More Than Just Good Teaching: Teachers Engaging Culturally and Linguistically Diverse Learners with Content and Language in Mainstream Classrooms

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A dissertation submitted in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

University of Washington

2009

Program Authorized to Offer Degree:
College of Education
UMI Number: 3377326

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Abstract

More Than Just Good Teaching:
Teachers Engaging Culturally and Linguistically Diverse Learners
with Content and Language in Mainstream Classrooms

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This study looks at exemplary practices and participation of culturally and
linguistically diverse (CLD) learners in mainstream classrooms. Using case study and
discourse analysis methods, this dissertation examines two upper elementary
classrooms to explore how teachers facilitate CLD student participation in mainstream
classrooms and the factors that may enable teachers to facilitate this participation. The
author employs a sociocultural framework viewing language as a resource for
participation within the classroom Discourse. This study looks beyond an emphasis on
‘just good teaching’ and synthesizes the bodies of research into academic language
development, best instructional practice, and equitable access.

This dissertation analyzes discourse episodes in each of the two classrooms to
look at how teachers employ exemplary practices in a third- and a fourth-grade
classroom to facilitate CLD learner participation using nontraditional participation
structures. This study finds that both teachers employ instructional routines to make linguistic expectations in math instruction clear to students and use strategies to develop students' academic vocabulary. Both teachers also hold CLD students to high instructional standards while differentiating instruction, and engage students with new learning through the use of real-world scenarios.

This study also explores the factors that enable teachers to employ these practices, including factors within the institutional setting and teacher background. This study finds that teacher networks and school structures within the school context may enable teachers to facilitate CLD student participation. In addition, the development of a knowledge base around ESL methodology and the cultural and linguistic resources students bring may also enable mainstream teachers to facilitate this participation.

Further research is indicated that looks into how school settings and other factors may enable teachers to facilitate CLD student participation, including school context and teacher knowledge base. In the area of teacher preparation, this study suggests approaching teachers as learners through a sociocultural perspective, just as we would view students, when considering how to support teachers in facilitating the participation of culturally and linguistically diverse learners in mainstream classrooms.
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ACKNOWLEDGEMENTS

This work would not have been possible without the unconditional support of my committee, family and friends, and the many colleagues who have supported me along the way, to whom I owe my thanks:

First and foremost, I thank my chair and advisor, Dr. Manka Varghese. When I first entertained interest in pursuing my doctoral studies, I approached Manka with the thought of starting my studies the following year, with doubts that I could truly complete my doctorate while working and parenting two small children. Manka, also a working mother, reassured me of what I already knew, that I wanted to take on this challenge and that I would find the support I needed along the way. I walked out of her office ready to start the program nearly a year before I had planned. Since that first day, Manka has been my most steadfast supporter, with kindness and patience, for which I am truly grateful. I have learned so much from Manka, who has taken the time to mentor me in all aspects of scholarship, from the most important facets of research the smallest details. To Manka, I am eternally grateful.

To my entire committee, Dr. Lani Horn, Dr. Tom Stritikus, and Dr. Gail Stygall, I offer great thanks. Each of them has provided me invaluable support and guidance throughout my studies, particularly on my final product.

To my colleagues in both Northshore and Shoreline School Districts, who encouraged me along the way to continue this work, and who helped me see the relevance of my research to my daily work as a teacher and an administrator. In
Northshore, thanks to Diane Baerwald, who supported me as I initiated this study and helped me learn the fine arts of balance and perspective in the field of education. In Shoreline, I wish to thank all of my wonderful colleagues at the district office in the Student Services and Instruction departments. In particular I wish to thank Lynn Ashenbrener, Lori Cunningham, Julie Kang, Amy Vujovich, Sue Porter, Jack Monpas-Huber, and Brian Schultz, who support me daily in too many ways to count. To my first professional mentor, Sue Wallace, thanks for planting the seeds for this research ten years ago. I also wish to thank all the teachers in the ELL, Title I and LAP programs in Shoreline for the work they do and their commitment to the most important work in all of education – the classroom.

To all my family and friends, without whose patience, love, and support I could never have undertaken this work. Thanks to my family who have accepted my late nights writing and understood why the laundry wasn’t folded. Thanks to my friends who continue to believe in me and inspire me on a daily basis, with a particular thanks to Hilary, Brandi, Christy, Ann, and my Danforth partner, Bonnie.

Finally, I wish to extend special thanks Mrs. Schaeffer and Mrs. Hutchins and their wonderful students. I owe them enormous gratitude for welcoming me into their classrooms and sharing with me their expertise and experience. May all children be so lucky to have such dedicated teachers. Thanks to everyone who has supported me and encouraged me throughout my studies. I only hope in some small way this research gives back to the educational community, which has given me so much.
DEDICATION

To my husband, Janne, whose love, patience, and confidence in me has made this work possible. Without him, without his support every single day, I simply never would have been able to do it. Thanks Flarri.

To my parents. If it had not been for my parents, John and Susan Strickland, instilling in me the belief that I can truly accomplish anything to which I set my mind, I would never have undertaken this work. To my sister, Jennifer, who though living a thousand miles away, has encouraged me all along the way.

