roadrunners. What else can I
find there? What else can I say? Did it say anything about the climate?” Some students
said no, but other students answered yes and said that the book said it’s the driest. Myrna
agreed, “It’s the driest, yes. So just from that do I have some information there? Yes, I have at least some animals that I can talk about and some plants just from this one book.”

She told the students that I had brought some books on ecosystems from the university and the students chorused, “Thank you Miss Tracy!” Myrna continued, “So we have to be careful with these so that other children can read them too. Let’s look at the titles.” The class read all of the titles as a group. Myrna explained that she had also visited the Brain Pop website and she had printed more information on certain ecosystems. Then she reviewed the mentor texts with them saying, “So then let’s just talk about our resources. So we have our science textbooks. Are these books fiction or non?” She was referring to the books I had brought and a student answered nonfiction. Myrna said, “And then we have Brain Pop and what is that?” Myrna continued, “A website, so what are these then?” A student said, “Our resources.” Myrna agreed, “Yes, these are our resources. The Brain Pop had three pages on tundra and then the taiga, and it’s not everything I need, but every bit helps. We have the savannah, and deserts, so we have like three copies of each of those as well. So let’s just look. And the Brain Pop you can actually go to this website too. It had flora and fauna, what do you think those words mean?” A student said plants and animals and Myrna continued, “Right then it had trivia and why do you think I printed that? They are interesting and maybe you can use that for your report. So it’s just different information you can have for your reports written in the form of a pamphlet.”

She held up one of the books that I brought called *The Dry Desert* (2004) by Philip Johansson from the A Web of Life series. She showed them the cover and then began to go through the first pages showing the class the different features of the book.
“Let’s look at how the book is set up. First of all I know it is nonfiction because it has a table of contents. So this one talks about desert tortoises so I know that is one animal I can get for that ecosystem. Oh, this is nice. Did you see this Tracy?” She was showing a page with a map of the world where each ecosystem was highlighted in a different color. I said that I hadn’t seen the page yet. Myrna showed it to the class saying, “This is really cool, you can look at this map of the world. You can see that there are a lot of deserts in the …is this the eastern or western coast of the US?” The students chorused, “Western.” Myrna said, “You can also look at the whole world and not just the U.S.” A student called out, “Social studies.” Myrna acted incredulous and teased the students said, “So you mean we are talking about socials studies in science? How dare I? No, I love that!” This had been an ongoing discussion throughout the year that they could integrate subjects, such as language arts and science initially and now science and social studies.

Myrna drew students’ attention to the first sentence of page 13, “Deserts are the driest places on earth”. She said, “Let’s just see if we can put it in our own words. What is that word that means put it in your own words?” One student said paradise while another said para… and didn’t finish. Myrna reminded them, “Paraphrase, do you remember that? “ She repeated the sentence from the text, “Deserts are the driest places on earth”. She asked students, “How can I put that in my own words?” One student repeated what the text said. Then another student suggested, “A desert is very hot and dry and it gets very little rain.” Myrna repeated what the student had said so that the whole class could hear the sentence. Another student said, “The driest place on earth is the desert.” Again Myrna repeated for the whole class. Another student said, “Deserts
are the driest and hottest places.” This was approaching a joint construction of opening
general statements because that strategy can involve paraphrasing, however, Myrna
stopped at just having different students paraphrase, but they didn’t actually construct an
opening statement together.

She commented on the quality of the pictures and told students they could even
base their diagrams and pictures on those in the book. She continued looking through the
book and showing the pages to the class. She said, “And then they have communities in
the desert. What do you call that right here?” A student answered that it was a food
chain. Myrna said, “And this is a food web, so lots of information right here. This is an
excellent resource. Look at all these nice examples of desert plants here. How might I
include the desert plants in my pamphlet? How might I talk about the desert plants?”
Students seemed unsure so she continued, “So don’t forget you want to have a subtopic,
‘Desert Plants’, right?” A student said, “Plants need to store a lot of water to survive.”
Myrna said, “So let’s just see what they have. They have cacti, which is just the plural of
cactus, grasses, creosote bushes, so I could say what? In the desert they have cacti,
grasses, creosote bushes, and you would need to use what?” A student said commas.
Myrna said, “Yes, commas as we list the plants.”

Then Myrna showed them that the book had examples of many of the plants and
animals at the end. She asked whether they should include all of them. A student said no
and Myrna said, “No, because they list about twelve you can just pick some that interest
you. They even classified them as herbivores, omnivores and carnivores. Could you do
that in your pamphlet?” A student answered yes and Myrna said, “So I could say ‘Some
of the herbivores, found in the desert are…’ do you see how I’m doing this here? And
then you could say ‘Some of the carnivores found in the desert are…”’ She gave examples of some of the animals listed on the page and then she did the same with the plants. She also told students that if they didn’t have a printer to get pictures from the internet they could draw some of the pictures. She continued showing some of the pictures of the desert animals and telling students the names, saying, “Oh look! That’s the kangaroo rat. And that’s the elf owl.” Students were exclaiming that the animals were so cute. They were very excited and were asking to know more about them. Myrna showed some more pictures and read some of the information before moving on.

Myrna kept going through the book and asked what else could be found in the back of the book. A student said the glossary was in the back and Myrna suggested to students that it could be helpful when they were writing their pamphlets. She showed them that the book had a page titled “Learn More” and explained that they authors were suggesting books that could help readers learn more. She explained that they could look up some of the suggested resources at the library and that they could look up the websites. She said, “This is an excellent resource. Does everyone know how we are going to set up our pamphlet? Then we are going to do some very specific things. We are going to have our title, our opening statement, our subtopics, our summarizing comment. So what we are going to do tomorrow is look at the books Miss Tracy brought us and the Brain Pop printouts, the textbook and what other book can you go to?” A student suggested their social studies hardcover and Myrna agreed that they might find some information there. One student asked if they would decorate the front of the pamphlets and Myrna said, “Yes, but that is the fun part, first we are going to get the information.”
She began reviewing what they would do saying, “What’s going to go on the front? The title, then the opening statement. And can that be more than one sentence long?” A student said yes, and Myrna continued her review holding up the sample pamphlet, “So deserts are a type of ecosystem. Some popular deserts are the Sahara, the Mojave. Then we open it up and find Climate, Plants and Animals then, ‘If you would like to find out more information go to www.pbskids.com.’ You don’t have to put that information, you are going to put your own individual mark on it. And then a summarizing statement and your own little mark on the back.” A student showed a book on deserts that she had brought and asked Myrna if she could use it. Myrna said, “Yes, that is also an excellent resource that you can use.”

Myrna concluded the lesson by saying, “So we talked about paraphrasing. So, show thumbs up if you feel really good about doing your pamphlet now.” Most students showed thumbs up. Myrna said, “But we’ll do baby steps tomorrow, we will take it in little steps. Like for all our writing we will do what?” Students suggested title and write their names and Myrna said “No, for all writing what do we do first? Let’s think about when we pretended to be a little seed, and then we wrote to soldiers…” A student said a rough draft and Myrna agreed. She said, “We do a rough draft then we read it, then we do our final product.” A student said that products were cool. Myrna asked them again if they felt good about how they were going to get started on the projects and then she said, “So tomorrow the researching begins! We’ll do big kids’ stuff!”

**Review of the Lesson November 16.** We discussed how this lesson was very motivational for students as they began to understand the concrete details of the projects they would complete. Myrna taught the structure of the reports very clearly and even
engaged students in thinking about the content for each subsection. It was too bad that she did not link that information to a joint construction lesson on deserts as I suggested and we discussed that this was an important step. I told Myrna that I felt just describing the research she had done on deserts at home and referring to the report she had written in was a missed opportunity to get students involved. The joint construction would have fit well with this lesson since she focused on the information in each subtopic in this lesson and she could have moved into constructing the text for each subtopic as they read about it and shared the information. She started to do this when they listed the plants found in the desert and when she gave examples of the sentence starters “Some of the herbivores found in the desert are…” and “Some of the carnivores found in the desert are…” but she didn’t engage the students in creating a text.

Myrna loved the books I brought from BC because of their clear structure and realistic but uncomplicated images. She said that it would show the students that they could draw simple images and diagrams for their own reports to convey information without needing to be artists. We agreed that the next day she would continue with the plan we had made the week before and students would read the various resources and start gathering information for their own texts.

We also went over the report rubric and discussed what categories we would need to evaluate the students’ writing. We read through all of the categories in the generic rubric and selected the ones we thought applied. After we met I redid the rubric template to match what we had discussed. We discussed analyzing the students’ ability to use noun groups once they had written the text for a subtopic and they were ready to revise.
We talked about planting the seeds for next week in relation to the activity on page 108 of the science textbook. I wanted to try to find radish seeds because that is what they recommended in the book. Myrna said that she did not like experiments with seeds. She didn’t feel that she had a green thumb and she wouldn’t know what to do with the planting activity. I offered to do it for her, then she said we could do it together. I also said that it could be a center students could go to while they worked on their ecosystems report next Tuesday. I said that I could be in charge of the planting and she said that she could conference with students on their pamphlets.

Yesterday Myrna also talked about creating an experiment and how a true experiment can only have one variable and what that would look like in the experiment. She suggested that she would bring it back to procedure and how they could write them. She said that the fourth grade book uses simplified terms like “add 5 spoonfuls of water” but they don’t say which measure (teaspoon or tablespoon). This showed her growing attention to language and how it could be used to make meaning.

I asked Myrna if she had started reading the next chapter of the science textbook with students and she had. She was having them write their reports in language arts but then they had moved on to the next chapter in science. I suggested it might be better to finish the pamphlet project before moving ahead with another concept. She agreed that it would be good to finish up before Thanksgiving, but she continued reading the science textbook pages she had allotted for each day throughout the school year with students.
PTR 4 – Tradition and function.

Introduction. This lesson was the first in the procedure unit taught in January and February. The lesson focused on deconstructing the “What do decomposers do?” procedure on bread mold in the Scott Foresman textbook. During the lesson Myrna seemed to be straddling traditional grammar and functional grammar. She began with what she knew and applied it to the lesson, then added in elements of a functional view of language.

She framed the lesson in traditional terms (nouns, adjectives, verbs, adverbs) initially when she asked students to predict the types of language and sentence types that would likely be found in them. This was based in going through elements of traditional grammar and naming them, but it was not a lesson from the grammar book and it involved suggesting language related to the topic of the procedure so the discussion of grammar was not entirely without context. However, at other times she just had them list the examples of the grammar without discussing the function of the word in the text. For example, they found the pronouns them and you but did not discuss why these were used in the procedure and the role they played in creating meaning. She included function when discussing adverbs and using language to be more specific, but she could also have discussed the functions of language when discussing sentence types and adjectives.

Planning: January 3, 2012. Myrna wanted to start teaching students about the science fair projects which are a hybrid of at least two genres. The science fair was usually in April, although a date hadn’t been set yet. She was worried there would not be enough time to teach the genres unless she began immediately. She decided to start with
procedures. Myrna also said that she would try some of the procedure activities from the Scott Foresman textbook with fourth grade science, starting with an experiment called “What do decomposers do?” (p. 96-97). She asked if I thought it would be better to start by teaching students what makes a good procedure or starting with an experiment. I said an experiment would be very motivating for students and then they could deconstruct the procedure after doing the experiment. I also said it would be helpful for bilingual students to engage in the activity first and it would also be less distracting for students to do the activity first. Myrna agreed. We planned that she would start the bread mold experiment the following Tuesday. Myrna would have students read through the procedure, do the procedure and then deconstruct it on the following day.

She showed me her daughter’s tri-fold board which she was using as a mentor text for the science fair projects. It had a title, a problem, a hypothesis, a graph, a procedure, a report, a conclusion, labelled pictures and diagrams. Myrna said that she would ask the fifth graders to bring in their reports from last year so that she could share them with her students. I asked when they would pick topics and she said by the middle of January to the end of January. She told students that science fair topics could be from the textbook or from ideas they found online. She would approve each student’s topic before they began working on their project.

At the end of our meeting Myrna said that she would try an activity with fifth grade since she taught them science as well. She wanted to try a simple experiment from their textbook but would use the bread activity if she couldn’t find a better one.
Teaching/Observation: January 10, 2012. During this lesson Myrna taught and I observed and took field notes, although we also interacted at one point during a discussion about language. Myrna used deconstruction as a strategy to help students understand the procedure in the textbook. She led students in a deconstruction of the text for both the structure of the procedure and the language which combined traditional grammar and functional language. The total time for the lesson was 65 minutes.

Myrna began by asking students to define a procedure. One student said, “It’s like rules to follow to finish a project.” Myrna reiterated, “The steps that you take to do something. And do we only see procedures in science experiments?” Students chorused no. Myrna asked, “Do you remember when we brought stuff from home?” She was referring to the mini-procedure unit they had done in October when they had brought in samples of procedures. Students gave examples such as how to operate a computer, how to bake a cake, how to put it together a scratching post or a little pet hideaway, games and toys, and safety instructions on a plane.

Myrna continued, “So I want us to make some predictions about procedures from an English point of view, things we would find in our English book. I’m talking about grammar. What parts of speech would we find in a procedure?” A student said, “We would find adverbs.” Myrna asked for an example and the student said completely. Myrna asked the class whether all adverbs ended in -ly and students chorused no. Myrna said, “No, but a lot of them do. For example, neatly. ‘Fold the paper neatly.’ In a procedure you’re mostly talking about adverbs of manner, ‘Stir the batter quickly.’ This is an example of Myrna teaching traditional grammar and the structure of the language, while also starting to discuss function when she says that procedures need adverbs of
manner. She could have gone on to explain why manner is important and that place and
time can also be important, in phrases such as ‘Stir the batter in the bowl’ and ‘Stir the
batter for two minutes’ or, in the case of the procedure they were going to do in class,
“Look at the bread every day for 10 days”. This could have led to a discussion that
adverbials can also include phrases and clauses in an effort to expand students
understanding of adverbials to include more than single word adverbs.

Myrna asked students what else they saw and a student suggested nouns. Myrna
agreed that nouns were important and Myrna wrote batter on the board next to nouns as
an example. Another student suggested verbs and Myrna asked for an example. The
student said stir. Myrna wrote stir next to verbs and said, “Yes, stir the batter. What
kind of verbs are you likely to see?” A student suggested place and Myrna said, “Yes,
like when [daughter’s name] did her procedure, she had to place a nail in each liquid and
see what happened so that is a really good science experience or science fair verb. What
if you were planting a seed?” Students suggested put and place. Myrna said, “Right
place the seed in the soil. What else would you do?” A student said, “Put water.”
Myrna said, “Right. Maybe pour the water. So if you are backing a cake or planting a
seed your nouns and verbs are going to reflect that. You aren’t going to use the same
nouns in both activities. What do you have to do sometimes for an experiment?” A
student said, “Watch it.” Myrna answered, “You might have to observe your plants each
day, keep an observation log, look for any changes.”

Then she said, “Two days ago we discussed pronouns. Is it likely that we will
find pronouns, like he, she, it?” Students chorused no and Myrna said, “Not likely, but I
can think of one that you might use. Remind me of the pronouns again. Students
chorally said, “I goes with *me*, *he* goes with *him*, *we* goes with *us*, *they* goes with *them*.” Myrna asked which one they might see in a procedure and students chorused, “It!” Myrna agreed. A student asked if they were doing science in English class, which had become a running joke in the classroom as Myrna integrated the two subjects. Myrna said jokingly, “How dare we put science with English? Right?” The students laughed.

Then Myrna asked who could remember the four types of sentences. A student said *interrogative* and Myrna asked, “Which does what?” The student said, “Helps ask a question.” Another student said *exclamatory* and again Myrna asked, “Which does what?” The student said, “Expresses an emotion.” Another student said *imperative* Myrna asked, “Which does what?” One student said a *command* and another said a *demand*. Myrna asked what the fourth kind was and hinted that it began with a ‘d’. A student said *declarative* and Myrna said, “Which does what? State a …” The student said fact. This is a traditional view of sentence types. In functional grammar types of sentence impact the voice of a text.

Myrna asked what kind of sentence they would find in a procedure, or the directions they would follow for a science project. A student said the imperative and Myrna agreed, “I might find imperative. Give me an example? Think in term of a science project.” A student said, “Place the seeds in the soil.” Myrna said, “Right, place the seeds in the soil. That would be an imperative, a command? What else?” Another student said, “Observe the plants for two days.” Myrna said, “Right, what’s another word for writing something down in your observations? It begins with R. ‘Observe the plants for two days, then (blank) the results.’” A student suggested *record* and Myrna said, “Right, record. Now you might think about record as something you do with your tv if
you want to keep a movie or something, but here it does not mean that. It means…” A student said, “To write.” Myrna said, “Yes, so just know that you could say write or record, you could see either one, or you could write either one. Is it likely that I would see exclamatory, or interrogative in my procedure? I might see declarative more in my report but it could [also] be in the procedure.”