And most especially to my children, Alex and Maia. It is with extreme pride that I dedicate this work to them. They were very young when I began my doctoral studies, and now, four years later, they have a new understanding of what it means for me to have completed this dissertation and Ph.D. program. With this study I hope to pass along to them my passion for education, knowledge, and curiosity. I hope they also take away from this work the knowledge that they can truly accomplish anything to which they set their minds.
CHAPTER 1: EXEMPLARY PRACTICES FOR CULTURALLY AND LINGUISTICALLY DIVERSE STUDENTS

This dissertation investigates how teachers facilitate participation and employ exemplary practices for culturally and linguistically diverse (CLD) learners in mainstream classrooms. Research has explored a variety of factors that contribute to the success of CLD learners, including academic language development, specific instructional practices, and issues of student access within the classroom. These bodies of research each look at different aspects of instruction and language development that impact CLD learners. This study features discourse analysis within two case studies, Mrs. Schaeffer’s third-grade class and Mrs. Hutchins’ fourth-grade class, to explore how teachers facilitate the participation of CLD learners. I synthesize these bodies of research investigating academic language development, best instructional practice, and equitable access for culturally and linguistically diverse learners to inform this work.

With this study I examine interactions from two classrooms, drawing from the bodies of literature around exemplary practices with CLD learners to help me understand how teachers facilitate participation and engage their students with academic language and content. The primary research question guiding this study is: In what ways do teachers facilitate participation of culturally and linguistically diverse students in the classroom? I address this question by investigating teachers’ practice in two mainstream classrooms during classroom interactions in math instruction. In

---

1 All names are pseudonyms.
addition to investigating how mainstream teachers facilitate CLD student participation, I also look at the social contexts in which both teachers are situated and ask my secondary research question: In what ways are teachers enabled to facilitate participation of CLD students?

As a school district administrator completing this dissertation, my positionality affords me both advantages and challenges in conducting this study. First and foremost, my work in a school district causes me to approach this work with a sense of urgency to identify exemplary practices for teachers to employ with culturally and linguistically diverse learners. Since I manage an English Language Learner (ELL) program that serves students who speak 78 different languages, I work daily with teachers and CLD students and see first hand the challenges these students face within a system that is not always designed to adequately meet their needs. While as a researcher I engage in an iterative process of inquiry and analysis, as an administrator I see problems and seek solutions. This dichotomy of roles creates a tension for me in the completion of this dissertation. Ultimately, I hope this dual role helps to contextualize my study and see how teachers can learn from research and what researchers can learn from teachers in the area of instructional practice with CLD students.

Chapter 1 of this dissertation will proceed by providing background in the area of exemplary instructional practice for culturally and linguistically diverse students and
Background and Rationale

U.S. classrooms become more diverse each year. In 2004, there were more than 5.5 million English language learners enrolled in U.S. schools, more than double the number ten years previously (Leos, 2004). Due to rapid growth in the population of culturally and linguistically diverse students, there is an urgent need for mainstream classroom teachers to have the expertise to work effectively with these students. Non-native English-speakers tend to underachieve academically, lagging behind their native English-speaking peers in standardized test scores and graduation rates. Because of this urgent need for mainstream classroom teachers to have the expertise to work effectively with culturally and linguistically diverse learners, this study explores teaching practices in two mainstream classrooms with CLD students. Specifically, this study investigates teachers’ facilitation of participation during math instruction in two elementary classrooms.

Why study participation and exemplary practices for culturally and linguistically diverse students in mainstream classrooms? De Jong and Harper (2005) claim that it takes more than ‘just good teaching’ for mainstream teachers to meet the needs of English learners. In order to succeed in learning within the academic subjects, e.g., science, writing, history, and math, researchers have identified the need for CLD

In addition to looking at academic language development, research has also generated frameworks that explore the instructional methods used to address the linguistic and academic needs of culturally and linguistically diverse learners. Researchers at the Center for Research on Education, Diversity and Excellence (CREDE) have developed a set of five standards, or pedagogical practices, for teachers to employ in content-area classrooms (Dalton, 1998; Doherty, Hilberg, Pinal, & Tharp, 2003). In addition, the Sheltered Instruction Observation Protocol (SIOP) Model is a widely used research-based instructional approach to planning and delivering instruction to English learners in the mainstream classroom setting (Echevarria, Vogt, & Short, 2004).

Bartolome (1994) argues that educators and researchers need to extend beyond looking for merely the ‘right methods’ and look toward a ‘humanizing pedagogy’ that
examines how culturally responsive and strategic teaching need to be in place as well as effective teaching methodology. A growing body of research in this area investigates how culturally responsive teaching (Jiménez, 2000; Ladson-Billings, 1994; Tsui, 2003) and accessing students' funds of knowledge (Moll, Amanti, Neff, & Gonzalez, 1992; Monzó & Rueda, 2003) also support CLD students in the classroom.

It is from these perspectives that I look to the bodies of research in academic language development and issues of access in addition to looking at best instructional practice to help me understand the classroom practices employed by the two teachers. While each of these bodies of research has contributed to our understanding of classroom practices with culturally and linguistically diverse learners, as of yet few studies have integrated these perspectives together to look at classroom interactions mainstream teachers facilitate with CLD learners within content-area instruction.

With this study, I seek to contribute to the research in the area of exemplary practices for culturally and linguistically diverse students, as well as provide an in-depth description of how teachers facilitate participation and engage in these practices that can ultimately inform research as well as the mainstream classroom teachers working with CLD students. Lucas, Villegas and Freedson-Gonzales (2008) claim that this large and diverse body of research in the area of meeting the needs of culturally and linguistically diverse learners has not traditionally reached mainstream teachers who stand to benefit the most from it. This study aims to fill this gap by examining the
practices employed by teachers in two mainstream classrooms that facilitate CLD students’ participation.