A student asked something about imperatives and being polite and Myrna explained that if someone is telling you to do something it is still a command, even if it is said politely because it is something that they want you to do. This student may actually have been thinking about the function of the command and the impact it had on tenor. Another student suggested a declarative sentence that might be found in a procedure. “If you do all these steps you will end up with yummy macaroni and cheese.” Myrna agreed that it was possible to see some declarative, but reminded them they were most likely to see imperatives. Then she told students they had made really good predictions about procedures and now they would see if they were right. She asked them to open their textbooks as she explained that they were actually going to do this procedure today, but she forgot to get the materials. She explained that they would do the procedure the next day and that in this class they would just make predictions. Students were talking excitedly to each other and asking, “We are going to do the experiment?”

Myrna said, “So tomorrow we’ll actually do the procedure. Today we will just make predictions and see if we are right. Two very important parts of a science experiment, your materials that you need and your procedure. What’s my guess called in my science experiment?” A student answered, “Your hypotheses.” Myrna repeated, “My hypotheses. What’s my big question here? What’s the question we are trying to
They kept saying the plural *hypotheses*, even though were referring to a single hypothesis. Myrna even clarified the difference between *hypothesis* and *hypotheses*, but she kept using *hypotheses* throughout the lessons.

Myrna reviewed with students, “So you make a prediction or a hypotheses, and then you have your materials, then your procedure, or the steps you take to test your hypotheses. Is it okay if my guess turns out to be wrong?” Students chorused, “Yes!” Myrna asked why it would be okay to be wrong and a student said, “Because you tried.” Myrna said, “Yes, and what do I always tell you?” A student said, “We always learn something.” Myrna said, “Yes, we always learn something.” She gave the example, “I thought the water would rust the nail, but the lemon juice rusted the nail.” Then she reassured them that they weren’t going to get an F if the guess was wrong.” A student asked, “What if you change the guess and pretend it worked out right?” and another student said that would be cheating. Myrna said, “Don’t change your guess! It’s okay if your guess is wrong, that is how real scientists learn. Sometimes their guess works out right and sometimes it works out wrong but either way they learn something. The procedure really involves two parts, the materials and the procedures. Let’s read the materials everyone. What do I need to find out what decomposers do?” Students read the title chorally, “Investigate: What do decomposers do?”

Myrna said, “So make sure you have all the materials ready before you do the procedure. What’s nice about your science textbook is that it gives you a little information about what the experiment is about and what you are trying to do.” She asked a student to read the paragraph. The student read, “Molds are called decomposers because they help break down many things, including bread. To make bread last longer,
some breads have preservatives that help keep mold from growing. For this activity use bread that does not have preservatives.”

Myrna asked, “So what does that mean? You can buy two kinds of bread. You can go to the grocery store and buy Wonder Bread, or you can go to the bakery and buy bread. What’s the difference between the two besides the taste, because I think you’ll find that the one from the bakery tastes way better. What’s the difference? Let’s read that again “that does not have preservatives.” What do you think the difference is between the Wonder Bread and the bakery bread?” A student said, “The Wonder Bread is fresh.” Myrna said, “Hopefully they’re both fresh.” Another student said, “The Wonder Bread will last longer?” Myrna answered, “That’s right it will stay fresh about a week and a half, right Miss Tracy?” I said that I thought that was right. Myrna said, “So it has preservatives in it to keep it fresh longer, but what about the bakery? It will be fresh the first day you buy it and the second day, maybe even the third day, but after that it will get hard. It won’t mold right away but it will get hard and won’t be as good and then it will mold. The baker is making maybe 30 loaves a day and he knows he can sell them but in the Wonder Bread factory they are making hundreds a day. Now your book does not say “procedure” it says “what to do” but we can change that to procedure. Now it’s very important to read a procedure and then do it, don’t try to read it and do it at the same time. That way you’ve read it and you’re familiar with it.” She asked a student to read step number one to the class.

The student read, “Put 2 slices of bread on a table. Leave them uncovered overnight.” Myrna said, “So okay, I’m glad I read this, right? Because, if we are going to do the procedure tomorrow, I have to do something first. What did number one tell me
to do?” Students chorused, “Leave it on the table overnight!” Myrna said, “So if I hadn’t read this today, what would happen? I wouldn’t be able to do the experiment tomorrow. Read number two for us.”

Another student read, “Put a spoonful of water on one slice.” Myrna said, “Okay, the only problem I have with this is that the book is not very specific. We have teaspoons and tablespoons and they are different sizes, a tablespoon is a little bigger. If we look at the picture it is a plastic spoon and it looks like a teaspoon. If I were writing this procedure I would say “a teaspoon” to be more specific. And it tells me to put a spoonful, so I could say ‘Put one teaspoon of water on the bread.’ This was an example of functional language, Myrna wanted students to understand that the measurement was too vague and that adding a unit of measure would be more appropriate to a science experiment.

Number three…” Another student read, “Place each slice in a plastic bag. Seal and label the bags.” Myrna said, “So only one slice is going to get the water, but they are both going to go into a plastic bag. What kind of a word is damp?” A student said wet and Myrna said, “No, I’m not asking for its definition. In parts of speech, what kind of word is damp?” A student said it was an adjective. Myrna said, “Now if I asked for a synonym what would you tell me?” Several students called out answers such as wet and soggy. Myrna said, “Synonym means the same or similar.” This is an example of a traditional view of language where the focus is on the definition rather than the meaning that damp contributes to the sentence and the procedure overall.
She asked a student to read number four, “Look at the bread every day for 10 days. Record what you observe.” Myrna said, “Oh, there is that word record. What does it mean?” A student answered it meant to write it down. Myrna said, “Right, there is a stop sign saying to be careful. What is it for?” On the second page of the experiment was a picture of a stop sign. A student read, “Keep the bag sealed.” Below the stop sign was a picture of the two slices of bread in the plastic bags and a table. The table had two columns: the first down the left listed the days numbered one through four (even though they would record observations for ten days) and the second column said Observations and was subdivided into Damp Bread and Dry Bread. Myrna said, “And there is a table and I have two columns because I have two things I am watching, I have the damp bread and the dry bread. So on day one I would write two things. So how long do I have to watch this for?” A student answered ten days.

Then Myrna asked them to look at the text and the predictions they had written on the SMART board. She asked if there were any adjectives on this page and students replied there were. She asked for some examples and when no one responded she told students to look at the picture for an idea. One student then said, “Damp and dry.” Another student agreed. Myrna agreed that damp and dry were adjectives used in the procedure. This would have been an opportunity to discuss how adjectives function in a noun group to increase our understanding of the participants. In this case the adjectives are crucial to understanding the variable in the experiment.

Myrna asked if there were adverbs and students hesitated. She said, “Now remember adverbs, we haven’t really discussed them, but they tell how something is done, when something is done, they call them adverbs of time. Like they may say ‘The
newspaper is delivered daily.’ When is the newspaper delivered?” The students chorused, “Daily!” Myrna continued, “And adverbs of place, ‘The boy jumped forward.’ Where did the boy jump?” The students chorused, “Forward!” Then the students reread the text to themselves. Myrna prompted them by reading from the text, “Look at the bread for 10 days, record what you observed.” One student said overnight was an adverb. Myrna agreed and said, “Right, telling what duration I should leave them uncovered.” This exchange is an example of combining the traditional and functional view of language again. Myrna first discussed the function of the adverbs as telling how or when something is done and then gave traditional examples through whole class chanted responses and she restricted the examples to single word adverbs.

A student said they hadn’t talked about nouns yet. Myrna asked students to look at the procedure and tell her what they saw. Students suggested table, water, bag, and slice. A student suggested seal and Myrna said, “I’m glad you said that. I have to do it, so what is that? Seal the bag…?” The student said it was a verb and Myrna said, “But I know that there is a noun for the seal, the animal that swims in the water or I can have a seal like a sticker. So do you see how in English a word can mean one thing in one sentence and another thing in another sentence? Okay, specific science words?” Students suggested observe, put, place, record and label. Myrna said, “Very nice, so a label could be a thing or a noun, or it could be a verb. So this is a very good lesson today, a word in English could be a verb or it could be a noun.” This was an important discussion for bilingual learners who may not be aware that words can function in different ways in English and also because Myrna drew attention to words needed for science. The words she identified as important for science were not content specific
science vocabulary, but words that students would see in different contexts and they would need to know their meaning in a science context.

She then asked if students had found any pronouns in the procedure and asked them which pronoun they had decided would be a likely pronoun for a procedure. The students chorused, “It!” Myrna asked where they saw it in the procedure. A student did not answer her question but called out, “Them in sentence number one.” Indicating that they had found the word them. Myrna said, “Very good, so it wasn’t even it, it was them. Very good!” Another student suggested you and Myrna said, “Very good. So there were two and they weren’t even it.” This would have been a good opportunity to discuss the function of pronouns in the text. Then Myrna said, “The last thing we need to check in our predictions is sentences. A lot of imperative. We see a lot of commands. Imperative is commands. Okay so good. How did we do so far as our predictions were concerned? We did very well right?”

A student said, “There is an exclamatory, ‘Be careful!’ and ‘Keep the bag sealed!’” Myrna asked, “Why do you think they put the exclamation point? They could have just been declarative sentences with a period. So why did they put the exclamation?” A student answered that it was to draw our attention to it and Myrna agreed. She told the class that they had done a really good job. This discussion focused on punctuation and its function, but it could also have included a discussion of how the exclamation was also a command and what role it played in the procedure.

**Review of the Lesson January 10, 2012.** When Myrna and I met I asked her what she thought had gone well in the lesson and what she would change or add. She said that
she liked the predicting and then deconstructing, but she wished she had done more with science vocabulary in the predicting phase. I said that the students may not have been able to predict the science words without knowing about the experiment itself which was why we had planned to do the experiment prior to the deconstruction.

We discussed what to do next. I had written myself a note to check the binder and the unit planner to get Myrna used to using the binder as a resource for the units. Myrna wanted to do the bread experiment the next day and she really wanted to keep the observation log with the students for the ten days which would be the following Friday. I agreed that it was a great idea.

Myrna suggested having them write a procedure independently. I suggested having them do a joint construction so that she could gage how ready they were to do an independent text. That way she could still teach them if students didn’t have sufficient knowledge to complete the task. I explained how it would scaffold the process for those who still didn’t understand it completely. I was concerned that joint construction might have helped them with the reports in November and December because we had gone from deconstruction to writing the draft and final reports which was really difficult for students. It was also what the PI of the larger study recommended as the missing link in writing. Myrna did have students write an independent text on the making butter procedure the following week, but she also engaged students in the joint constructions of text for the overcrowding of seedlings procedure the week after that.
I wanted to ask Myrna what else they were doing in science when I wasn’t at the school but I didn’t get the chance to ask. I wondered if she was still teaching from the textbook on a regular basis.

**Reflection.** Myrna began with a very traditional review of language by having students predict the language the procedure might use. I thought that she could have achieved the same goal by simply be deconstructing the text and analyzing the language actually used. The deconstruction still allowed her to discuss grammar such as the parts of speech and sentence types but it would have left more time to discuss how the language was being used to create a clear procedure on decomposers and their role. Later in the lesson Myrna deconstructed the textbook for structure and language and at times the teaching of language was more functional.

The discussion of sentence types could have included a lesson on the structure of imperative sentences. It is necessary to explicitly explain to students that imperative sentences begin with the imperative form of the verb and the subject is only implied because it an unusual structure. It is essential that students understand that structure in order to be able to create imperative sentences since it may be a new structure for them. This is especially true for bilingual students who may be used to the more common declarative sentences which follow the subject-verb-object structure. They could also have discussed the purpose of using imperatives for commands since a student brought up the issue of being polite, but they didn’t discuss it beyond Myrna’s explanation that even when being polite, telling someone what to do required a command.
Myrna discussed the structure of procedures in relation to the textbook. She had a student read the title but she didn’t analyze its function with the class. She didn’t mention the goal of the procedure or that it can be the title or a separate statement that precedes the materials. She didn’t have students read the materials but she did instruct them to have all of the materials ready before they began a procedure. She told students that the materials and the procedure were the main part of the procedure. However, she should have said the *materials* and the *steps*. She told students that they could call the “What to Do” section in the text book the procedure, although again it would have been better to call the section the *steps* in the procedure.

When Myrna asked about having students write an independent text I should have agreed. It would have been the ideal guideline to see what students knew and what they needed to know. It would have been especially important since they hadn’t done an independent pre-write during the October procedure unit and they hadn’t done one prior to starting this unit. Instead, I was overly concerned with the fact that in the previous unit we had not planned for enough joint construction of writing to guide the students in learning the new genre and they had struggled. I wanted to get Myrna to begin creating text with them as soon as possible, however, both texts were useful assessment tools.

**PTR 5 – When the action research cycle breaks down.**

*Introduction.* I felt that it was important to teach the genre of explanation prior to beginning the study because in prior research I had observed that students in fourth grade had difficulty writing explanations. As Myrna and I reviewed what genres of writing were needed for the science fair projects I also thought that explanation would be the
appropriate genre for the conclusion, even if the explanations were simply one to three sentences. Myrna and I discussed the genre of the conclusions for the science fair projects several times throughout the school year.

Planning.

October 19, 2011. Our discussion of the explanation genre began in October when Myrna brought up the idea of teaching the elements of the scientific method to prepare students for their science fair projects at the end of April. She gave the following example of the results: After 7 days the covered leaf became white and wilted. So we can conclude that plants need sunlight or they die. Since she described it in the past tense I thought it would be a type of recount, and then the conclusion could be a report or an explanation. This particular example would be an explanation showing cause and effect. For example, “So we can conclude that plants need light in order for photosynthesis to occur, or they will die.”

February 1, 2012. We didn’t discuss explanations again until February. Myrna and I both wanted to understand the purpose of the results and the conclusion sections of the science fair projects. She was working with students on writing procedures and she wanted the next step to be the results and then the conclusion, but we needed to decide what genre the results and conclusion would be and have students do pre-writes first. Myrna said that she wished the textbook modeled a real conclusion. The book provided experiments but never modeled how to write the conclusion. While she felt that the results could be a table, a paragraph or both, she thought that the conclusion needed to be a written statement or a short paragraph. We wondered what genre the results and
conclusion would be and we analyzed the sample science fair project she had in class. We decided that the results were a recount of what happened during the experiment that describes the table, chart, or graph in words.

I asked whether the purpose of the conclusion was to explain a phenomenon because some of the projects involved explaining how or why something occurs in nature. Myrna wasn’t sure it would apply to all of the projects and she was concerned it would be too hard for fourth grade students to do independently for their science fair projects. She may also have been a little overwhelmed at this point in the year.

I checked the model she had in the classroom and the conclusion was just a statement of what happened and how it was the same or different from the hypothesis. Myrna wanted students to connect their results to real life in the conclusion but she wasn’t sure that they could give a scientific explanation. She wanted them to explain in their own words the results and then how they could be applied to real life. She also wanted a brief explanation of why the result happened. She was going to give the option of including a definition. I thought the definitions might be a good link to the actual explanation. Myrna thought it was important for students to make the connection between the experiment and real life. She also wanted them to make a connection to the practical application of their experiment.

We thought of several ideas for an explanation prewrite such as how an electrical circuit works, how a cell works, how the human body does something. Then Myrna suggested the bread mold experiment since they had done it in class, they should be able to explain how or why the bread molded. I told her about the statement of phenomenon
and then a few sentences to explain what happened. We agreed on ‘explain why the bread molded’ to see what students knew about explanations and Myrna had them write the initial uncoached explanation on February 8, 2012.

March 13, 2012. Myrna said that she would get me the topics for the science fair and I said that I would look into the types of explanations that would be relevant. She said she would wait to teach explanations and for the science fair she would teach students a more basic conclusion stating whether the hypothesis was right or wrong and a potential explanation of what happened. The next week we agreed that after April vacation and the science fair she might teach explanations or fictional narratives. I still felt strongly that I wanted to create a unit on explanations, but no lessons on explanation were ever taught.

Reflection. Although we did spend time discussing the possibility of creating a unit on explanations and we examined how it would be relevant to the content, we never actually planned a unit. This could have been due to several different factors, such as a lack of time to introduce another writing unit, a possible reluctance on Myrna’s part to teach a genre she felt wasn’t necessary, a possible unwillingness to teach a genre which could involve scientific phenomena Myrna wasn’t prepared to explain or some combination of all of those.

PTR 6 – Joint construction of procedural recounts.

Introduction. The lesson described here was part of a unit on procedural recount which lasted for two weeks in March. The unit was part of the larger science fair project
which included lessons on each aspect of the project, which began in January and ended with the Science Fair on April 25th.

**Planning: February 1, 2012.** Our planning began in February. Myrna and I discussed which genre to teach students for the written portion of the results of the science fair projects. Students would display their results using visuals such as graphs and tables and the written text needed to relate to the data. We finally decided having students write procedural recounts of the data collection would be the best genre for the purpose of describing what had occurred during their experiment. We planned for several procedural recount lessons which including deconstruction and joint construction of texts. Myrna did some deconstruction of procedural recounts while I was out sick at the end of February and this is the first lesson I saw once I returned.