While much of the research into academic language development has focused on traditionally text-rich subjects, such as science, social studies, and language arts (Gutiérrez, Rymes, & Larson, 1995; Schleppegrell, et al., 2004), a growing body of research into the teaching of math discourse has emerged (Barwell, 2005; Hufferd-Ackles, et al., 2004; Kazemi & Stipek, 2001; Morgan, 2005; Sherin, 2002), with an increasing interest in the implications of academic language development for English language learners in the math classroom (Civil, 2007; Gutiérrez, 2002; Khisty, 1992; Khisty & Chval, 2002; Moschkovich, 1999, 2000, 2002, 2007, Wood, et al., 2006; Zevenbergen, 2000). Khisty and Chval’s (2002) research into exemplary math classrooms for English learners uses the distinction of BICS and CALP to demonstrate how exemplary teachers supported the development of ‘sophisticated words’ in mathematics. Researchers in the area of math and ELLs claim that CLD learners need to both acquire the ‘sophisticated words’ (Khisty, 1992) that comprise mathematical communication, in addition to understanding how to participate in math discourse. Because participation within the math discourse is considered to be essential to ‘doing math’ (Hufferd-Ackles, et al., 2004), I have chosen interactions during math instruction as the focus of my research.

For the purposes of this study I define culturally and linguistically diverse (CLD) students as those who speak a primary language other than the dominant
language (English) at home, whether or not they participate in a formal English
language learner (ELL) program. This allows me to be more inclusive of students who
navigate between two languages at school and home, but may not be eligible for ELL
programs or have chosen not to participate in these programs.

This chapter will now proceed with an explanation of the organization of this
dissertation, and will then continue with a review of the literature in the area of
instruction for CLD learners, followed by a discussion of my theoretical framework. I
will conclude this introduction with a summary of the key points featured in this
chapter.

Organization of This Dissertation

Chapter 1 of this dissertation has thus far featured my research questions
followed by the background and rationale for this study. Chapter 1 will continue with
a literature review and a description of my theoretical framework. I will then conclude
this chapter with a summary of my key points. Chapter 2 will then outline my logic of
inquiry and the methodology I employed in my case study research design for this
study. Chapter 3 will provide analysis of my first case study, Mrs. Schaeffer and her
third-grade classroom. Chapter 4 will include my analysis of Mrs. Hutchins’ fourth-
grade classroom. Chapter 5 will feature my cross-case analysis, in which I draw
conclusions across the two cases and address my secondary research question, which
looks at ways teachers are enabled to facilitate CLD student participation. Lastly, I will provide my conclusions and implications of this research in Chapter 6.

In Chapter 2, I describe my logic of inquiry and how I employed discourse analysis and case study methodology in my analysis of two teachers’ classrooms. I start by explaining how I sought nominations for potential teachers from local district and university leaders, followed by a description of the settings and participants within each classroom. Next I describe my data collection strategies, followed by a description of my process of data analysis.

In Chapter 3, I examine the facilitation of CLD student participation and exemplary practices in Mrs. Schaeffer’s classroom through analysis of an instructional conversation facilitated by Mrs. Schaeffer. Through analysis of this interaction, I address my first research question by exploring the ways in which Mrs. Schaeffer facilitated participation and supported culturally and linguistically diverse learners’ use of academic language and access to content.

In Chapter 4, I examine participation and exemplary practices in Mrs. Hutchins’ classroom through analysis of an episode of teacher-facilitated student demonstration. Again, analysis of this interaction sheds light on Mrs. Hutchins’ instructional practice, how she facilitates CLD learners’ participation, as well as how she supports CLDs with academic language and content.

In Chapter 5, I draw from both of these classroom examples to reflect on key similarities and differences between these two classrooms regarding exemplary
practices and how they facilitate CLD student participation. I then seek to answer my secondary research question by exploring the ways teachers are enabled to facilitate participation of culturally and linguistically diverse students within these two examples by looking at the features of the sociocultural context that may shape these interactions, including factors related to the teacher, student, and institutional context.

Finally, in Chapter 6, I conclude this study with discussion of how this understanding of exemplary practices can inform both teacher preparation and research in the area of education for culturally and linguistically diverse learners. I explore how facilitation of CLD student participation and the concept of exemplary practices extend our current understanding of how to meet the needs of culturally and linguistically diverse learners and how my sociocultural framework helps me to complicate our understanding of conversational language and academic language. I then explore the implications of this study on professional development for both pre-service and in-service teachers around working with culturally and linguistically diverse learners. Finally I discuss the implications of this study on further research in the area of meeting the needs of culturally and linguistically diverse students in mainstream classrooms.

Literature Review

One body of research into exemplary practice with linguistic minority students has taken a focus on intentional academic language development (Bartolome, 1998;
Bunch, Abram, & Lotan, 2001; Gibbons, 2003; 2006; Valdés, 2004) and how teachers engage culturally and linguistically diverse learners meaningfully within the discourse of the content-area classroom. Other research with exemplary teachers of traditionally marginalized student populations has included work with English learners (Carter & Chatfield, 1986; Dalton, 1998; Doherty, et al., 2003; Jiménez, 2000; Jiménez, Garcia & Pearson, 1996; Lucas, Henze, & Donato, 1990; Tsui, 2003), African American students (Ladson-Billings, 1994), and Native American students (Lipka, 1991; McCarty, Hadley Lynch, Wallace & Benally, 1991). This research has focused on cognitive challenge (Dalton, 1998; Doherty, et al., 2003), culturally responsive instructional practices (Jiménez, 2000; Ladson-Billings, 1994; Lipka, 1991) and meaningful engagement of the strategic resources, or funds of knowledge, both students and teachers bring to the classroom (Dalton, 1998; Doherty, et al., 2003; González, Andrade, Civil, & Moll, 2001; Jiménez, 2000; Jiménez, et al., 1996; Moll, et al., 1992). Some research in this area highlights the importance of access and high academic expectations for all students (Bartolome, 1998; Bunch, et al., 2001; Iddings, 2005; Jiménez, 2000; Valdés, 2004). While each of these areas sheds light on how to support culturally and linguistically diverse learners in the classroom, there is little overlap among these literatures. With this study I seek to synthesize these bodies of research to inform my conceptualization of exemplary practices for CLD learners. This chapter will proceed by reviewing the literature in each of these three main areas; academic language
development, best instructional practice, and equitable access, followed by a discussion of my theoretical framework.

*Academic Language Development*

Early research into academic language development can be traced back to the 1980's, when Cummins (1980, 1981) first differentiated between two dimensions of language proficiency English learners need to acquire: Basic Interpersonal Communication Skills, or BICS, and Cognitive Academic Language Proficiency, or CALP. Cummins’ work has been instrumental in helping educators see the unique linguistic demands of the classroom beyond basic conversational language skills. Cummins described four quadrants (see Figure 1) in which we could sort linguistic tasks by complexity, starting with contextualized, or ‘context-embedded’, cognitively unchallenging tasks, which Cummins called BICS.
Figure 1. Cummins’ Four Quadrants of Language Demands

The first quadrant describes language in which participants discuss something concrete, and perhaps right in front of them, to which there are contextual clues to meanings (e.g., *What would you like to eat, this or this*?). There may be choices, either pictorially or physically, which support speakers in the task. Further, these tasks tend to be cognitively unchallenging. BICS may also involve discussing familiar objects in familiar ways. Cummins’ quadrants progress to become increasingly more complex, ending with the fourth quadrant, which describes CALP. Cognitive Academic Language Proficiency features de-contextualized, or ‘context-reduced’, language, which is also cognitively challenging. De-contextualized language refers to situations in which there are few or no contextual clues, which denote meaning (e.g., *discussion*)
based on a text -- with few or no pictures -- about the causes of the American Revolution). This language is not only context-reduced, but also cognitively challenging, and may feature new concepts in addition to new vocabulary (e.g., revolution).

Another salient feature to Cummins’ distinction is the time it takes speakers to acquire BICS compared with the time it takes to achieve CALP. Research demonstrates that conversational language is typically acquired within one to two years of exposure to a new language, while proficiency in CALP takes at least five to seven years for speakers to reach a level commensurate with their native English speaking peers (Cummins, 1994).

Critiques of Cummins’ conversational and academic language dichotomy have claimed that academic language can be reduced to test-wiseness and other school-specific skills (Edelsky, 1990). Other critiques have claimed that this linguistic distinction does not address the power inequities students face when communicating within the content-area classroom, which play a significant role in ELLs’ access to academic language and content (Wiley, 1996). Cummins (2002) has responded to each of these critiques, claiming that the constructs of conversational and academic language have helped inform policy around placement of English learners, noting that fluency in conversational skills does not amount to full proficiency of English. While it may be argued that the dichotomy between conversational and academic language has become oversimplified in its application in education, it has certainly sparked a rich
pedagogical dialogue that continues to thrive today in the field of content-based instruction for culturally and linguistically diverse learners.

Researchers have also investigated the specific language needed within given content-areas as well as the conceptual-linguistic aspect of academic language by looking at the specific linguistic demands required in academic areas, including science (Gibbons, 2003, 2006; Lemke, 1990), writing (Christie, 1993), history (Schleppegrell, et al., 2004) and math (Abedi & Lord, 2001). Lemke (1990) investigated the linguistic demands of a high school science lesson and found that successful scientific communication was ‘not just a matter of vocabulary’ (p. 12). This work sheds light on how students must master patterns of communication, how to use new concepts in context, as well as how these concepts relate to each other within a given content-area (Lemke, 1990). Christie’s (1993) work illustrates differences between the content register and the pedagogic register, each with unique features and purposes within the classroom, introducing another distinction within the broader category of academic language. Other studies have examined the particular linguistic complexity within the specific academic disciplines (Abedi & Lord, 2001; Schleppegrell & Achugar, 2003; Schleppegrell, et al., 2004). These studies have highlighted particular linguistic structures that characterize specific content-areas. For example, Abedi and Lord (2001) identified the linguistic structures used in mathematics that tend to be troublesome to English learners, including (lack of familiarity with) non-mathematical vocabulary, passive verb phrases, long nominals, conditional clauses, position of
relative clauses, question phrases, and abstract or impersonal presentations. In her review of the literature around academic language, Valdés (2004) summarized the different conceptions of academic language to date as including (a) the language needed to succeed academically in content-areas, (b) conceptual-linguistic knowledge (resembling CALP), and (c) register. While the first two components address the linguistic demands students face in the content-areas, the area of register in particular begins to shed light on the complex social interactions at play in classrooms where this language is used.

More recently, the dichotomy of conversational and academic language has begun to be complicated by researchers who explore, not only the linguistic demands, but also the social demands of communicating within the content-area classroom (Bartolome, 1998; Gibbons, 2003, 2006; Valdés, 2004). In her study of mainstream teachers developing academic language with ELLs, Gibbons (2003, 2006) features teachers who support students to add academic English terminology to concepts they had already established in their primary discourses. Gibbons describes how two exemplary science teachers employed ‘bridging discourses’ to intentionally initiate English learners into the academic discourse through scaffolding their language use and making the rules of participating within the classroom explicit. This concept of scaffolding comes from Vygotsky’s (1962, 1978) idea of meeting learners within their ‘zone of proximal development’ and gradually scaffolding them to learn new information. Features of the bridging discourses that Gibbons finds teachers employ
include: (a) recasting, (b) handing over, (c) metalinguistics, and (d) purposeful communication. The features of recasting and handing over speak to what Cazden (2001) described as nontraditional discourse patterns. Cazden identified traditional classroom discourse as following an initiation-response-evaluation (IRE) structure, in which the teacher initiates and evaluates student responses. In nontraditional patterns, the communication is not as teacher-centered. In nontraditional classrooms, the teacher places more of an emphasis on using teacher-student interaction, not merely as an opportunity to check and evaluate understanding, but also to facilitate students’ development of understanding through clarifying ideas and extending each other’s thinking, as well as participating in the academic discourse.