**Teaching/Observation: March 7, 2012.** During the lesson Myrna taught and I observed, but we interacted throughout the lesson as questions arose or Myrna shared relevant information about previous classes with me. Myrna used joint construction of a procedural recount as a strategy for this lesson using the science activity students had done as a class with their first grade buddies on making butter. Myrna chose this activity as the topic of the procedural recount because it was familiar to the students, it was an activity they had enjoyed, they had written the procedure for the activity in January and she thought they would be able to retell a significant amount about the event. Myrna’s writing instruction was informed by SFL because she involved students in discussing the structure and purpose of the genre and encouraging them to use the correct metalanguage to talk about the genre and its structure.
She began the lesson with a review of what they had discussed about the parts of the science fair projects in recent classes, including the title, question, hypothesis, materials and procedure. She asked students for definitions of each part and also reminded students of the procedure writing they had done on the turning cream into butter activity. She then asked the students about the newest part of their projects which they would discuss next and how many parts it would include. Students replied that it was the results and it would include two parts: the written procedural recount and a table, a graph, or even photographs to display the results. One student even suggested, “You could take a before and after picture.” To which Myrna replied, “Now we are getting creative.”

Then Myrna continued the lesson, “Alright so another word for the written part (we have to use the correct terminology) is the procedural recount. After you do the experiment you have to tell what you did. Let’s write that – procedural recount.” She clarified the meaning of a recount with students by asking, “What does recount mean? Like 1-2-3, I need to count that again?” Students didn’t seem sure so she continued, “But we are not actually counting. What does the prefix mean?” and a student replied, “Again.” Myrna said, “Right so you are doing something again, so like you are doing the experiment again in your mind, a recount is like a retelling of what you did, but if it involves a procedure, you are telling what happened along the away. Because it has steps like what happened first and what happened next. So I thought that we would do one for turning cream into butter. It’s different from procedure: that tells you how to do it. In procedural recount we start with once we started the experiment.” This was a good
example of and SFL informed explanation of the difference between the purpose of a procedure and the purpose of a procedural recount.

She then transitioned into examining the language of procedural recounts by reviewing the deconstruction they had done of her daughter’s science fair poster board and beginning a joint construction with students. Their joint construction was a procedural recount of the butter experiment. Myrna began by saying, “So when we looked at [daughter’s name] poster what kind of verbs did we see?” A student answered, “Past.” Myrna replied, “Right so that’s actually a nice way to start.” As she said this she wrote on the SMART board: “We shook the cream in the jar for about …” (Figure 4.1). She paused to allow the students enough time to respond. They responded with estimates of ten or twenty minutes and she wrote “twenty” on the board. She then reread the sentence.

Figure 4.2: Joint Construction of a Procedural Recount

We shook the (heavy) cream
in the (glass) jar for about twenty
minutes. During that
time, the heavy cream
transformed into butter.
In other words, the liquid
turned into a solid.

*As the teacher and students went back through the text they circled the verbs and put squares around nouns. Words in parentheses were added as they edited.
Myrna continued the joint construction saying, “Okay so now while the jar was being shaken”. Several students said, “Shook.” Their comments lead to another discussion of language, this time on irregular verbs. Myrna said, “So although we have not learned irregular verbs, we can discuss it. The reason why it is an irregular verb is that we can’t add –ed to shake, we have to say shook. That’s an irregular verb. Then you have something called a past participle, called a helping verb… any guesses? After the jar had been shaken or shooken?” Some students replied “Shaken” and others said “Shooken”. Myrna replied, “You would have to say shaken after the jar had been shaken”. This discussion about irregular verbs is an essential part of procedural recounts and, as Myrna and the students showed here, something that ELLs need to be taught.

Myrna engaged students in rereading what she had written and she directed them to examine the language. She said, “Remember we are supposed to reread during the rough draft to see how it sounds. We have to use specific nouns. We don’t say ‘it’. Remember when we reread the mentor text we said ‘Oh my goodness look at all these nouns.’ So it is very specific.”

The conversation continued with Myrna writing, During that time the cream... She asked the class, “Can I say heavy cream just to add an adjective?” The students agreed that it was a good idea and they added it. The discussion revolved adding the adjective heavy to cream but it would be essential to the procedure to know whether it was heavy cream or just cream because it would affect the results of the experiment differently. In this case they were not really discussing the choice of using an adjective but of naming the participant accurately.
In response to Myrna’s pause after the phase *During that time the cream...* they suggested the word *transformed* to explain what had happened to the cream at that point. Myrna agreed and explained to me that a student had suggested the technical term *transform* in the previous class and everyone had agreed it was appropriate to describing what had happened to the heavy cream. They discussed how using the word *transform* actually described what was going on in the procedure in a scientific manner. They also discussed rephrasing it in the next sentence to clarify the meaning of the word transformed for readers. At this point Myrna asked the students what they thought, “What do we want to say: *turned* or *transformed*?” They reread the text chorally as a class, “During that time the heavy cream transformed into butter. In other words the liquid turned into a solid.” Next, they reread it with *changed* instead of *turned* and voted on the best one. Myrna also offered another alternative, “The liquid..., I’m thinking of a ‘b’ word...I was thinking of *became*.” She asked me what I thought and I said that it was the author’s choice if it holds the same meaning. This was a good example of Myrna teaching students a functional view of language because she taught them to choose language based on the meaning it would help them construct in the text.

Then they reviewed their writing line by line to review the verbs they had used, which were *shook* and *transformed* and *turned*. She emphasized again that they were to make choices about the language they used in their own writing. Then they checked their nouns, which were *cream, jar, butter, liquid* and *solid*.

Myrna said, “Okay how about adjectives? Remember adjectives are words that describe or tell how many. Let’s do descriptive adjectives or adjectives that tell how many.” She asked me whether they should do limiting adjectives and I replied only if it
was relevant to the content of the text. The students found the adjectives *twenty* and *heavy*, and Myrna asked where they could add another because there were only two. One student suggested adding *heavy* to cream in the first line and another student suggested adding *clean* or *clear* to describe the jar. Myrna prompted them, “a clear jar or clean, okay…what kind of jar did we actually use?” The students replied that it was glass and she added that in.

Then they discussed the difference between the types of sentences in the recount, which were declarative and the sentences in the procedure which were imperative. Myrna pointed out that the sentences used in the procedural recount they had created were declarative and asked whether the sentences in a procedure were declarative or a different type? A student answered, “A different type, they are imperative. ‘Shake the jar of heavy cream!’” Myrna agreed and explained, “In the procedure you have to tell what to do, ‘pour the heavy cream into the jar’, but in your procedural recount you need to tell what happened. It’s very important to have the right kind of sentences. Hands up if you understand that.”

*Review of the Lesson.* Myrna and I discussed the lesson in our weekly meeting and we agreed that the lesson was a success. Then we discussed plans for more lessons on recounts. Myrna wanted to do another joint construction of a recount the following day and then an independent one the following week based on a math or science procedure.

*Reflection.* I thought it was a strong example of joint construction because of the interaction she had with students. They were clearly engaged and actively made
suggestions for the text. Myrna discussed ideas and language with them and engaged students in choosing the language with guidance. For example, a medium level focus student had suggested that they use the term *transformed* which Myrna emphasized was an excellent word choice which led them to discuss other language choices, such as whether to use *turned, changed or became* in the next statement to restate and clarify the meaning of transformed. It is important to consider that word choice in science can be a crucial part of the content and changing a verb may change the actual process that is taking place.

This lesson on procedural recounts was an important one in Myrna’s journey toward changing the way she taught writing because her teaching was informed by SFL and reflected the TLC to a high degree. She was really thinking of language in a functional manner when they revised together to make the meaning clearer. When she discussed sentence types in this lesson it was related to function. She explained why the previous unit on procedures had used imperatives and why this unit used declarative sentences. Also, by having students revising with her she was in effect conducting a joint construction of revising the text where the students experienced revising firsthand with her guidance.

The lesson also showed a change in Myrna’s teaching in that she interacted more authentically with students to construct this text. Some of the earlier interactions were focused on getting students to provide the correct answers or the answers Myrna was looking for. For example in PTR 3, the focus of the lesson was on the structure of reports and Myrna had already decided on the three subtopics. She did ask students what they thought the subtopics would be but the students were just involved in guessing what they
would be. In the current lesson on procedural recounts, students were encouraged to retell the events as they remembered them and they had more input in the construction of the recount by making choices about the best language to use.

Overall, I think that there were too few lessons in the unit because it only lasted for two weeks and the students still had difficulty writing the independent procedural recounts for the science fair projects. The unit did not include enough lessons to explore the genre fully and there was not enough time for students to master the structure and the language. The length of the unit was due to two factors, the first being a lack of time before the science fair when students would need to write independent procedural recounts as part of their projects. The second was the lack of mentor texts to deconstruct. It is essential that students have many opportunities to read and deconstruct texts with their teacher in any given genre in order to gain familiarity with the genre’s structure and language demands.

Summary of Collaboration

The collaboration phase was a time of working together toward common goals in writing. We still negotiated the details of what Myrna would teach in individual lessons but we created full units together modifying them as needed to meet our goals. The four lessons show the results of our planning and the effect of collaborating on the transition in Myrna’s instruction as she began teaching writing informed by SFL and as her knowledge and confidence increased with each unit. Throughout this time we addressed ways of changing Myrna’s instruction to reflect more SFL theory by including joint construction more often, teaching language in a functional manner, and using the metalanguage of SFL. This was due to the collaborative nature of our relationship and a
sense of trust. I was able to be open with Myrna about what changes she needed to make and she was open with me about what she thought she could and could not accomplish. During this phase, I also began to participate as a member of the class which showed Myrna’s trust in me as a teacher as well as a researcher and our common vision for writing instruction.

One of the most important changes to occur during this phase was that Myrna could see the benefits of teaching the stages of genres and she changed not only her practices but it also seemed that she began changing her beliefs. This was most evident in her reliance on the various genres to teach students to create their science fair projects. Myrna could see that teaching students to structure their writing for appropriate purposes would enable them to convey their ideas more clearly.

Another important change was that she incorporated the joint construction strategy into her teaching so that she was teaching writing through the full teaching and learning cycle (TLC). This was an important part of changing her beliefs about teaching writing because, instead of teaching isolated writing lessons, she taught each lesson as part of a unit and her instruction was informed by the broader framework of SFL theory.

This not only revealed a change in her use of teaching strategies but possibly also a change in her beliefs about the role of students in learning to write. The relationship she had with her students changed when they took on the role of her co-authors as they engaged in the joint construction process. This shift also resulted in changes in the relationships among students. Students offered genuine ideas of what they could write and discussed them not only with Myrna but also with each other. The classroom
atmosphere changed from one where Myrna held the knowledge and asked questions to get specific content related answers to one where there was open discussion of how to use the content to create meaningful texts.

There were still tensions throughout this phase, some of which continued from the first phase and some of which were new. In terms of disequilibrium, those that carried over where the issues surrounding use of the grammar and science textbooks and the use of SFL metalanguage. Those that were new were still related to the initial tensions surrounding implementing teaching informed by SFL but they changed from being concerns about learning the new theory to more practical concerns about how to select the most appropriate genres and plan individual units to improve the teaching of writing and the students’ written products.

In terms of resistance, Myrna continued to resist teaching less of the science textbook and she resisted adding a unit on explanation. Her resistance began to lessen with the teaching of language from a functional perspective and she began to include more instances of functional grammar in her teaching. She also began using the metalanguage of SFL in relation to the purpose and structure of genres, but continued to resist using the metalanguage when teaching language. Although she resisted teaching through joint construction in the first report unit, she overcame that initial resistance and in January began using the strategy. By March, she was teaching lessons through joint construction and seemed very comfortable with the strategy.
Moving Toward Independence

This was a time of common planning for the overall unit, but also much more independence on Myrna’s part. The final unit was a report on animals during Myrna had first mentioned as a potential en-of-year project in mid-February. The goal of the unit was to have each fourth grade student write a book about one animal to share with their first grade “buddy”. Myrna and I planned the overview of the unit together but Myrna was very enthusiastic and she planned the individual lessons on her own and ensured that student would complete the unit in the six weeks they had left in the school year. She taught the unit whether I was there or not and really took charge of implementing the lessons and engaging the students in the writing. I brought books for the unit from the local public library, I observed three lessons (one of which is described in PTR 7) and I conferenced with students as they took notes and wrote their drafts but I was not as involved as in previous units. This was partly due to the fact that I was only visiting the school one day a week in May and June but it was also because Myrna did not need as much guidance or encouragement.

I interviewed Myrna in the second week of the unit and I asked her what she had learned this year. She replied, “I’ve learned a lot of things and I like how there’s a step by step approach to teaching kids become better writers” (Interview, 5/9/12). When I asked what instruction looked like in her class at this point in the year she said, “Well, now we know you always show the mentor text to the kids, show them what real authors do and the deconstructing. I never would have thought of doing that, taking a book and taking it apart and taking apart the grammar. That’s something I never would have thought of.….When we look at the mentor texts I think they enjoy it too, I think they
really enjoy that. So looking at mentor texts, taking it apart [deconstructing], taking something together and trying to imitate what the authors do which would be the co-constructing and then the letting them go do the independent writing and seeing how they do with it. Like I thought they did a really good job on their pamphlets. I think the books are going to be really great too.” She paused to wonder whether it would have been easier for the students to have written the animal books before the ecosystems pamphlets because she thought it would be easier for the students to learn to paraphrase the content on animals.

She mentioned a conference where one of the presenters made a really big distinction between editing and revising.” I agreed that it was important and said, “And these [students] do a lot of revising, rephrasing and putting things together.” Myrna said, “I think we do a lot more revising. Like before the capital letters and the periods used to drive me crazy! Now I realize that’s not even important, well it’s important but the content is more important. Like when I’m reading for my daughter, and I know that I want to look right at the capitals and periods but I try to look for the content first. And even the spellings of the words, you just have to look past that for now and go back to it later. The content is definitely the first thing that should be looked at.”

She continued talking about the content in relation to the writing they had done on the SMART board in class that day on jointly constructing sentences and creating paragraphs from the notes they had taken the day before. She explained, “The content is most important. When we were taking notes from the crab paragraphs, they did two different paragraphs, because one of the students asked if we could write it differently. So I said that no two people are going to come up with the same paragraph [even from
the same notes], so we did that [wrote a second paragraph] and then they could see that we used the same words and it sounded different but it gave the same information. That was really important for the student, to affirm that [there was more than one way to write the paragraph], so I just did it, I did it together.”

I asked her if this was different from how she used to teach. She said, “Yes, definitely. I think [before] I just followed what the book said and did it like that. I never really looked at mentor text, we looked at them but we never took them apart. I think that we may have shown them independently or in small groups, ‘Oh look what the author did’ but to actually use the books to teach, I know that I never deconstructed text to teach them how to become better writers, and then taking text and trying to construct it with them. We always had the rough draft and good copy, but I think it was more like you just dictated to them and they did it. There is definitely more group interaction in the process rather than just teacher directed. And I think doing it this way the kids help each other, just like we do in class. So I think there is learning from each other, which is nice. Whereas before I think it was like, ‘Here you go. Write about an animal.’ It was more individual performance and now it is more collaborative.”

When I asked her what she wanted to continue improving in her teaching, she said, “I feel better about teaching them about the paragraphs now, even paraphrasing I feel more comfortable with now, I used to just dread it. I feel like I could still use a little work on teaching paragraphs, but I feel better now that we’ve done co-writing with the students and paraphrasing from a source. Paragraph writing is difficult.”
When I asked her about teaching grammar she said, “I still feel like if I teach them the grammar first, then they have some ammunition, but I definitely think that you can show them a piece of writing and then you can say that ‘Here is a describing word for the noun’ [referring to adjectivals]. But I also think that teaching it [traditional grammar] to them first is useful, but I also see that you can learn about it through a piece of writing.” She explained that she thinking about how to teach language and that she didn’t feel comfortable just saying, “I teach it first then we write it” referring to a traditional approach. But she said that she also wasn’t prepared to say “We learn about it [language] through our reading and writing” and only teaching from a functional perspective. She concluded by saying, “A little bit of both and that’s what I’m comfortable with.” She said that she remembered learning in the PD at the beginning of the year and with me that she should teach the functions of language through mentor texts and the students’ writing. She said, “And I thought, I can’t do it that way. [But then] I noticed it most with adverbs, where I hadn’t taught it yet from the [grammar] book and they were learning about it from the writing!”

**PTR 7 – The final unit: Animal reports.**

**Introduction.** Students were very excited to write for their buddies. In this lesson they used notes they had created as a class the day before and through joint construction, they created a paragraph. When one student asked if there was only one way to write the paragraph using these notes, Myrna said that it could be written many different ways and together they wrote an alternate paragraph. This was all done prior to my arrival in class, which showed Myrna’s eagerness to move forward with the project, her growing comfort with paraphrasing and joint construction, and her ability to make decisions about writing
during a lesson. This showed Myrna’s growing independence and her ability to make decisions informed by a functional view of language while teaching.

This class was also an example of our collaborative work together in two main ways. When she reviewed the subtopics with students I participated in the class discussing by asking her opinion on the order of the topics and we discussed the best way to organize them. Then, when she instructed students to work on their own reading and taking notes we both worked with individual students or small groups who needed help conducting their research. I was a full participant in the classroom.

**Planning: May 1, 2012.** In the morning, prior to our weekly meeting, Myrna taught the first lesson of the unit. She discussed audience with the students and the notion that their books needed to be written for first graders. Myrna and I had not discussed creating a lesson on audience since she had been absent the week before and we had not been able to plan the unit in advance. Reports are often written to inform a general audience, however, in this instance it was important that the students understand that they were writing for their first grade buddies so that they could make sure the content and language were appropriate.

In our weekly meeting we planned several lessons for the unit together. This was an example of collaborative planning in that we were both motivated to make this unit a success using SFL informed instruction for language and the TLC for teaching strategies. Myrna and I discussed having students work all the way to the end of the rough draft independently but it seemed like too much for the students to do without some guidance. We decided to let them do each step independently and then after each major step revise
with them. The first step was to select their subtopics, the second was to take notes and write their characteristics paragraph, the third was the paragraph on homes, and the fourth was to write about diet. The final product would be a book with 3-5 sentences per page with a picture above the text.

Students would have one class to examine all of the mentor texts available to see what the available topics were. Then they would choose their top three topics. Myrna then assigned each student a topic based on their choices and the books available. The next day they read their books independently and each student created a list of possible subtopics independently. The following Monday they shared their individual subtopics as a class and Myrna helped them come up with general headings for the subtopics that everyone would use, such as diet, habitat, characteristics, behavior, family, and life cycle. We initially thought that students would do five or six subtopics but we realized this was too many for the amount of time we had. We decided that Myrna would explain that, due to the amount of time left in the school year, we had chosen to focus the project on three of their most important subtopic suggestions: homes, diet and characteristics. Myrna would also teach a joint construction lesson on note-taking, one on reading and gathering information for their notes in various subtopics, and another joint construction of going from notes to sentences on days when I was not observing.

_Teaching/Observation: May 9, 2012._ During the previous lesson, Myrna had read the class a mentor text called _Crabs_ (1998) and using deconstruction as a teaching strategy, she had engaged students in looking at subtopics, talking about declarative sentences, and taking notes in a table (Figures 5.1 and 5.2). Myrna began today’s lesson by engaging students in a joint construction. Students worked as a class with Myrna to create
sentences about crabs using the information from the notes, with Myrna writing the
sentences on the SMART board. The first paragraph they wrote was on homes and the
second was on characteristics. The writing on homes included two versions of the text
because of the student’s question about writing the same content two different ways
(Figure 5.1). The notes in the table were in black. The first paragraph was written in red
and began with, “Some Most crabs live…” The second paragraph (or the second
version) was in blue and began with, “In the sea…”.

Figure 4.3: Joint construction on homes

<table>
<thead>
<tr>
<th>Homes</th>
<th>Sea</th>
<th>Some Most crabs live in the sea, or on the land. Some even live in freshwater environments.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshwater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seashore</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the sea, where most crabs make their homes. However, some crabs may live in freshwater or on land.

Myrna engaged students in choosing language in a functional manner during the
revising process as is seen in the text samples. While revising the paragraph on homes
they discussed whether most or some was more appropriate to describe crabs, and
whether it was necessary to use the modal verb may in the text on homes and students
decided to remove it from the text.
The notes in the table for characteristics were also in black (Figure 5.2). The writing for characteristics consisted of one paragraph with the sentences color coded to show different information. The first sentence was in red, the second in blue, the third in green, and the fourth in blue again. There were revisions to the first three sentences in different colors. When revising the class discussed whether the opening sentence was an opening general statement that explained what the topic was and classified it, as is common in the report genre. Initially the sentence read, “Crabs have no bones and their body is covered by a hard shell.” As a class they revised it to read, “Crabs are invertebrates because they do not have bones, but their bodies are covered by a hard shell.” This statement meets the criteria for an opening general statement since it introduces the topic of crabs, classifies them as invertebrates and explains the term. They also discussed how in the first draft they had started every sentence with *Crabs* and they revised the third sentence to begin with “They” instead.
When I arrived, Myrna reviewed the subtopics with the students, reiterating what characteristics meant since it was the topic they would research today. Then she instructed students to work on their own, reading and taking notes using the same table they had used for the joint construction. Myrna told the class that we had decided to limit the subtopics for the book to three just because there wasn’t much time until the end of the year. Several students suggested diet as a subtopic and, as Myrna wrote on the SMART board, she suggested that the first topic should be homes and that the third would be characteristics. She asked students what characteristics meant and a student suggested that it meant their body parts. Myrna agreed saying, “You might want to talk about their body parts, what they look like and you might want to include things like height and weight, whether they have fur or feathers, it’s like you’re describing them, and then I thought because we narrowed it down to three, if we have time after all your rough
drafts and final copies, you can have a fourth section, you can have *Cool Facts* or *Fun Facts*.

I asked Myrna whether she wanted the subtopics in a particular order, so that students would introduce what their animal looked like first. Myrna said that she thought that was a good idea and asked if I thought we should do "homes" second because diet would relate to where the animals lived. I agreed that it sounded like a good way of organizing the topics. She made the changes on the whiteboard (Figure 5.3).

Figure 4.5: Subtopics for Animal Reports

Myrna told students that the writing was the most important part and that they needed to get it done first and then they could drawing their animal after, just like they had done with their ecosystems pamphlets and the science fair poster boards. She reminded them to use their writing folders and keep all of their writing in the folder. Myrna and I had created a graphic organizer to print for them but I had forgotten to print it at home and couldn’t print at the school. The students got their books and paper and just drew the boxes themselves.
Myrna reminded students that they had talked as a class about the table of contents in mentor texts and how it might help them with their research. She said that she wanted them to use it to help them gather information today. Some students said that their books didn’t have a table of contents so she said they would have to read through the book to find the information. She reminded them that they could check the back for an index or they could just flip through the book as they had done with the “Crabs” (1998) book. Myrna told the students that they were researching their animal’s characteristics today.

I circulated while the students began taking notes in tables like the one Maria used. Some were able to extract information right away and others needed help. Some of the books were not set up for easy access to information since they were written to follow the lifecycle of an animal or other information. A student came and told me that she was doing research on dolphins and she wanted to know if an orca was a kind of whale or a dolphin because her book included all three animals and she had to extract the dolphin facts from it. I told her it was a type of whale. Another student had a book called Frogs which was new and well-organized, but he didn’t seem to know what to do at all. I helped him fill in the first table with notes and then he was able to read and find some facts independently, and add them to his table. Another student needed help with his book on wolves. The book was very short but the facts were packed into the clauses and the language was a bit difficult. He seemed to find some information and look right past other facts. When talking to another student I noticed that just taking notes without including a note indicating why the facts were important might not be enough so I told
students to write a brief note explaining why a characteristic was important next to each characteristic they listed (Figure 5.4).

**Figure 4.6: Sample Student Graphic Organizer**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Sharp teeth</th>
<th>Kill prey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Protection</td>
</tr>
<tr>
<td>Strong legs</td>
<td>Hunt prey</td>
<td>Travel across a large territory to hunt</td>
</tr>
</tbody>
</table>

After I left, Myrna talked to the students about how their books would be structured. She was very interested in medium for this project as she had been in previous writing projects. She seemed to view it as a way to motivate students. They discussed and made a list that included 1) a title, a picture and the author’s name, 2) a paragraph describing the animals’ characteristics, 3) a labeled diagram of the parts of the animal’s body, 4) a paragraph describing where the animals live, 5) a paragraph on diet, and 6) a section of fun facts (Figure 5.7).
Review of the Lesson. In our meeting Myrna and I discussed what to do next. Myrna wanted students to continue reading the books, writing rough drafts, and revising and editing their work. She really wanted students to get the projects done and they only had five weeks of school left. She also wanted students who were done writing about the three subtopics to get pictures of their animal online and then also draw the animals and label the body parts as part of the characteristics section of their books. We agreed that the next week we would focus on conferencing with students who needed to continue gathering information using their graphic organizers and then writing their paragraphs. She expressed a concern that students would not finish on time and that she would need more help conferencing with students. I agreed to help her conference with students for the next two weeks. She also decided to ask the seventh grade teacher if his students could meet with her class once students had written their drafts for each subtopic. She
wanted her fourth graders to revise with a seventh grade student. I thought it was a great idea to involve the older students in the process.

**Reflection.** Myrna used deconstruction for taking notes from the “Crabs” (1998) book the day before and joint construction in this lesson to help students understand how to use the notes to create their own writing. Myrna also guided students in the use of subtopics which is an important aspect for the structure of texts in the report genre. She emphasized language in a functional manner with students by helping them extract language from the “Crabs” book, taking notes, paraphrasing the content to create their own class text, and revising the text. Myrna also emphasized language after I arrived when she reviewed what characteristics meant and gave examples.

Initially, I did not realize the extent of the joint construction since I was not present for it. Myrna taught the joint construction lesson before I arrived so that I could assist her in supporting students once they began their independent paragraphs on characteristics. While I think that more than one lesson on joint construction would have been beneficial to students (perhaps one subtopic per day immediately before students did their independent writing on the same topic), Myrna did use the strategy to help students become actively involved in creating text in a social context. I realized after working with several students, however, that some were still struggling. They needed to be guided through the process of taking notes and organizing the information into sentences and paragraphs for each subtopic separately since the content was new and students at this age still need guidance on taking notes and creating their own writing from those notes.
The third phase was characterized by Myrna moving toward independence in her teaching of writing informed by SFL. She was not yet totally independent and still welcomed my help with the planning unit, brainstorming ideas for lessons, finding mentor texts and problem solving. However, she was increasingly confident about teaching the purpose and the stages of several genres and she had developed her understanding of how to teach language from a functional perspective to the point where she did so more naturally and more regularly during lessons. Her growing confidence in her ability to teaching writing informed by SFL demonstrated that she was continuing to change her beliefs about teaching writing.

Changes in Myrna’s beliefs about teaching writing informed by SFL were also evident in her decision to teach most of the unit independently, her use of the full TLC to teach writing, and her emphasis on teaching students to use content in meaningful ways to create texts for an audience. This was very different from the beginning of the year where she taught isolated writing lessons focused on showing knowledge of content, such as in PTR 1. In this final phase of the project, Myrna was very invested in the project and fully engaged in teaching the genres of writing, teaching language in a more functional manner and using deconstruction and joint construction of text to lead students to write independent texts. In the collaboration phase she had begun teaching writing in the broader framework of SFL theory with a focus on making language choices to communicate in meaningful ways and she continued doing so in this phase. While this broader framework would ideally inform writing and language instruction in all content areas, during the current study it only informed Myrna’s teaching in language arts and
science. Even without the inclusion of other content areas, Myrna’s choices for teaching the final unit of the year show her

There were few tensions in this phase as Myrna seemed to move beyond her disequilibrium to embrace teaching writing informed by SFL. She still resisted teaching language only from a functional perspective, but her beliefs did include a functional perspective which showed that a change had occurred. She also continued to try to teach the whole science text to the end of the year, but she told me in our follow up interview in March of 2013 that the school had adopted a new plan for teaching science where she only taught half as much content at each grade level and each topic was taught in more depth. She was very excited about this change.

One concern that I had at this point was what Myrna would do in the fall when she was teaching on her own. I worried that she would not continue creating and teaching genre units the next year either because she wouldn’t have anyone to discuss teaching writing with or because she wouldn’t have enough mentor texts available to continue. However, Myrna gave every indication that she would continue teaching writing in this manner and explicitly said so in the end of year interview. When I asked her how our work together had affected her writing instruction she said, “It has definitely changed the way I teach writing to my kids now. The whole idea of the deconstruction and the mentor texts...that is how I will be teaching it [writing] from now on. Before I was doing very traditional teaching. I feel like I’ve moved from a very traditional type to what I call non-traditional” (Interview, 5/9/12) She explained that she thought the students wrote much better texts this year and said, “I am definitely going to continue using it [writing instruction informed by SFL].”
Myrna summarized the year saying, “I feel like I constantly leaned on you while you were here, but that was a good thing. I needed the support. I felt a little unsure sometimes about whether I was doing the right thing” (Interview, 5/9/12).
Chapter 5: Results

Analysis of Student Writing

Overall, the eight student texts on cells were very similar in structure, language and content. The writing was formal and conveyed information, however, some of the information was incomplete and overall the writing was bland. The writing on ecosystems included the appropriate stages for reports and language choices that described each of the subtopics well. The tone of the writing created by the language choices was formal enough to be serious about providing information, but friendly enough to be appropriate to the medium of pamphlets. The writing on animals did not include all of the stages since they omitted opening statements, but the texts were grouped into relevant subtopics. The language choices were appropriate to describe the animals, the relevant processes, and even included some adverbials. The tone of the texts was engaging and suited to the younger audience.

Cell Reports: September 2011

The initial writing was in response to the prompt “Write about how animal and plant cells are the same and different. Try to use a lot of vocabulary from our lessons.” The eight student texts were analyzed using the report rubric (Appendix D) and one student text (Helene’s text) will be analyzed in detail here because it is representative of both the average student performance and also what was expected from the prompt.

Purpose. Of the eight students, two students (Helene and Daisy) wrote complete texts which met the purpose of informing through descriptions of how plant and animal cells are the same and different.
Three students wrote incomplete descriptions which did not fulfill the purpose of informing or providing information because they had misunderstood some of the information or they left information out. For example, Rosalie wrote, “Animals have chloroplast, plants don’t. Plants have a cell wall, animals don’t” which is incorrect because plant cells have both chloroplast and cell walls. Two students wrote minimal texts attempting to describe one or two isolated facts about cells. For example, Kenneth wrote, “A plant cell has a cell wall a anamle [animal] cell does not have a cell wall but they both have coytoplasm [cytoplasm]”. While this is correct it shows an incomplete understanding of cells based on the content taught in class. Tam wrote a hybrid of a report and an explanation of the function of cells which went beyond the demands of the prompt and demonstrated a deeper understanding of the academic language than other students.

Stages. Helene’s text did not include the stages of a report, such as a title, an opening general statement, or subtopics. None of the other students showed knowledge of the structure of reports either. Two students included a Venn diagram as a way of planning their writing, which showed that they understood some of the concept of writing about similarities and differences between plant and animal cells. This could indicate some knowledge of the concept of subtopics.
The clause. Helene’s text included three complete clauses. The first clause described the characteristics of animal cells, the second clause described the characteristics of plant cells, and the third described the characteristics that were common to both. Most students wrote three clauses except for one student who only wrote two which just consisted of listing the components of each cell separately. Tam’s text included eleven clauses.

Field. To describe the field, Helene used all five technical nouns required of the purpose to inform the reader about plant and animal cells: cytoplasm, nucleus, cell membrane, chloroplast and cell walls. Five other students also used all five technical noun groups to describe the cells and only one used just two: cell wall and cytoplasm. Helene’s use of verbs was limited to three relational verbs: do not have, do have, and have. The verbs the other five students used were also primarily relational, such as has and have. The use of relational verbs was sufficient to create a text that met the purpose. Only Tam used verbs other than relational verbs such as the action verbs uses and separates. Helene did not include any adverbials in her text, although there were some opportunities to use adverbials to provide more information, such as “in the nucleus”, “from the environment”, “outside the cell membrane” as shown in the textbook (Scott Foresman, 2010, p. 9). Tam was the only student who used adverbials.

Tenor. Helene’s text reflected a full awareness on topic choice on her audience, she wrote about plant and animal cells as directed by the prompt. She did not include additional information to support her audience’s background knowledge, although she knew the audience was her teacher so that might have impacted her choice of what to
include. Her writing consisted of statements only and her text was consistently in the third person. This was representative of the texts of the other seven students.

**Mode.** In the third clause, Helene’s use of “they” was unclear because the referent could have referred either to plants (since it was the main participant in the previous clause) or to both plants and animals since they were the main participants in the previous sentence. She had included a Venn diagram to plan her writing and based on it, the third clause clearly referred to both plants and animals. Helene’s text began with the hyper theme “Animals” which was reflective of only part of the topic. This was true of all seven other texts as well. Students began with *Animals* or *A/The plant cell*, but none of the texts began with the comparison “Plant and animal cells…” Helene’s second clause began with the theme *but plants*, and the third began with *and they*. The individual clauses within the texts also began with themes such as *Animals* or *A/The plant cell* or *they*. These themes did help focus the reader’s attention on the topic of the text some of the time.