Another key feature of the bridging discourses Gibbons (2003, 2006) describes is the fact that teachers make the rules of communication within the content-area classroom explicit by ‘unpacking’ classroom language for students and engaging students in metalinguistics, or ‘talk about talk’. The teachers in Gibbons’ study made both oral and written rules for discourse explicit through a variety of strategies, helping to bridge students’ home-based literacies with school-based literacies (O’Connor & Michaels, 1993). This feature of making discourse explicit resembles the concept of ‘cracking the code’ discussed by Zevenbergen (2000) or the idea of a rulebook to the ‘culture of power’ as discussed by Delpit (1988). Zevenbergen claims that teachers need to make the specific linguistic elements of the mathematical register explicit to all students. Her emphasis is on those students who have been traditionally excluded from
the school discourse because they lack the linguistic capital that students from the White middle-class discourse have. Delpit (1988) makes a similar argument, as she defends making the rules to participating within the classroom discourse explicit to students who are not members of the ‘culture of power’. Gibbons, Zevenbergen, and Delpit agree that making the rules to communication of the classroom clear is an emancipatory practice that can help level the playing field for English learners and other underachieving students. De Jong and Harper (2005) conclude that teachers of English language learners need to make ‘the linguistic … foundations visible and explicit’ (p. 118).

**Best Instructional Practice**

In addition to the body of research around academic language development for culturally and linguistically diverse learners, another body of literature looks more specifically at instructional practices aimed at supporting students’ content-area learning. Two such frameworks for instruction with CLD learners include CREDE’s instructional practices (Dalton, 1998; Doherty, et al., 2003; Tharp, Estrada, Dalton, and Yamauchi, 2000) and the SIOP model (Echevarria, et al., 2004). This research, as part of a larger study by CREDE, introduces a comprehensive description of teacher behaviors that help culturally and linguistically diverse learners achieve academically, citing five key instructional practices, including making connections between school and students’ lives, teaching complex thinking, and teaching through conversation (Dalton, 1998). The SIOP model features eight instructional components for teachers
to address with CLD students during content-area instruction, including lesson preparation and delivery, building background, strategies, interaction, and the application of concepts and language (Echevarria, et al., 2004). Central themes within these frameworks include cognitive challenge for diverse learners and engagement and meaningful connections between students' previous experience and the new content. I will now review the literature around cognitive challenge for diverse learners, followed by a review of the research on student engagement, including both culturally relevant teaching and funds of knowledge teaching.

Researchers have identified the need for culturally and linguistically diverse learners to have access to a rigorous and relevant academic curriculum in order to succeed in school, though few studies have provided positive classroom examples of what this looks like (Bartolome, 1998; Bunch, et al., 2001; Iddings, 2005; Valdés, 2004). ‘Rather than aiming for slight improvement or maintenance, culturally relevant teaching aims at another level – excellence’ (Ladson-Billings, 1994, p. 23). High expectations and cognitive challenge for all students are key tenets to exemplary teaching for underrepresented students (Bunch, et al., 2001; Ladson-Billings, 1994; Lucas, et al., 1990). While the specific pedagogical practices that have been exemplary for African American students are not necessarily identical to those exemplary practices identified for English learners, key similarities emerge, related to the fact that both populations are traditionally marginalized and tend to underachieve in school. Ladson-Billings (1994) claims:
(Exemplary teachers) believe that all of their students can succeed rather than that failure is inevitable for some...Such teachers can also be identified by the ways in which they structure interactions...Rather than expecting students to demonstrate prior knowledge and skills they help students develop that knowledge by building bridges and scaffolding for learning (p. 25).

In addition to an emphasis on rigor and cognitive challenge, a key tenet that runs through the literature around exemplary teaching for under-represented students is the aim of engaging in culturally relevant teaching and honoring students’ funds of knowledge through meaningful connections to students’ lives. Ladson-Billings (1994) found that, though African American students tend to underachieve in school, teachers who are identified as exemplary in their practice with African American students support these students through enacting culturally relevant teaching. According to Ladson-Billings, in culturally relevant teaching, ‘students’ real-life experience are legitimized as they become part of the “official” curriculum’ (p. 117). In Lipka’s (1991) study with Yup’ik teachers in Alaska, he found culturally relevant curriculum to be effective in improving school experiences for Native American students. Similarly, Jiménez (2000) and Tsui (2003) found that ESL (English as a second language) teachers who value their culturally and linguistically diverse learners’ backgrounds in ESL classrooms are better equipped to meet their instructional needs.

Teachers who acknowledge the funds of knowledge (González, et al., 2001; Moll, et al., 1992), or home-based literacies, (O’Connor & Michaels, 1993) that
students bring see the language and cultural practices students use at home as strategic resources upon which to draw, not liabilities. Research into exemplary instruction for culturally and linguistically diverse learners has demonstrated the benefits of teachers valuing and accessing the funds of knowledge, including strategic cultural and linguistic resources, students bring to classroom in order to help students bridge new learning with their existing linguistic and conceptual knowledge (González, et al., 2001; Moll, et al., 1992). For example, Moschkovich's (2007) analysis of examining how bilingual students participate in the math discourse demonstrates how students use their native language of Spanish to clarify and explain mathematical concepts. This navigation between Spanish and English is not seen as a 'problem,' instead students are encouraged to use their funds of knowledge (in this case Spanish) to help them develop their mathematical understanding.