**Ecosystem Reports: December 2011**

Myrna chose pamphlets as the medium for the ecosystems reports. The reports included three subtopics: climate, plants and animals. All students also included illustrations in their pamphlets. On the back of the pamphlets students listed the books and websites that were their sources and one student included a dedication to some classmates. Instead of simply writing their names on the back, Myrna suggested that students invented their own publishing company using their names. Seven students did and one even created a logo.
Students deconstructed texts to extract relevant information for their notes to the extent that they were able. To some degree, students integrated information from different texts which is a sophisticated skill. One student’s research included animals from different two subtopics of the textbook as well as animals from a trade book (KN). On the other hand, some students were overwhelmed by the research tasks and frequently asked for help with reading, taking notes and integrating information.

Nadia’s text was chosen as the focal text because it represented both the strengths of the overall texts and the weaknesses.

**Purpose.** Nadia’s writing reflected the purpose of informing readers throughout her text on coral reefs. This was true for all seven other student texts. Although topics ranged from deserts, swamps, grasslands, tundra and tropical rainforests, students demonstrated an understanding of the purpose of informing the reader most of the time or all of the time.
What Does a Coral Reef Look Like?
The coral reef is a saltwater ecosystem. There are many colorful fish and plants that live in coral reefs.

For more information go to www.Brainpop.com
If you don’t want to go to the website then you should go to [name of researcher, name of teacher, name of student] or in a book.

Published by: Nadia

Climate
The coral reefs is an important ecosystem, Coral reefs are found in tropical oceans. The water in the tropical ocean is warm. The water temperature is between 16 and 30 degrees Celsius.

Plants
There are few plants like marine algae, sea grasses, and mangroves in the coral reefs. Some of these plants are here because if they’re not here the fish will die.

Animals
There are many kinds of animals living in the coral reefs. Some of the animals are parrotfish, surgeonfish, rabbitfish, damselfish, benthic planktivores, nocturnal plantivores, butterflyfish, and more. These animals eat plankton, some plants and other fishes.

Stages. Nadia’s ecosystems report followed the stages of reports. The structure included a title, an opening statement, and three subtopics written as paragraphs. Nadia’s title, “Life in the Coral Reef”, reflected the topic and was engaging, but did not clearly articulate the purpose of the text. The other seven students’ titles all reflected the topic of ecosystems but to varying degrees. In addition to including a clear reference to the topic, two titles reflected the purpose and were engaging to readers. They were “Fabulous Facts about the Tundra” and “Cool Tropical Rainforest Facts”. Five titles did not clearly reflect the purpose of the text although some, such as “The Beauties of the Tropical Rain Forest” were engaging.
Nadia wrote an opening general statement was detailed and clearly classified coral reefs as an ecosystem. Two other students also wrote complete opening general statements, but the other five students were missing either the classification, were too vague or both.

Nadia wrote three paragraphs, one for each of the subtopics using the subheadings climate, plants and animals. She included relevant facts organized into the appropriate subtopics to form coherent paragraphs. All seven other students used the subtitles which the teacher had provided for their subtopics as well and created mostly coherent paragraphs.

**The clause.** Nadia’s text contained clauses which were usually well-formed and meaningful, as did the other seven students. She wrote three clauses for the opening statement which was average for the students, and four clauses for each subtopic. Some students wrote as many as nine clauses for at least one of their subtopics.

**Field.** Nadia’s description of the coral reef included language relating to the three subtopics. She used relatively simple noun groups to describe participants such as tropical ocean, water temperature, few plants, marine algae, parrotfish and plankton. Nadia’s use of verb groups included mostly relational verbs such as are and is, and a few action verbs such as eat, will die, and living which is appropriate to the purpose of the genre. Nadia’s use of adverbials showed some knowledge of technical vocabulary and included different types of circumstances through adverbial phrases, such as to show location in tropical oceans and extent between 16 and 30 degrees Celsius. The other students used language in a similar manner to describe their topics.
Nadia’s text provided an example of incomplete information when she stated that some of the plants on the coral reef “are here because if they’re not here the fish will die” (NT). She did not explain the function of the plants, such as whether they were there to provide food or shelter for animals, or whether the plants served some other purpose. Including partial information was common in the other student texts possibly due to difficulties with paraphrasing.

Six students included information on the function of certain plants or adaptations of plants to certain ecosystems. For example, one student used the technical verb “to filter” when she wrote that plants in swamps filter water to clean it. Another student used more complex noun groups when she wrote that that tundra has a simple structure with “only one layer of plants growing low to the ground”. Another student showed understanding of content through strong verb groups when he listed desert plants and then wrote, “These plant (sic) are able to store water to survive [survive]”.

**Tenor.** Students all wrote on an appropriate topic of ecosystems that would be of interest to their audience, their teacher. They did not always include enough information to inform their reader fully and to support her background knowledge. They used the appropriate type of clauses for reports which is statements, and they maintained a neutral tone that was appropriate for providing information on a topic. Six students consistently wrote in the third person and two student texts included one or two uses of the generalized “you”.

**Mode.** Nadia began her opening statement and one subtopic with the hyper theme “The coral reef”, but for the other two subtopics she used “There…” as the hyper theme.
The other students most often began paragraphs with a hyper theme that included the subheading as the main participant, such as “Rainforests…”, or “Many plants…”, or “Some of the wild animals in the Savannah”. However, in some instances they also began with “There …” which did not tie the hyper theme of the paragraph to the overall theme of the text and therefore did not facilitate readers’ understanding of the content through the creation of a cohesive text. Nadia’s theme choices within her paragraphs were generally clear with no instances of overuse of themes. Examples of themes included, “The coral reef”, “The water temperature”, “Some of these plants” and “These animals”. The other students followed this trend of varying the topics of their themes, while focusing the reader’s attention on the development of the topic.

Nadia sometimes used referents with a clear connection to participants some of the time. Her text became unclear when she varied between plural and generalized participants such as, coral reefs, and singular participants such as, the coral reef which implied that she was writing about a specific location when that was not the case. This was a typical feature in over half of the student texts.

**Animal Reports: June 2012**

The animal report projects were written in May and the first week of June. The medium Myrna chose for the project was individual animal books. Daisy’s text was chosen as the focal text because in some ways it was representative of the student writing for this project, although in some ways it was unique which raised interesting questions (Figure 5.3). Daisy had also been interviewed about the creation of her animal book and her answers are included to show her own analysis of the text.
**Figure 5.3 Daisy’s Text on Sharks**

<table>
<thead>
<tr>
<th>Scary Sharks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sharks’ Looks</strong></td>
</tr>
<tr>
<td>Did you know sharks have ears?</td>
</tr>
<tr>
<td>Some sharks look like rocks and caves to catch food and to hide from predators. A predator is a bigger animal that eats smaller animals. Sharks look mean to protect themselves. Sharks look strange for a reason but some reasons are unknown.</td>
</tr>
</tbody>
</table>

| **Homes for Sharks** |
| Did you know that sharks can live in every body of water? Including lakes, rivers, and beaches. Only in super duper deep water. Sharks give birth in private and very shallow water. |

| **Food for a Shark** |
| Sharks eat a lot of food! Sharks eat fish, squid, small whales, crabs, seals, sea lions and sea birds. If a sharks eats a big meal it might not eat for a long period of time. |

**Medium.** Daisy’s cover page had illustration of a shark and she included two additional illustrations of sharks within her text. Of the eight students, half included an illustration of their animal on the cover page. Six of the books included illustrations, and in three of those students chose to include labeled diagrams/illustrations of the animals. One student included an extra page of fun facts about the animal at the end of the book and six included a dedication to their teacher, the researcher and their first grade “buddy”. One student included a map of the region in which their animal lived.

**Purpose.** Daisy’s writing reflected the purpose of informing readers throughout her text on sharks. This was true for all seven other student texts. Although topics
ranged from rabbits, snakes, dolphins, peacocks and cheetahs students showed understanding of the purpose to inform either most of the time or all of the time.

**Stages.** Daisy’s text included the stages necessary for report except for an opening statement. She included the title “Scary Sharks” which reflected her topic but did not reflect the purpose of informing her audience. All seven other students’ titles reflected their topic as well, but they reflected the purpose to varying degrees. For example, titles such as “Cool Cheetahs” and “Pretty Peacocks” indicated that the text would be about a specific animal, but did not reflect that it would provide factual information. Other titles, such as “Dancin’ Dolphins” seemed like they would be misleading rather than providing an indication of the text’s purpose.

**Selection of subtopics.** Prior to beginning their research students independently wrote a list or web of the subtopics they thought were relevant to the animal they chose and those were analyzed briefly first. Daisy’s list of subtopics included what they eat, where they live, how they are born, body parts, fish they don’t eat, and kinds of sharks. Daisy’s list as well as those of the other students showed that they understood the concept of relevant subtopics which would provide information, such as characteristics, habitat, diet and life cycles. This showed that students had developed an understanding of how to select appropriate subtopics to create meaningful stages in their writing. Myrna chose to restrict the topics to three due to a lack of time and as a class they agreed on characteristics, homes and diets. I suggested habitats instead of homes but Myrna thought homes was better because it was a broader category and she wanted them to include the continents or countries where the animals existed.
**Subtopics.** Daisy included three subtopics in her text, each one related to those selected by the teacher: characteristics, homes and diets. However, she changed the subtitles to “Sharks’ Looks”, “Homes for Sharks” and “Food for a Shark”. All seven other students used the subtitles which the teacher had provided for their subtopics.

**The clause.** Daisy’s text contained eighteen clauses most of which were well-formed and meaningful. The shortest student text included nine clauses and the longest student text included twenty, and all students wrote texts that used meaningful clauses most of the time. Daisy used ten clauses to describe characteristics and four for each of diet and habitat. Most other students also wrote the most about characteristics and about half as much for the other two subtopics.

**Field.** Daisy’s writing included mostly everyday language relating to sharks. Her noun groups related to body parts in characteristics, bodies of water for homes, and types of food in diet. Some specialized nouns she included were predator and body of water. She tracked participants well throughout the subtopics and included some adjectivals to develop them such as bigger, private and shallow. Daisy’s verb groups also reflected some technical terms such as protect and give birth, but mostly every day action verbs such as catch, eats, look, and live, and some relational verbs such as have and is. Daisy’s use of adverbials was mostly every day vocabulary such as for a long period of time.

She used language to provide factual information on the topic of sharks. She was very interested in the fact that sharks have ears and her paragraph on characteristics seems to be a collection of facts rather than a description of characteristics. Her description of homes contains accurate information such as that sharks can live in
different habitats including freshwater environments, although she neglected to include saltwater. In the subtopic on diet she included a list of foods the animal eats and a fact, “Sharks eat a lot of food! Sharks eat fish, squid, small whales, crabs, seals, sea lions and sea birds. If a sharks eats a big meal it might not eat for a long period of time”.

The writing of the other seven students was similar in terms of how they used language to describe their topic and the content they chose to include, although some texts provided more factual information than Daisy’s. Some of the content showed misunderstandings. For example, in the subtopic on diet one student wrote “Cheetahs eat Elk, Deer, Flesh and other things that run in that family.” The student clearly didn’t understand the meaning of flesh and thought it was another type of food

Overall, the language used by all eight students was appropriate to the purpose: the topics didn’t really require the language to be overly technical and neither did the audience of first grade students.

**Tenor.** When creating titles for their books, some students chose language that did not convey the purpose of their books which was to inform. Some included adjectives like cool, scary, pretty, based on alliteration rather than text purpose. When asked about the hardest part of the animal books project in an interview, Daisy explained the process of choosing the title “Scary Sharks”. She said, “I wanted to know an easy word so that a first grader could understand it and I also wanted it to be like descriptive and… have like…something that starts with the same letter as sharks”. This showed insight that I hadn’t anticipated. I thought that they all went with fun titles and that they
personally liked the alliteration or the use of “cool” and “awesome”. Daisy’s response showed that she was thinking of her audience.

The phrase “Only in super-duper deep water” is out of place in the discussion of lakes and rivers and it is very colloquial. It sounds more like oral language than written language. Daisy might have said that sharks could live in both shallow and deep water which would have made more sense. It is possible that she was trying to engage the reader by using “super duper” to make it sound exciting since she said in the interview that she had used that strategy within the text although she did not give an example.

Overall Daisy’s text reflected an awareness of topic choice on her audience. She wrote about sharks and chose mostly relevant topic choices. She included information to support her audience’s background knowledge and knowing that her audience was her first grade “buddy” definitely impacted her choice of what content to include. When I asked her how she had planned her writing she said, “I asked his older brother what was his favorite animal and he told me that he likes sharks and snakes, and I chose sharks.”

Her writing consisted of statements and two questions. Her text was mostly in the third person with the exception of the use of you in the two questions. This was representative of the texts of the other seven students.

**Mode.** Daisy began two of her paragraphs with questions “Did you…” In the first case the question was unanswered and unrelated to the content of the rest of the paragraph on characteristics. In the second case the question was related to the rest of the content but the transition to the rest of the content was choppy and difficult to follow. The questions did not help the overall coherence of the text and did not guide readers to
follow the content. For the third paragraph she used the hyper theme “Sharks…” The other seven students most often began paragraphs with a hyper theme that included the animal as the main participant, such as “Peacocks”.

Daisy’s use of theme within her paragraphs was not very varied and most clauses began with “Sharks”. One variation was “Some Sharks” and “If a shark”. She also included two questions which began with the theme “Did you”. The writing of the other students followed similar patterns of using the animal in the theme position and some students also used “They” as a variation in theme. A few students used themes such as “A rabbit”

Daisy used referents with a clear connection to participants. She consistently used the generalized “shark” throughout the text. Only two students varied between plural and generalized participants such as, *rabbits*, and singular participants such as, *a rabbit*, which made it unclear who the participants were.

**Conclusion**

The pre-writes on cells were all very similar and seemed monotone, whereas the ecosystems reports and the animal reports were gave unique information and were examples of good writing.

The students were active participants in the classroom. Using the TLC strategies afforded many opportunities for students to be actively involved in learning to write. Using SFL to inform the teaching of language engaged students as well since it emphasizes that using and learning language is about making choices to convey meaning. This active engagement also allowed them to ask questions prior to engaging in the
independent writing texts. Students also contributed ideas about learning and the student interviews showed them thinking deeply about some of the things Myrna asked them to do.

Teaching students to think about their audience can be motivating for students although sometimes Myrna’s instruction led students to appeal to audiences in ways that did not match with the purpose of informing. Some of the suggestions might have worked better for recounts, fictional narratives or expositions. Even though creating fun and engaging titles is a reflection of what some authors do to make nonfiction books appealing to children, it can confuse children when they are first learning about a purpose for writing and the related genre.
Chapter 6: Discussion

If we as educators are to improve the teaching of writing we must understand the process of how teachers learn new ways of teaching writing. The goal of this study is to contribute to the field of research on teaching writing through an understanding of how one teacher collaborated with a researcher to incorporate a theory of teaching writing and language into her current practices, how that interaction changed her practice and how it impacted the learning of her bilingual students. The method of teacher preparation implemented resulted in changes in both teaching practices and students’ writing performance. It also changed the researcher’s understanding of the role of the researcher and her thinking of how to share knowledge as a teacher educator. This chapter makes claims about the findings of the study in light of the literature, it proposes a model for teacher change, and concludes with implications for further research in teacher education and professional development in teaching writing.

The Role of Interaction in Change

The findings of the current study indicate that the interaction between a researcher and a teacher was an essential catalyst for change in the teaching of writing. Through weekly interactions and the process of support, the relationship changed gradually but continuously throughout the ten months of the school year. The teacher-researcher relationship progressed through three overlapping phases: Dependence, Collaboration and Moving Toward Independence. Each phase represented a different balance of support for planning units and lessons, and together over time they formed a continuum of change. The continuum of change is not simply a progression through the three phases. It also involves the recognition of the tensions inherent in change and a process
of negotiation between the teacher and the researcher. While the phases were not clear-cut, there were trends such as a gradual decrease in tensions and negotiation, and a gradual increase in the teacher’s independence.

Figure 6.1: The Continuum of Change

The research on change covers many aspects of change at many levels, including that of teacher change. Research has addressed individual factors of change such as negotiation and tension and their effects. It does not, however, synthesize the information available to offer a model of the process of support (or the role of interaction) during changes in teacher practice.

The continuum of change. The interactions between the teacher and the researcher led to a form of PD that produced learning because of the way it was implemented over time and the fact that it led to collaboration between the teacher and the researcher. The combination of the long-term nature of the PD and the weekly interactions between the researcher and the teacher enabled the teacher to build her knowledge of SFL and the TLC over time through the three phases.
While the move through the three phases demonstrated progress in teaching writing informed by SFL, the fact that the teacher did not fully achieve independence after ten months of support was somewhat expected. As noted in a recent synthesis of the literature on teacher learning and language, “considerable time and effort are needed to prepare teachers with the technical linguistic knowledge necessary to incorporate an SFL approach in their classrooms” (Bunch 2013, p. 313). Such change takes time and research has shown that even after three years of professional development and classroom support, teachers were still developing their understanding of SFL informed writing instruction (Daniello, 2012).