In her study into academic language use in math and English language learners, Moschkovich (2007) claims that because bilingual students participate in one language community at home and another language community at school, they are participants in multiple language communities. I would argue that these students also operate within different discourses. In fact, O'Connor and Michaels (1993) claim that many students, not only bilingual students, navigate between their home-based literacies and school-based literacies. I would also argue that these literacies, which O'Connor and Michaels portray to include the values, purposes and practices in which participants are
socialized in addition to language skills, are what Gee (1989, 1996) would call Discourses.

In looking at how culturally and linguistically diverse learners experience the content-area classroom, research indicates that teachers need to consider what they bring to the interaction (Moll et al., 1992). The concept of funds of knowledge situates learners as bringers of valuable strategic resources and knowledge to the classroom (Jiménez, 2000). Focusing on the strengths students bring to the classroom encourages what researchers have termed an ‘additive’ approach to schooling (Cummins, 1986; Valenzuela, 1999). When teachers conceive of students as bringing funds of knowledge, it then becomes the responsibility of the teacher to access this knowledge and find ways for students to access it in learning new information (Dalton, 1998; Echevarria, et al., 2004).

Teachers, as well as students, bring their own experiences and beliefs to the classroom, which shape how they structure the classroom and interact with students. In this way, teachers bring their own funds of knowledge to the classroom (Monzó & Rueda, 2003). Research has demonstrated that teachers and paraeducators from diverse backgrounds who share the cultural and linguistic funds of knowledge of their students are at an advantage in accessing their students’ funds of knowledge in the classroom (Monzó & Rueda, 2003). While some teachers have been able to successfully learn about and access culturally and linguistically diverse students’ funds of knowledge through home visits and research (Moll, et al., 1992), those teachers who
share similar backgrounds and cultural experiences with their students have a decided advantage at accessing the cultural and linguistic resources their students bring. For example teachers that speak the same native language as their CLD students can support students’ content learning by clarifying key concepts in the native language and support students’ academic language development in English (Moschkovich, 2002, 2007).

Another way teachers have successfully engaged students from various backgrounds and developed community in the classroom is by creating a new, or hybrid, discourse that borrows from the primary discourses of students combined with the academic discourse the teacher wishes students to acquire (Gutiérrez, et al., 1995). Culturally and linguistically diverse students are a heterogeneous population. They share the characteristic that English is not their primary language, but otherwise, they come from diverse educational backgrounds, economic situations, ethnicities, and discourses. Gutiérrez et al. (1995) found in their study a teacher who was able to co-create with her students a hybrid discourse that merged the academic discourse with students’ home discourses. The concept of hybrid discourses provides an example of a teacher valuing the resources students bring to the classroom, and allowing students to participate in a Discourse that has been co-created.

A recent review of the literature in teaching mathematics with culturally and linguistically diverse learners claimed that attention to student interaction and use of students’ knowledge and interests were key recommendations from the research
Janzen, 2008). A growing number of studies examine exemplary teaching practice for culturally and linguistically diverse students in the mathematics classroom. These studies place a particular emphasis on academic rigor and teachers accessing students’ funds of knowledge, including first language as key components to success for diverse learners (Civil, 2007; Gutiérrez, 2002; Khisty, 1992; Khisty & Chval, 2002; Moschkovich, 1999, 2000, 2002, 2007). Research supports a call for rigor in mathematical concepts and discourse, while providing culturally and linguistically diverse learners access through the development of shared meanings and meaningful connections to students’ funds of knowledge (Civil, 2007; Gutiérrez, 2002; Khisty, 1992; Moschkovich, 1999, 2002).

Equitable Access

There are many barriers culturally and linguistically diverse students experience in attempting to fully access a K-12 education in the United States, including issues related to the current immigration debate, implications of No Child Left Behind (NCLB), and other language-related policies (Suarez-Orozco & Suarez-Orozco, 2003). In addition to these larger policy issues, research has looked specifically at how instruction and communication within the school and the classroom impact how CLD learners are able to access a rigorous curriculum.

Specific obstacles to equitable access culturally and linguistically diverse learners encounter at the school and classroom level include segregation practices (Bartolome, 1998; Bunch, et al., 2001; Iddings, 2005; Olsen, 1997; Valdés, 1998,
2004), low expectations (Bartolome, 1998; Iddings, 2005; Toohey, 2000), and the
privileging of English as the only context for learning (Gutiérrez & Larson, 1994;
Moll, 2002).

Researchers point to segregation as one barrier CLD learners face in accessing
content in classrooms (Bartolome, 1998; Bunch, et al., 2001; Iddings, 2005; Olsen,
1997; Valdés, 1998, 2004). Many English Language Learner (ELL) programs isolate
English learners in strictly ESL classes in an effort to provide linguistically controlled
content, but end up marginalizing ELLs by preventing them from participating in
regular content-area classrooms (Valdés, 2004).

Valdés (1998) found that most immigrant students were segregated into an ESL
track at the middle school in her study, regardless of their English language
proficiency. Valdés (1998) described the ESL track and the ‘mainstream’ track as ‘two
schools in one’ (p. 7), indicating that students in the ESL track had little or no access to
the content and rigor that students in the mainstream classes had. She also found that
there was little movement between tracks once students were initially placed in one
track or the other.