The yearlong one-to-one coaching by the researcher contributed to the teacher’s growing confidence in her ability to plan units and lessons using SFL informed instruction. The interaction between the teacher and the researcher scaffolded the process of planning units and lessons for the teacher such that the teacher gradually took ownership of the planning. During the Dependence phase, the researcher planned SFL informed lessons for the teacher with minimal input because the teacher had minimal knowledge of the theory. Through the weekly meetings, the researcher supported the teacher’s learning of the theory and during the Collaboration phase the teacher was able to contribute to unit and lesson planning more consistently. In the Moving Toward Independence phase, the teacher planned the unit with the researcher, but the teacher planned the individual lessons independently.

The yearlong one-to-one coaching also contributed to the teacher’s growing confidence in her ability to teach using SFL informed instruction and the TLC to the point where she began to implement lessons in the final project more independently. As
she said in the end-of-year interview, “I feel confident when I teach reports with my students next year, I know what to do. I feel like I know exactly what to do, whereas this year I felt like I didn’t know what to do” (Interview, 5/9/12). It is also likely that the fact that the researcher’s role in the project was ending in June, she had decreased her visits to once a week, and it was uncertain whether the project was being extended to the next year also contributed the change. The teacher’s feeling that she had learned enough to be more independent combined with the knowledge that the support was ending may have prompted her to try a more independent unit.

Recent research on PD and teaching writing using SFL has documented that while participation in groups is an important aspect of engaging teachers in learning and change, teachers felt that “one-to-one coaching during classroom visits provided by the researchers had the most direct impact on their teaching and on student learning” (Brisk & Zisselsberger, 2011, p. 117). This is an important insight on how teachers learn and engage in the process of changing their teaching. The one-to-one interactions are an example of scaffolding where the teacher learns through mediation, including participation in social interactions and collaboration with the researcher, with the goal of appropriating new knowledge (Boblett, 2012). Appropriation is the process of the individual learning something new through mediation and then internalizing it. However, the process of internalizing the new information is active and the individual may change the information in relation to prior knowledge and context.

The findings showed that the teacher-researcher interactions went beyond the typical transfer of knowledge found in some models of PD to supporting the creation of shared goals and meaning. While the relationship began with the teacher depending
entirely on the researcher to translate her ideas into SFL informed writing lessons, it progressed to a phase where the planning of units and lessons was done collaboratively. This occurred because of the weekly interactions and discussions in which both the teacher and the researcher learned to understand each other’s perspectives and goals, and to reflect on how the teaching of writing informed by SFL theory and the TLC could be enacted in the classroom in ways that were mutually agreed upon, and how that would improve the teaching of writing. This led to the creation of shared meaning where the teacher and researcher formed common goals through a process of negotiation.

“Solutions must come through the development of shared meaning. The interface between individual and collective meaning and action in everyday situations is where change stands or falls” (Fullan, 2007, p. 9, emphasis in original). Due to the yearlong nature of the project the teacher and researcher were able to form a collegial relationship which contributed to the development of collective competencies or a “shared situational awareness” (Savoie-Zajc & Descamps-Bednarz, 2007, p. 594). They aligned their perspectives and goals out of mutual respect and an interest in learning from one another (Creswell & Miller, 2000; Fullan, 2007; Randall, 2002).

The interaction and the building of shared knowledge may also have contributed to changes beyond those in the teacher’s practice and materials to support her as she began changing her beliefs about teaching writing. While changing content and teaching strategies are important, changing one’s beliefs about practice are the essential element of enduring change and, paradoxically, the most difficult part of enacting change (Fullan, 2007). The best way of changing teachers’ beliefs and practices is through ongoing discussions “addressing them on a continuous basis through communities of practice and
the possibility that beliefs can be most effectively discussed after people have had at least some behavioral experience in attempting new practices” (Fullan, 2007, p. 37, emphasis in original). It may be that more emphasis on the theory is needed for teachers to deepen their understanding of why they are instituting change. Fullan (2007) cites McLaughlin and Mitra (2000) as saying that teachers need knowledge of why they are participating in changing otherwise “implementation will be superficial only, and teachers will lack the understanding they will need to deepen their practice or to sustain new practices in the face of changing context (p. 10, emphasis in original)” (p. 37).

**Factors of Change**

Progress through the three phases of the change continuum was initiated or stifled through the interplay of two factors of change, namely negotiation and tension. The teacher experienced two main tensions throughout the year: a sense of disequilibrium and at times resistance to change. The main cause of the tensions was the difference between her traditional way of teaching through textbooks and teaching writing through the consistent framework of the TLC informed by SFL theory. Negotiation was used as a tool to work through the tensions and together these factors influenced decisions throughout the study.

**Negotiation.** Negotiation played a crucial role in the interactions between the teacher and the researcher because it enabled discussions of all aspects of the research to occur. For example, there were discussions about which genres to teach, whether science activities should accompany lessons, the most appropriate topics for writing, and teaching strategies. Both the researcher’s perspective on involving the teacher in the research and the teacher’s experience with teaching contributed to a sense of commitment in
discussing and negotiating key choices made during the process. This meant that the teacher was involved in the decision making process throughout the study and she was able to express what she viewed as the most important needs to be addressed through the intervention. The teacher expressed that she enjoyed being part of the ongoing planning and changes throughout the year and she would have felt less involvement if the whole project had been pre-planned and all of the genres selected ahead of time (Interview, 3/1/13).

Research has shown that those implementing change must be involved in decision making processes, therefore, it is essential that teachers help both to identify what changes are needed and to determine a course of action (Fullan, 2007). When negotiation is used in teacher-researcher interactions it ensures that teachers are collaborators rather than participants in the research (Cole & Knowles, 1993). Researchers or other people seeking to bring innovations to education must be prepared not only to understand the reality of the people who will implement the changes, but also to be prepared to change the innovation based on their feedback. Collaborative relationships are inherently social and must involve a combination of mutual respect and purposeful action (Fullan, 2007). It is through the process of negotiation that researchers and teachers can arrive at a collective or shared meaning which enables change to occur (Fullan, 2007).

Negotiation also influenced the researcher’s beliefs and learning about implementing innovations designed to create changes in the teaching of writing. The researcher learned the importance of bringing the teacher into the decision making process and hearing the teacher’s perspective from interacting with the teacher and seeing what motivated her (Fullan, 2007).
**Disequilibrium.** The teacher was thrown into a state of disequilibrium by the changes proposed by the innovation. These changes included the approach to teaching writing, being observed weekly, and being exposed to so much new metalanguage after 23 years of teaching through traditional methods and textbooks. Learning to implement teaching informed by SFL took her outside of her comfort zone and made her a little nervous and uncomfortable, which was where the 1:1 coaching was necessary for support. The tensions were important because they led the teacher to question multiple aspects of SFL theory and her own practice, they led her to think more deeply about her teaching and to analyze what aspects of her practice she wanted to keep and what she wanted to leave behind, while they also drove her to keep trying to implement new ways of teaching writing. For example, she questioned whether traditional grammar was enough, whether she could teach exclusively through SFL or whether she could combine the traditional with the SFL because she still believed in the value of traditional grammar. She seemed to be trying to reconcile herself to the fact that there were aspects teaching writing informed by SFL theory she liked because she felt they had improved her practice and students’ writing. She wanted to continue implementing those in order to teach language from a functional perspective, even though it meant that she would have to give up familiar practices that she valued and believed in such as using the grammar textbook.

Research on changes in teaching documents that teachers felt some “tension, insecurity and a sense of loss for practices that worked well in the past when they reflected a more traditional approach to teaching, one in which the teachers were at the centre of the learning activities” (Savoie-Zajc & Descamps-Bednarz, 2007, p. 581). While change creates tension, a sense of disequilibrium is an essential part of the change
process (Nadler, 1993) and it is through this tension that we can successfully change not just our teaching practices but the knowledge and beliefs surrounding those practices. “Real change, then, whether desired or not, represents a serious personal and collective experience characterized by ambivalence and uncertainty; and if the change works out, it can result in a sense of mastery, accomplishment, and professional growth.” (Fullan, 2007, p. 23). It is probable that use of the TLC helped diminish the teacher’s sense of disequilibrium because she liked the deconstruction and joint construction strategies. It is also important to note that the students responded positively toward SFL informed instruction in writing and to combining language arts and science so it is likely that this also encouraged her to persevere in the face of tensions.

The researcher was surprised to find that she was also thrown into a state of disequilibrium by the new school environment, the teacher’s commitment to prior practices and beliefs and by not always having the answers to the teacher’s questions. The researcher needed to adapt her view of the project throughout the school year as she got to know the teacher and her goals and needs (Fullan, 2007).

**Resistance.** Resistance was an important factor in the interactions between the teacher and the researcher for several reasons. The first was that it established parameters for the research. The teacher had 23 years of experience in the classroom and a clear sense of what she needed to teach during the school year that helped to determine the genres that were most relevant to her teaching. One of the researcher’s goals for the study was to encourage the teacher to implement a unit on writing explanations. While the topic was discussed intermittently during the Collaboration phase, the teacher ultimately decided against teaching the unit because she said that it was not part of
scientific method which she was teaching for science fair. It is also possible that she resisted because she was becoming overwhelmed by learning new genres and that she felt adding a fourth genre was too much. Or she may have felt that there were too many potential topics in the science fair projects for her to be able to guide students in explanations for each of them.

It is hypothesized that because teaching writing informed by SFL differed from, and in some ways clashed with, the teacher’s beliefs and practices, she thought deeply about choices she was making in implementing writing instruction throughout the school year and changes she made were representative of shifts in her beliefs. Resistance to change in other aspects of writing instruction was representative of her choice to maintain some beliefs. This was revealed in her comments about teaching language where she acknowledged that students had learned about adverbs from SFL informed instruction, but she also believed that they learned language from the grammar textbook and she would continue using it to teach language as well. While this type of resistance might be viewed as impeding the implementation of writing instruction informed by SFL, in terms of the teacher-researcher relationship it ensured that the teacher’s voice was represented in the research. She did not simply accept recommendations of how to teach writing, she questioned and she was selective.

Resistance can be viewed as a problem to be overcome or as a sign of engagement in change (Gitlin & Margonis, 1995). When viewed as a positive indicator of change, resistance can be understood as a way for participants to think deeply about the innovation, see how it aligns with their own views and experience and determine whether it meets their needs (Fullan, 2007). When considering why she was not willing to change
the way she taught language it becomes clear that she believed that her way of teaching language prior to the intervention worked and in the year-end interview she explained why she felt that way. She said, “I still feel like if I teach them the [traditional] grammar first, then they have some ammunition” meaning that by teaching students the traditional grammar they learned the rules for language which she felt they needed before they learned the functions.

The teacher’s resistance the use of the metalanguage relating to SFL theory helped create empathy on the part of the researcher and possibly mutual understanding, which may have helped in the transition from Dependence to Collaboration. The teacher resisted the use of metalanguage even though it provides teachers with a common language for talking about and teaching writing and language. The researcher worked with the teacher to develop her understanding of and use of metalanguage during the school year. When the teacher resisted saying it was too complicated, the researcher shared that she had experienced similar feelings when learning it. The researcher also explained that its use would facilitate their conversations about writing because they would use the same terms. The teacher did adopt the metalanguage for deconstruction, joint construction, stages of the genres, and purpose for writing over the course of the year. She did not adopt it for teaching language. When teaching language she continued to use the language of traditional grammar, which restricted her explanations of language. For example, when teaching about adverbials (PTR 4), she always called them adverbs and she only gave examples of single word adverbs. Had she used the term adverbials she might have thought of including adverbial phrases and clauses. Also, when she
discussed adjectives in isolation she missed out on the opportunity to show the
importance of the function of adjectivals in the noun group.

The use of a common metalanguage to teach writing is supported by current
research in SFL theory. In learning to teach writing it is essential that teachers develop a
common language, and the use of SFL theory provides that metalanguage. It helps
people to know that they are teaching similar content or teaching in a similar way and the
metalanguage enables them to discuss their teaching using the same language while
deepening their understanding of the functions of language (Christie & Derewianka,
2008).

Changes in Pedagogy and Content

The teacher developed her knowledge of teaching writing over the course of the
school year in terms of both pedagogy and content. The content was SFL theory
including the purpose and stages of multiple genres and the language features required of
each genre she taught. The pedagogy was the TLC, including negotiating the field,
deconstruction and joint construction to prepare students for independent construction.
The teacher’s knowledge of teaching writing prior to the study was still emerging and the
resulting changes produced a hybrid of both the content and the pedagogy.

It is possible to develop “individual and collective competencies” through action
research (Savoie-Zajc & Descamps-Bednarz, 2007, p. 593). In terms of individual
competencies the teacher learned about teaching writing from the perspective of the TLC
and teaching language from a functional perspective, and the researcher learned about
helping a teacher change her practices in ways that were relevant to her.
**Content: SFL Theory.**

Prior to the study, the teacher had knowledge of language and an understanding of how to teach language which is different from many teachers who simply do not know how to teach language and don’t include it in their instruction. However, it is important to note that her knowledge was of language as an object or a set of rules rather than language as a functional semiotic system or a system for making meaning.

Throughout the school year, the teacher’s knowledge of the purpose and stages of genres was consistently stronger than her knowledge of language as informed by SFL theory. The teacher gradually learned about SFL theory throughout the three phases of the continuum and she incorporated it into the teaching of writing in science and language arts, minimally at first and then with growing consistency throughout the school year. Her knowledge of the purpose and stages of genres began developing even when she was in the Dependence phase with the first genre unit on procedure (PTR 2) and continued with each of the other genre units taught. She learned about the purpose and
stages of each genre in the weekly meetings with the researcher and the monthly PD sessions.

The teacher’s knowledge of language did not develop at the same pace. She taught traditional grammar throughout all of the Dependence phase and even through part of the Collaboration phase whenever she discussed language in students’ writing whether she used the grammar book or not. During the Collaboration phase, she began to integrate function into her discussions of language, a practice she continued through the end of the year. This created a hybrid form of language instruction where she taught both the traditional view of language as definitions, rules and classifications, while also teaching the functional view of language as making meaning in social contexts (Butt et al., 2000; Droga & Humphrey, 2003; Halliday, 1978). This limited her ability to explain to students the language choices available to them to create meaning in their texts. For example, in a deconstructing of a mentor text she asked students to find verbs in a text and they created a list of the verbs without discussing with students that verb groups include action, saying, sensing and relating processes that help writers to tell what is happening in a text.

There are several possible explanations for the creation of the hybrid. One is that the teacher’s knowledge of language from a functional perspective was simply not developed enough in the ten months of the study for her to use it more fully in her teaching. Another is that her beliefs had begun to change to the point where she saw value in functional language but she did not believe it was the only means of teaching language. As she said in the end-of-year interview,
I also think that teaching it [grammar] to them first is useful, but I also see that you can learn about it through a piece of writing [functional perspective]. I can’t say that I’m all like, “I teach it first then we write it”, and I can’t say that I’m all “we learn about it through our reading and writing”. A little bit of both and that’s what I’m comfortable with. (Interview 5/9/12)

There are several other possible reasons for the teacher’s choices when teaching language. First of all, it is possible that the teacher wasn’t sure what teaching language in a functional manner meant, and once she was deconstructing text and pointing out the language, she believed that she was teaching language in a functional manner. While the researcher did explain functional language to the teacher in relation to the different genres throughout the year, the explanations may not have been clear enough because the researcher was also still learning how to teach language in a functional manner. Another consideration is that the researcher emphasized structure more and it is possible that teaching structure just seemed more tangible to the teacher since it could show immediate improvement in student writing. While it may not be possible to isolate all of the reasons for the change, the fact remains that the teacher changed both her practices and beliefs with regards to teaching language in a manner that at least included a functional approach.

The teacher in this study was not unique in taking this approach to teaching writing informed by SFL. Research has shown that teachers tend to teach the stages of genres or text structure before they teach the related language (Kamberelis, 1999, Thwaite, 2006). However, research has also shown that teaching text structure alone is not enough because students cannot “become aware of the full range of meaning
resources available to them in their writing” if they are only taught text structure (Thwaite, 2006, p. 113). Teachers must also teach the language resources students will need for writing if they are to become skilled (Fang, 2002; Fillmore & Snow, 2000; Gebhard et al., 2008; Hyland, 2007; Purcell-Gates, Duke and Martineau, 2007; Schleppegrell, 2004). When teachers learn SFL theory they begin to build their “knowledge of how language works to build upon the genres associated with school success [which] will enable teachers to guide their students (both L1 and L2) in learning them” (Christie, 1999, pp. 761-2).