Research at the high school level has looked at the social dynamics immigrants
experience in a mainstream high school setting (Olsen, 1997). In her study, Olsen
(1997) found that students had physically separated themselves at break times in
addition to the segregation students experienced in classes. She found ‘American’
students occupying one part of the campus, and various immigrant groups occupying the physical margins.

In addition to physical segregation, CLD learners encounter other obstacles in classroom settings. Even when CLD learners are not isolated in separate classrooms or programs, Bartolome (1998) asserts that language and content must not be ‘watered down’ (p. 23), to provide English learners access to the same rigorous curriculum as their native English-speaking peers.

Low expectations for English learners can also amount to restriction of access to rigorous curriculum (Toohey, 2000). Iddings (2005) describes a mainstream elementary classroom in which ELL students formed their own community of practice (Lave & Wenger, 1991) in response to the teacher’s continued low expectations of what these students could do. In Iddings’ (2005) study, ELL learners were physically a part of the mainstream classroom, but still segregated in terms of their limited access to rigor and high expectations. While it may be argued that these English learners had access to the core content by virtue of their presence in the same second-grade classroom, the teacher’s persistent low expectations created an invisible, but very real, obstacle for these students.

Moll (2002) points to English learners’ low social status as a reason these students are likely to ‘engage in low level academic curriculum’ (p. 11). He points to the likelihood that students not proficient in English are often relegated to lower level
tasks and may even been viewed as learning disabled when they cannot perform adequately on assessments in English.

This privileging of English has also served to deny culturally and diverse learners access due to the language community to which they belong (Gutiérrez & Larson, 1994). In their study, Gutiérrez and Larson (1994) found that due to their lack of English proficiency, Latino children were unable to access literacy practices that were available to other students.

It is largely these issues of inequity and invisible obstacles to culturally and linguistically diverse learners’ access to success and rigor in school that has inspired my research. With this study I strive to understand how mainstream teachers facilitate opportunities for culturally and linguistically diverse learners to fully access academic language and rigorous academic content through participation within the content-area discourse.

Theoretical Framework

This study employs a sociocultural perspective on language and learning to help me understand how mainstream teachers facilitate academic language development, employ instructional practices and pay attention to equity with culturally and linguistically diverse students in the classroom. I build on the work of Gibbons (2003, 2006) and Moschkovich (1999, 2002), who both take on a sociocultural lens to look at how teachers engage diverse learners in the mainstream or content-area classroom.
Gibbons' (2002, 2003, 2006) work looks at how science teachers engage culturally and linguistically diverse students using a systemic functional approach (Halliday, 1993) grounded in Vygotsky's (1978) construct of mediation. She introduces the concepts of 'bridging discourses' (2006) and 'mode continuum' (2003, 2006) to allow her to understand how teachers scaffold (Vygotsky, 1978) learners' acquisition of the content register (Christie, 1993). Gibbons' emphasis on Vygotsky's concepts of mediation and scaffolding help her to see the specific linguistic moves teachers make to bridge students' home registers with school registers.

Moschkovich (1999) takes what she calls a 'discourse perspective' in her analysis of how teachers support the participation of English language learners in math discussions, employing Gee's (1996) definition of Discourse to help her understand how teachers support students in knowing more than 'the technical mathematical terms' (p 11), but also the ways of 'talking and acting in the ways that mathematically competent people talk and act' (Moschkovich, 1999, p 11). Moschkovich's use of Gee's concept of Discourses helps her to examine teacher moves that support CLD students' participation in math discussions.

I will now explore how Gibbons and Moschkovich take up sociocultural theory in their work and where their approaches differ. I will then describe how I build on both of these views to conceptualize language as a resource students need in order to participate in the classroom discourse. Next I will discuss how I view language acquisition and participation interacting in the classroom.
In her work looking at classroom teachers of diverse learners, Gibbons (2002, 2003, 2006) borrows from the field of systemic functional linguistics (Halliday, 1993) and employs a sociocultural perspective based on Vygotsky's (1978) concept of mediation. She uses systemic functional grammar (SFG) as her 'linguistic paradigm' that seeks to describe systems of communication in terms of the code, or rules, operating within them. Her work uses the linguistic construct of register to differentiate between the home-based discourses in which children engage outside of school and the school-based discourses of the classroom. Gibbons (2006) defines a register through the field, tenor, and mode of a given interaction. The field refers to the cultural activity or subject of the discourse itself. The tenor describes the relationships between the participants in a given interaction. The mode is the channel of communication itself (e.g., spoken or written).

The differences between home registers and school registers are complicated for language learners, who speak a different language at home, not merely a different register. Gibbons (2002) compares the concept of school registers with Cummins' (1981) idea of academic language, citing that school-based registers are typically more context-reduced and complex than home-based registers. Using the concept of register within a sociocultural perspective, Gibbons (2002, 2006) articulates the need for teachers to help students build bridges, or scaffolds, between their home-based registers and school-based registers.
Her ‘sociocultural view of language’ (Gibbons, 2006, p. 39) helps Gibbons describe the how teachers mediate this learning. She describes the relationship between learning and the social contexts where the learning occurs as central. Gibbons positions teacher-student interactions in the classroom as the place where language learning for CLD students is facilitated. Here she employs Vygotsky’s (1978) construct of scaffolding to help her view how teachers support culturally and linguistically diverse learners to move from one register to another and one mode of communication to another through what she calls a ‘mode continuum’.