As teachers continue learning about SFL theory and teaching language they will become increasingly able “to heighten students’ awareness of the importance of linguistic variation and broaden students’ ability to use language more expertly across a variety of social and academic contexts” (Gebhard, Harman & Seger, 2007, p. 421). This is especially important for bilingual learners who do not have the language resources of native speakers (Brisk & Zisselsberger, 2011; Christie, 1999; Gebhard, et al., 2007). It is important to note that it is not enough to explicitly teach the language of the genres alone either, but that authentic purposes for writing are necessary for engaging students in learning both text structure and the language of texts (Purcell-Gates et al., 2007). It takes time, professional development and additional support for teachers to feel confident teaching writing (Aguirre-Muñoz et al., 2008; Bunch, 2013).

Teachers need to be explicit about language choices and their impact on tenor. The teacher did not understand the impact of selecting language relating to tenor, or the writer’s relationship to the audience. The teacher had a strong interest in developing students’ understanding of audience and she encouraged them to create final texts that
appealed to specific audiences, and even asked them to consider the role of language. For example, when she asked them to consider how a text would be written differently for different audiences, such as whether they were writing for her or their first grade buddies (PTR 3). However, she did not teach students about how language choices influence tenor through specific examples of language. When she suggested language like “Terrific Tundra” as a title for reports she wasn’t aware that she was suggesting language that didn’t match the purpose of the genre. Some authors do add catchy adjectives to their titles to appeal to children, but language relating to opinion such as terrific is not relevant to writing a report on the tundra.

Research shows that while teachers tell students to consider their audience when writing, they do not make explicit how to address a specific audience through language. Brisk (2012) made the following observation, “Audience was often mentioned in relation to content, purpose, and text structure but not in relation to how audience influences language choices” (p. 454). She also observed that while report titles are usually kept simple and show what the content of the report will be, authors of children’s books sometimes make titles engaging through language that is not in keeping with the genre (Brisk, forthcoming). This can be confusing for both teachers and children using mentor texts as a guide and teachers need to identify these issues and discuss them with students.

The teacher did not always demonstrate understanding of the importance of functional language in relation to science content. For example in PTR 4 she asked student about the adjectives damp and dry which were the key ideas in the experiment on decomposers. She had the students identify the words as adjectives but she did not relate them to their function in the noun groups damp bread and dry bread. This was a missed
opportunity to discuss that the adjectives *damp* and *dry* were used to describe the bread and to differentiate between the two because adding water to the one that was damp was the variable in the experiment. They were attempting to find out whether the damp or dry bread would decompose first and why.

**Pedagogy and the TLC.**

*Negotiating the field.* The teacher utilized a variety of resources to help students negotiate the field throughout the school year including science activities. The main resources were books including the textbook, books in the classroom library and books brought by the researcher. Although she had not used them prior to the study, at the researcher’s encouragement, the teacher also began to use the activities in the science textbook as a resource over the course of the year. For example, she had students complete three experiments in the classroom (decomposers, making butter, and the overcrowding of seedlings) and then she used those activities as the science content for teaching the procedure and procedural recount genres as well as teaching the parts of the science fair projects. By first engaging students in the activities the teacher taught students the language and the content of the activities. She then reinforced the language and content by using these familiar activities while teaching new genres. Keeping the content and language familiar to the students may have enabled them to focus more on the task of learning a new genre or the aspects of the science fair projects.

These practices relate to research on engaging bilingual students in hands-on science activities to increase both their literacy and their language skills (Lee et al., 2009). While this is very important for student learning it can be difficult in schools which are lacking in resources to support science teachers and the implementation of
science activities (Lee et al., 2009). However, negotiation the field is critical to students’ developing ability to write on a topic. This is a form of shared knowledge built up between a teacher and their students so that students can make meaningful contributions during the joint construction of text (Rothery, 1996). Through the process of negotiating the field the teacher can guide students through the process of developing their language from the colloquial to more scientific language while enriching their knowledge of content (Gibbons, 2003; Lemke, 1990). Students also need sufficient knowledge of the topic and fluency in the language to be able to write meaningful independent texts.

**Pedagogy, purpose and stages.** The teacher began changing her teaching of writing by adopting the new pedagogy of the TLC to teach the purpose and stages of texts. The idea of deconstructing text appealed to the teacher and she adopted it into her practice early in the Collaboration phase. Lessons on deconstructing mentor texts for the purpose of the text and the stages of genres were good examples of implementing lessons informed by her developing knowledge of SFL because, to differing extents, they taught students how real writers utilize the function of the stages of a genre to create texts which serve social purposes, such as to inform, instruct, or recount information to readers. While the teacher was familiar with joint construction to some extent, as was seen in the first lesson observed in September (PTR 1), she didn’t began to implement lessons using the joint construction of text informed by SFL until January. These lessons were also on the purpose and stages of genres and were good examples of her developing knowledge of SFL because as with deconstruction, they also taught students about creating texts which served various social purposes. For example, the lesson on procedural recounts
(PTR6) in which the teacher explained the difference between procedure and procedural recounts.

It is important to note that one result of the teacher’s hybrid practice was that she modified the TLC pedagogy in ways that eliminated the cyclical nature of the pedagogy. The complete TLC includes the negotiation of field and both deconstruction and joint construction of text for the stages of genres as well as for language, and independent construction of text all informed by SFL theory (Rothery, 1996). During the Dependence phase of the year she used deconstruction as a strategy and had students write independent reports, but she never implemented the full cycle of the TLC because she did not use the joint construction strategy. This resulted in the need for extensive conferencing with students. The teacher did implement the full cycle of the TLC during both the Collaboration phase and Moving Toward Independence, and the pedagogy was gradually used in a more complete manner.
It is also important to note that once the teacher did begin implementing the TLC as a whole it signaled a change in her beliefs about teaching writing. By implementing writing instruction using the complete TLC her teaching became part of a broader framework of teaching writing informed by SFL theory. She was no longer teaching isolated lessons in writing, but lessons informed by the theory of language as a semiotic system that functions to create meaning. This lead to more consistency in the teaching of writing over time and more precise teaching of the stages and the language of each genre.

This not only revealed a change in her use of teaching strategies but possibly also a change in her beliefs about the role of students in learning to write. The relationship she had with her students changed as they took on the role of her co-authors as they engaged in the joint construction process and so did the relationships among students. Students offered genuine ideas of what they could write and discussed them not only with
Myrna but also with each other. The classroom atmosphere changed from one where Myrna held the knowledge and asked questions to get specific content related answers to one where there was open discussion of how to use the content to create meaningful texts.

While the teacher did not completely embrace instruction informed by SFL theory, the fact that she created the hybrid pedagogy does indicate that her beliefs began to change as she began implementing lessons informed by SFL and as she learned to use the strategies of the TLC to teach writing. The teaching of three distinct genres and their stages illustrated the beginning of this change as the teacher chose to rely on teaching the genres as a means of preparing students to meet the writing demands of fourth grade, which included writing reports to show understanding of content, and writing procedures and procedural recounts to create individual science fair projects. While the teacher did not entirely change her beliefs with regards to language, she did change them to incorporate some aspects of functional language into her teaching.

*Pedagogy and language.* The teacher struggled to implement the TLC to teach language informed by SFL. Her lessons on deconstruction of text for language were initially not informed by SFL theory at all but by traditional grammar. For example, in PTR 2 they talked about adverbs as providing information on time, place, or manner and the students answered the teacher’s questions as a chorus. The teacher said, “The girl stepped down. Where did the girl step?” Students chorused, “Down!” During the Collaboration phase she began to integrate both traditional and functional grammar into deconstructions, but the analysis of language was never fully functional. Her joint constructions followed a similar pattern, where she would engage students in conversations about the language they were using, but these conversations revolved
around rules they had memorized for using language, and did not include enough instruction on how to make language choices based on the functions of language. For example, in PTR 4 they discussed adverbs of manner in relation to writing procedures. When Myrna asked for an example of an adverb that could be used in a procedure a student said “Completely”. While Myrna did clarify that not all adverbs end in -ly, she did not provide other examples nor did she explain that adverbials can also be expressed as phrases or clauses and all of the examples given were of single word adverbs. It is also important to note that while adverbs of manner are important in procedures, Myrna could have given students more information such as other types of adverbials are also important such as those that provide information on time, place, accompaniment or extent. This could have led to a discussion of the functions of adverbials and a broader view of the language used to express circumstances.

The result of this hybridization of the teaching of language was that her implementation of the TLC was not always informed by SFL, which also rendered the pedagogy incomplete. The teacher’s lessons on teaching the stages of the genres were consistently informed by SFL throughout the school year, whether they used the deconstruction strategy or joint construction. However, when she taught language, the content of the instruction was not consistently informed by SFL regardless of the strategy. Early in the year lessons on language were completely informed by traditional grammar, but by midyear they gradually incorporated both views of language. These later lessons were examples of the hybrid nature of the pedagogy because the teacher attempted to use both traditional grammar and functional grammar to inform the content of her teaching.
The continued reliance on prior knowledge to teach content even when other options are available is supported by research on learning. Her hybrid version is a result of a partial appropriation of SFL in the ten months of the project and the scaffolding needed to be continued as she learned more about the theory and implementing it in her practice (Boblett, 2012). Atherton (1999) explains Piaget’s concepts of assimilation and accommodation in relation to adult learning. He explains that when people continue to use familiar content while also using new content and strategies they are engaging in a form of assimilating the content into what one knows and is comfortable with, but without necessarily changing one’s preconceived ideas. People can also engage in accommodation of new information which involves changing pre-existing knowledge in the process of integrating the new information.

While Piaget observed both processes happening with ease in children, Atherton notes that accommodation becomes much more difficult with age. The teacher may have found it easier to assimilate the new information on teaching writing through functional language than to accommodate it for several reasons, the main one being that she hadn’t entirely committed to SFL theory and the TLC. Another possible reason relates to her statement that she had been using a grammar text for 23 years and didn’t know what to do without it. This relates to research on teaching writing that showed that teachers reinforce what they know and are comfortable with (Daniello, 2012; Kamberelis 1999).

This idea of connecting new information to the known is also reflected in the literature on change theory as Fullan (2007) explains, “New experiences are always reacted to initially in the context of some ‘familiar, reliable construction of reality’ in which people must be able to attach personal meaning to the experiences, regardless of
how meaningful they might be to others” (p. 21). It is possible that the teacher created the hybrid pedagogy and content as part of the process of change. Fullan (2001) describes a phenomenon he terms an “implementation dip” which he describes as a decrease in “performance and confidence as one encounters an innovation that requires new skills and new understandings” (p. 40). The teacher was involved in a new innovation which required her to try new ways of teaching writing but she couldn’t incorporate it all or make the complete shift all at once, she needed to do it gradually. The teacher was comfortable with the content of the science textbook and the lessons she traditionally taught. She may have continued to use the text throughout a time of new learning and uncertainty to keep some semblance of order and normalcy.

**The researcher’s learning.** The interaction between the teacher and the researcher showed the researcher the limits of her own content knowledge regarding the teaching of language. The researcher needed to be able to offer more concrete examples of teaching language in a functional manner which would have developed the teacher’s knowledge while also persuading her of the value of implementing instructing using a functional perspective. Researchers need to be knowledgeable about the subject matter and able to anticipate counter arguments or struggles people will encounter to help teachers overcome their feelings of resistance.

**Missed opportunities.** The researcher was very concerned throughout the project with wanting the teacher to do even more teaching informed by SFL and the TLC. While this served to encourage the teacher to persevere in the face of the tensions involved in change, it was also detrimental in several instances. At the beginning of the year the researcher was very concerned with what she wanted the teacher to do in relation to the
project and searching for ways of helping the teacher to teach lessons informed by SFL. That led the researcher to miss instances in the teaching where the teacher used strategies that related to SFL that the researcher could have used to help increase the teacher’s understanding of SFL.

For example, during first observation conducted the lesson involved joint construction and the researcher missed that fact even though she observed it firsthand. It is possible that the researcher didn’t focus on it as an example of joint construction because it was different in some ways from the model, however, it was clearly a lost opportunity for using the teacher’s knowledge and teaching skills to help her engage in new learning. This is a crucial aspect of teacher change because recognition that joint construction was in some form was already part of her practice might have led to feelings of accomplishment and empowerment which may have increased her motivation and may have facilitated her learning (Fullan, 2007).

**Changes in Student Writing**

**Structure.** The structure of the writing of the eight bilingual students changed over the course of the school year which reflected the influence of SFL informed instruction but it was still in state of flux. Both the ecosystems pamphlets and the animal books showed students’ increased understanding of the stages of reports compared to the initial texts on cells. In both texts students included titles and relevant information in subtopics. The fact that the animal books didn’t include general opening statements indicates that they hadn’t completely internalized all of the information on stages and they didn’t think to include opening statements when they weren’t prompted by the teacher.
For both the ecosystems pamphlets and the animal books students required extensive help with revisions. This was also due to the fact that they were still learning about the genre, possibly because they hadn’t done very much joint construction of reports where they would have received more scaffolded instruction on the stages and their functions (Brisk 2012). Research has shown that teaching writing for science through joint construction yields better results (Wollman-Bonilla, 2000) and the report units included minimal joint construction.

Figure 6.4: The Complete Cycle

The teaching/learning cycle

Content. The student texts also revealed that the students were learning new content and that they knew how to include factual information relating to the three subtopics, even though in some instances more information was needed. The ecosystems and animal texts were longer and reflected (to varying degrees) evidence of the research students had done on each subtopic. It is possible that the medium of pamphlets for the
ecosystems reports limited the content students chose to include. The pamphlets were chosen to keep students focused on including the most relevant information but in some instances it seemed that students might have written more if they had more space. The teacher had also discussed the content of the animal books with students and had introduced the idea that younger audiences required less content. Students may have misunderstood the teacher’s explanation and not included enough content because they thought it was more appropriate to their audience.

Students need to be introduced to the genres of science which enable them to write about scientific content and knowledge (Christie & Derewianka, 2008; Hodgson-Drysdale & Ballard, 2011). However, this also indicates a need for more work in negotiating the field through guidance in reading and building up students’ knowledge of the content and taking notes. Some students missed important factual information, such as animals in the desert need to be able to hide during the day to avoid the heat and many smaller animals burrow in the sand. This would scaffold students’ in their efforts to go beyond listing the animals to show how they survive in an ecosystem. This would also have helped students know which facts were important to include in the animals books created at the end of the year. While students did include some specialized knowledge in their reports, they included much more “commonsense” knowledge. This may have been due in part to the fact that these students were at the beginning phase of moving toward more abstract knowledge (Christie, 2010).

The lack of content may also have been due to the nature of the topics and subtopics chosen for the projects, in that they dealt with developing specialized knowledge in a limited manner. It might have been better to select the topics from
standards, such as the Next Generation Science Standards (2013) rather than the textbook which may have emphasized decontextualized factual learning over understanding of complex ideas, problem solving, relating to students experiences or societal needs (NGSS, 2013).

Another content-related issue was the number of different topics selected by students in both the ecosystems and the animal reports. Students’ ecosystem texts were on one of six different ecosystems and the animal projects were on one of twelve topics. It might have been better to restrict the students’ choices to enable the teacher and the researcher to know more about each topic and to ensure that students were extracting precise information from texts they used for their research. There are multiple ways to restrict the topics while still offering students choices, such as studying ecosystems in North America, which would have restricted the field while still allowing students to choose from several ecosystems. This could have been related to the fourth grade social studies curriculum which focuses on the study of North America. It would also have been possible to limit topics to those for which there were enough high quality texts available for their research. This goes against current literature on teaching writing which recommends allowing upper elementary students a broad choice of topics (Stead, 2002), however, until students are skilled at reading and taking notes for their research they need the scaffolding of teachers which is made easier through limited topics.

**Language.** The student texts also revealed that the students were learning language and that they were learning *about* language. In the initial pre-write texts on cells some students seemed to be overwhelmed by the language and they used it without comprehending it. In both the ecosystems and animal texts, however, students used
language that was accurate and relevant to the content (field) while also conveying accurate information. While the texts show that students conveyed content through simple noun groups and minimal use of adjectivals, relational verbs and some action verbs, and some adverbials, the language of the texts conveyed meaningful information overall.

One means of facilitating the teaching of language could be restricting topics. Key content related vocabulary could have been taught through a process of deconstructing texts on one ecosystem and completing the joint construction of one pamphlet as a whole class. The teacher could have helped students understand how authors use noun groups, verb groups and adverbials to make meaning. The teacher talked a lot about paraphrasing with the students and they did not copy directly from the book. The teacher encouraged them to write notes and then put the books away when they wrote their drafts. Students demonstrated the ability to modify the language and use it in appropriate ways. This suggests that they appropriated some of the language of the content and that they used that knowledge to some degree in their writing (Boblett, 2012). However, participation in joint construction might have helped them appropriate more of the language and to go beyond oral language to more abstract language.

Students’ use of language also demonstrated an understanding of tenor. Students wrote animal books that were explicitly crafted to meet the interests of their first grade buddies and that used language chosen to engage them. There was also some confusion regarding language and tenor. One way in which adjectives were frequently used was in the titles of the reports, which indicated some confusion regarding titles and purpose. This confusion could have been due to the teacher’s emphasis on appealing to an
The teacher encouraged students to make texts appealing for the audience and one of the ways she encouraged them to do that was creating fun and engaging titles. However, she did not teach them to understand the impact of their choices on the purpose of their texts. The student interviews revealed how one student chose language for the animal books with the younger audience in mind. This student clearly chose language to create a meaningful title that would appeal to the first grade audience, but the title did not reflect the purpose of the text. If anything, it contradicted the purpose of informing by appealing to a sensational view of sharks. This could be an example of the teacher’s hybrid practice where she used something that she had done in the past in the context of the study. It might also have been due to the fact that the researcher may not have emphasized the importance of the title reflecting the purpose of the text clearly enough.

In fourth grade students are still learning to control language. They are at the beginning of the second stage of writing development (9 to 13 or 14 years of age) moving from basic writing into more complex abstract writing (Christie, 2010). Without the teaching of language students cannot develop fully as writers especially in the content areas where to know the content one must know the language (Rothery, 1996). The students’ writing demonstrates their understanding that they are writing for a particular audience and they are considering their relationship when choosing language. It also shows that their knowledge of writing is emergent and sometimes inconsistent (Kamberelis, 1999). While students may be attending to audience it may not be in ways which are relevant to the genre.
Students’ writing demonstrated that they were also still learning how to write cohesive texts. One example of the developing nature of this skill was students’ difficulty with writing in the third person plural to refer to ecosystems or animals in general. Most students switched back and forth between the plural and singular in a seemingly random fashion. This is a common feature of children’s writing and has been observed in other research (Brisk, Hodgson-Drysdale, & O’Connor, 2011).

Conclusions

“To bring about more effective change, we need to be able to explain not only what causes it but how to influence those causes” (Fullan, 2007, 105-106). The relationship between teachers and researchers is instrumental in change, but in addition to emphasizing a relationship innovations must also seek to understand how the continuum of change will affect the process. This process will vary with each different groups of people and each innovation, but each must go through phases of development and each will be impacted by factors such as disequilibrium and resistance. Negotiation will remain a crucial component of moving this process forward and creating a collaboration which can lead to change.

Teachers need to be taught to teach writing informed by a theory of writing, such as SFL, in order for their practice to be based in a broader framework which encompasses all content areas and has the goal of writing to achieve social purposes. For these changes to occur teachers need to participate in innovations which offer a rich and supportive environment where the sharing of ideas helps them to learn and try new methods of teaching writing. Long term support and collaboration will enable them to change their practices and also their beliefs.
Children can learn to write meaningful texts when instruction is informed by SFL. When instruction is based in the TLC, students can be scaffolded through the process of learning to write for different purposes and content areas. When students are supported in their learning they can learn to make appropriate language choices to communicate with a variety of audiences on a range of topics. This learning requires the support, guidance and practice of teachers who are knowledgeable about the teaching of writing and language.

**Limitations**

A first limitation of the current study is that it is based on the experiences of one teacher and one researcher in a single fourth grade classroom. Research has shown that change happens differently in each context and change happens differently for each individual (Fullan, 2007). A second limitation is that the study only lasted for one school year and the research on change has shown that it takes at least two to three years for sustainable change to occur (Fullan, 2007).

A third limitation is that while the interaction between the teacher and the researcher was the catalyst for many changes, the development of collective competencies could have been enhanced further. The teacher also needed to develop relationships with other teachers who taught similar subjects or who taught at similar grade levels, even if that needs to be across schools. While the teacher did participate in monthly PD sessions with the PI of the larger project and several other teachers, she did not necessarily develop collective competencies with them possibly due to the fact that teachers each taught different subjects and worked at different grade levels. She also noted the importance of the monthly PD when she said, “I think the sharing, the
individual instruction between me and you and then the group [PD] with [name of the PI of the larger study] make for a really good program. I don’t think it would be as successful without one or the other. If it was just you coaching that would be great, but I think that we all need to come together” (Interview 5/9/12).

**Implications**

**Practice.** Several implications for practice are suggested by the current study. The first is that teacher education must include specific and in-depth attention to the teaching of writing from a broad framework or theory such as is offered by SFL. Such a theory is needed because it provides teachers with a larger framework within which to situate their knowledge, taking into consideration the context of the culture they are working in, while it also offers more specific instruction in the particular functions of language that are necessary for the creation of individual texts. This is especially important for teachers of bilingual children who may not know the intricacies of the English language and need to be taught them explicitly.

Professional development for teachers must be ongoing, long term and personalized. Teachers need support over time to learn new practices and they need time to consider them in relation to their prior knowledge and beliefs. Ongoing support throughout this process can lead to changes in their beliefs and lasting changes in practice. Teachers learn in the context of teaching as well as through discussions with other teachers and professionals. Creating lasting changes in education is a complex experience and the complexity of the process must respected for change to occur.
In order for teacher educators to be able to teach pre-service and in-service teachers to teach language, they themselves must learn more about teaching language. They must go beyond the conventional view of language offered by traditional grammar and learn about how language functions to create meaning. They must understand the process of teaching writing through the TLC and how knowledge of language informs that process in order to be able to explain SFL theory and its impact on teaching writing to teachers.

Research. There is a significant need for more research on how to effect changes in the teaching of writing. Researchers need to work with other teachers in one-to-one settings to understand the continuum of change that is crucial to building relationships which lead teachers to make changes in practices and beliefs, and they also need to work with whole schools to understand the broader dynamic of the social construction of knowledge on change. Researchers need to find ways of introducing teachers to the rich benefits of viewing the teaching of writing and language as a broad framework that extends beyond the boundaries of content areas so that they can teach writing as a tool for creating meaning. Researchers also need to continue asking how to help teachers learn about functional language in ways that enable them to incorporate it into their teaching more quickly, more thoroughly and more effectively. Research on the teaching of writing needs to investigate the intricacies of writing and language to make it more transparent and accessible for teachers and students.
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Appendix A

Teacher Interview Protocol (2012)

Background
- Tell me about yourself as a teacher.
  
  Probe: How long have you been teaching?

Reform Process
- What has the experience been like for you working with us?
  
  Probe: Tell me about how you have experienced this reform.

Writing Instruction
- Tell me about what writing instruction looks like in your classroom.
  
  Probe: Is this different than how you used to teach writing?
  
  Probe: What brought about this change?

- Tell me about how you are using SFL and genre to teach writing.
  
  Probe: How has your knowledge of language developed?

- Tell me about how you teach language to your students.
  
  Probe: What do you teach?

- How has our work together affected your writing instruction?

- What aspects of language do you still struggle to teach?

Reform Process (continued)
- What has the experience been like for you collaborating with colleagues?
  
  Probe: Tell me about what it has been like to plan with other teachers in grade-level meetings.

- In looking forward, tell me about how you see our work continuing once we are no longer at the St. Catherine School.
  
  Probe: Do you see teachers continuing to use SFL to inform writing instruction?
  
  Probe: What role do you see teachers and the principal having in taking our work forward?
Appendix B

Student Interview Protocol 2011-12

1. What’s the topic of your piece?

2. Who is going to read your piece?

3. What did you do to plan for the piece?

4. If there are unclear sentences ask: What do you mean by…?

5. If the student is seen erasing or changing something: Why did you erase or change that?

6. What was the easiest thing about writing this piece?

7. What was the hardest thing about writing this piece?
Appendix C

Teacher Survey St. Catherine 2011

NAME ____________________________________________________________

I. Background

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<td>1.</td>
<td>How many years have you been teaching?</td>
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<td>2.</td>
<td>What grade level (content area) do you teach?</td>
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<td>3.</td>
<td>How long have you been teaching at your current grade level?</td>
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<td>4.</td>
<td>How long have you been teaching at St. Catherine?</td>
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</tbody>
</table>

5. Which of the following certifications do you hold? (Circle any that apply)

- Elementary education
- Special education
Sheltered English instruction     Literacy/Reading specialist
Secondary education       English as a second language
Subject area certification     Other (please specify)

6. Please describe your educational background.

<table>
<thead>
<tr>
<th>a. Bachelor’s degree?</th>
<th>YES</th>
<th>NO</th>
<th>Subject area</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Master’s degree?</td>
<td>YES</td>
<td>NO</td>
<td>Subject area</td>
</tr>
<tr>
<td>c. Coursework beyond Master’s?</td>
<td>YES</td>
<td>NO</td>
<td>Subject area</td>
</tr>
</tbody>
</table>

7. Do you speak a language(s) other than English?  YES          NO

If so, which one(s)?  _________________________________________

8. Have you received training (coursework, in-service professional) | Yes or No? | If so, how many hours (approximately)? | What was the specific focus of this training? |
II. Writing instruction

9. Describe writing instruction in your classroom.

10. How you teach language to your students?

11. What should we know about you as a writing teacher? (For example, What aspects of writing do you feel comfortable teaching? What aspects of writing do you struggle to teach? What questions do you have about teaching writing?)
12. In terms of writing, what are the various units of study (genres) you teach in your class?

13. How do you decide what to teach in terms of writing?

14. What do you hope to get out of this BC/St. Catherine collaboration?

Thank you for your input. We look forward to working with you this school year! -The BC SFL team
## Appendix D

### Report Rubric

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Below standard (Needs substantial support)</td>
<td>Approaching standard (Needs instruction)</td>
<td>Meets standard (Can do independently)</td>
</tr>
</tbody>
</table>

### Genre/Purpose: to document, organize, and store info about a topic

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Wrong purpose</td>
<td>Purposes are mixed</td>
<td>Mostly accurate but one or more sentences deviate from purpose</td>
</tr>
</tbody>
</table>

### Title (if required by the medium)

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>None or completely off topic</td>
<td>Refers to topic but purpose unclear</td>
<td>Reflects the topic and the purpose but does not engage the reader</td>
</tr>
</tbody>
</table>

### Opening general statement (what and how this is classified in universe of things)

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No general opening statement</td>
<td>A general opening statement (what and its classification)</td>
<td>Opening general statement includes ‘what’ and its classification</td>
</tr>
</tbody>
</table>

### Facts organized in topic areas, using paragraphs, subheadings to organize information;

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Facts are not organized in coherent topic areas and paragraphs. The same fact appears in more than one paragraph</td>
<td>Some facts are organized into coherent paragraphs</td>
<td>All facts are organized coherently into paragraphs and topic areas</td>
</tr>
</tbody>
</table>

### Ending general statement (optional)

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>No ending statement (optional)</td>
<td>Ending statement is not general (optional)</td>
<td>Ending statement is connected to the thesis statement.</td>
</tr>
</tbody>
</table>

### Clause

<table>
<thead>
<tr>
<th>Grade Level: 3-5</th>
<th>Content Area:</th>
<th>Medium:</th>
<th>Intended Audience:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Clauses are not well formed</td>
<td>Some clauses are well formed</td>
<td>Most clauses are well formed and meaningful</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Noun Group 1</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td>Generalized participant(s) or specific are not clearly introduced or tracked throughout the text.</td>
<td>Generalized participant(s) or specific are sometimes introduced or tracked through the text.</td>
<td>Generalized participant(s) or specific are clearly introduced and tracked throughout text.</td>
</tr>
<tr>
<td><strong>Noun Groups 3</strong> Derewianka Grammar pp 17-53 Noun descriptors are an important feature of this genre</td>
<td>Participants are underdeveloped due lack of factual and precise descriptive language</td>
<td>Generalized participants are underdeveloped due to some factual and precise descriptive language</td>
<td>Generalized participant(s) are consistently described with factual and precise language, and expanded with relative clauses.</td>
</tr>
<tr>
<td><strong>Processes</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td><strong>Verb Group 1</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Limited variety of verb types used.</td>
<td>Some variety of verb types used.</td>
<td>Verbs types are used effectively to sustain reader interest and provide complete information topic of generalized participants.</td>
</tr>
<tr>
<td><strong>Verb Groups 2</strong> Derewianka Grammar pp 54-72 Verb types: doing, being/having (relational/linking)</td>
<td>Limited variety of verb types used.</td>
<td>Some variety of verb types used.</td>
<td>Verbs types are used effectively to sustain reader interest and provide complete information topic of generalized participants.</td>
</tr>
<tr>
<td><strong>Circumstances</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td><strong>Adverbials 1</strong></td>
<td>Uses mostly everyday vocabulary</td>
<td>Some use of technical terms</td>
<td>Sufficient use of technical terms to reflect knowledge of the academic language of the topic</td>
</tr>
<tr>
<td>Circumstances/Adverbials 2</td>
<td>Limited description of topic (one or more). Adverbs and adverbial phrases are not included.</td>
<td>Some description of topic (two types). Adverbs and adverbial phrases are rarely used.</td>
<td>Complete description of topic gives the reader a clear sense of time, place, manner, cause, classification, comparison and contrast. Adverbs and adverbial phrases are well constructed.</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>TENOR 1 (text level)</td>
<td>Limited awareness of relative status between writer and audience</td>
<td>Some awareness of relative status between writer and audience</td>
<td>Awareness of relative status between writer and audience</td>
</tr>
<tr>
<td>Relative status dictates the level of formality of language.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TENOR 2 (text level)</td>
<td>Limited awareness of audience reflected in the lack of adequate descriptions to support background knowledge of audience</td>
<td>Some awareness of audience reflected in the partial descriptions to support background knowledge of audience</td>
<td>Awareness of audience reflected in the adequate descriptions to support background knowledge of audience</td>
</tr>
<tr>
<td>Information provided should be sufficient given the audience’s background knowledge.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TENOR 3</td>
<td>A number of the types of clauses are not appropriate for the genre and audience</td>
<td>Some use of types of clauses are not appropriate for the genre and audience</td>
<td>Uses the appropriate type of clauses given the genre and audience</td>
</tr>
<tr>
<td>Types of Clauses (Statements, questions, commands, exclamations) relevant for the genre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Droga &amp; Humphrey p. 79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TENOR 4 (text level)</td>
<td>Voice is not consistently in 1st or 3rd person</td>
<td>Voice is sometimes in 1st or 3rd person singular/plural; writer uses familiar (I, we) and subjective (own opinions) language</td>
<td>Voice is in 1st or 3rd person singular/plural</td>
</tr>
<tr>
<td>Use of person (1st person – narrator or central participant 1st person plural—narrator and others 3rd person—introduces participants)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Droga &amp; Humphrey p. 79</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MODE</strong></td>
<td><strong>Reference Ties 1</strong></td>
<td><strong>Derewianka Grammar pp107-108</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Referents lack connection to participants</strong></td>
<td><strong>Referents often lack connection to participants</strong></td>
<td><strong>Referents usually connect to participants</strong></td>
<td><strong>Referents are explicitly connected to participants</strong></td>
</tr>
</tbody>
</table>

[I was in my house and she was helping…” Who is she? Should have named before] [“told me to read the question” question should have been mentioned before, otherwise one needs to use a] (word associations) See Derewianka, Grammar book, pp.108-109.

| **Conjunctions reflecting logical connections** | **Shows lack of understanding of the logical connections** | **There seems to be understanding of the logical connection, but the specific conjunction chosen is not appropriate for the intended meaning.** | **Sentences reflect clear understanding of the logical relationship between the clauses they connect. They are all needed for comprehension of the sentences.** |

**Conjunctions**

**Sentences**

**Theme/Rheme (Beginning of clause, everything until verb)**

**Theme at the beginning of paragraphs**

**Some paragraphs include the theme related to the topic of the text.**

**The majority of the paragraphs include the theme related to the topic of the text.**

**The beginnings of the paragraphs focus the reader’s attention on topic development. It helps make the text coherent and enables the reader to predict how the text is unfolding.**

**Theme and Rheme are connected.**

**The beginnings of the clauses focus the reader’s attention on topic development.**

**Sentence structure and coherence.**

**Sentences reflect clear understanding of the logical relationship between the clauses they connect. They are all needed for comprehension of the sentences.**
<table>
<thead>
<tr>
<th>pp.104-106. [for example, I think plants need water, soil... Vs. Plants need water, soil...]</th>
<th>unpredictable to the reader.</th>
<th>flow from rheme to new theme</th>
<th>It helps make the text coherent and enables the reader to predict how the text is unfolding.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spelling</td>
<td>Widespread errors detract from readability; spelling errors are inconsistent, do not reflect grade-level expectations; errors with main topic vocabulary</td>
<td>Some errors; text is somewhat readable; some errors with key topic vocabulary, significant amount of errors show below-grade level expectations; errors show some spelling patterns</td>
<td>No spelling errors</td>
</tr>
</tbody>
</table>
## Appendix E

### Sample Scoring Sheet: Reports

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Score</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genre/purpose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Statement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtopics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ending (optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clause</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noun group 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noun group 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Noun group 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verb group 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Verb group 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverbials 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adverbials 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenor 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenor 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenor 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenor 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referent Ties 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logical Connections</td>
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<tr>
<td>Hyper Themes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theme/Rheme</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spelling</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>