Gibbons (2006) uses the mode continuum to describe the relationship between spoken language and written language. She characterizes spoken language as spontaneous, context-dependent and ‘grammatically intricate and lexically sparse’ (p. 33). She contrasts this with written language, which she describes as being more context independent, more polished, and ‘grammatically simple but lexically dense’ (p. 33). Gibbons claims that spoken language and written language operate at two ends of a continuum, which includes variation of linguistic complexity, grammatical features, and lexical density. She describes the language of academic texts and content-specific classroom discourse as ‘more written-like’ (Gibbons, 2002, p. 42) on the mode continuum, and discourse that is situation dependent and contextual as ‘more spoken-like’ (p. 42).

Gibbons uses the mode continuum within her sociocultural framework based in Vygotsky’s concept of mediation, along with her systemic functional linguistic
approach (Halliday, 1993) to help her understand how teachers scaffold students along the mode continuum between spoken and written registers to reach academic language proficiency, with an emphasis on the linguistic moves teachers make to engage diverse learners with academic language.

**Moschkovich Use of Gee’s Construct of Discourse**

Moschkovich (1999, 2002) also uses a sociocultural perspective in her research with mathematics teachers of English language learners, but instead of focusing on Vygotsky’s concepts of mediation and scaffolding, she uses the concept of Discourses (Gee, 1996) to look at how teachers initiate diverse learners as participants within the mathematics Discourse. Moschkovich (2002) discusses three dominant perspectives to language learning taken up in the research that focus on (a) acquisition of vocabulary, (b) multiple meanings across registers, and (c) a situated and sociocultural perspective focused on CLD student participation in mathematical practices, where she situates herself.

The first perspective, that of vocabulary acquisition, Moschkovich (2002) claims, focuses on the terminology bilingual learners lack and assumes a transmission perspective. Here, she claims, the focus is on individual learners solving word problems through their second language, and does not reflect the complexities of the role of language in mathematics classrooms.

The second perspective, constructing multiple meanings, is based in Halliday’s (1993) concept of registers. Moschkovich (2002) claims the shift to a multiple
meanings perspective from the acquiring vocabulary perspective involves looking at how students negotiate meaning as they move from one register to another, employing the sociocultural construct of mediation. Moschkovich would situate Gibbons’ work within this perspective because it focuses on how teachers facilitate students’ movement from one register to another. Moschkovich finds fault with this perspective in its tendency to over generalize features of register and the linear progression it implies between one register and another. She claims that students can use a variety of different registers with which to talk about mathematical concepts, and that the registers students use to discuss mathematics are less important than the fact that students engage in mathematical discourse.

Moschkovich argues that a third perspective, one focused on how bilingual learners participate within mathematical discussions, is more useful than either of the other two perspectives. This perspective, Moschkovich claims, allows her to look, not merely at the differences in language structures and functions between students’ home registers and school registers, but at how teachers support students to use their linguistic resources to participate in mathematics. She employs Gee’s (1996) concept of Discourse, which she calls a ‘situated-sociocultural view of mathematical cognition’ (Moschkovich, 2002, p. 196) to enable her to look at how teachers support bilingual learners to take up mathematical concepts as participants in the classroom Discourse.

Gee’s (1989, 1996) concept of Discourses (with a big D) denotes socially accepted associations among ways of using language, thinking, and acting, to shed
light on the complex social networks teachers create where culturally and linguistically diverse students participate in classrooms. This contrasts his concept of local discourses (with a small d), which denote conversations, or 'connected stretches of language that make sense', (Gee, 1996, p. 127) that take place within a larger Discourse.

While she embraces the sociocultural tenet that learning is negotiated, or mediated, Moschkovich challenges approaches to conceptualizing academic language development, like that taken up by Gibbons, that rely strictly on the idea of teachers scaffolding students' learning from one register to another. Instead she argues that the goal of academic language development should not be restricted to a linear focus on language. Instead, she claims, research should look at how teachers engage bilingual learners using 'multiple meanings for representations and inscriptions (that) are negotiated through conversations' (Moschkovich, 2002 p. 197).

**Language as Resource for Participation**

I approach my study from a sociocultural perspective building on the work of both Gibbons and Moschkovich, viewing language as a 'resource for participation' (Zuengler & Miller, 2006, p. 37) within the classroom. From this perspective, I think about language learning, not as a process of acquiring new input, but as a recursive process, mediated and negotiated within the social context. This perspective can be contrasted with acquisition models, which view second language learning as merely acquisition of new vocabulary (Moschkovich, 2007), as Moschkovich’s work
demonstrates how a sole emphasis on the acquisition of math vocabulary does not provide diverse learners equitable access within the mathematics discourse.

Researchers that look at how teachers incorporate culturally and linguistically diverse learners within the academic discourse from this sociocultural perspective look beyond the mere linguistic and cognitive demands students face in the classroom. This research conceptualizes students as participants within the classroom discourse who interact as members of a discourse community. This membership entails more than mere language proficiency, but also knowledge of how to behave and use language. In recent years, much of the research in mathematics and diverse learners has taken a social approach to math instruction (Barwell, Leung, Morgan, & Street, 2005), emphasizing a ‘sociocultural lens to observe classroom discourse interactions’ (Rex, 2003). Key tenets in this research focus on the teacher mediating learning with diverse learners and supporting students through mathematical apprenticeship (Civil, 2007; Rex, 2003).

While Gibbons’ work offers us a useful way to look at the specific moves teachers make to scaffold culturally and linguistically diverse students’ use of language, the ‘situated-sociocultural’ approach Moschkovich (2002) employs enables me to look beyond linguistic moves teachers make, to incorporate a more inclusive view including other practices that teachers may employ to facilitate CLD student participation.
As Zuengler and Miller (2006) claim, a sociocultural perspective allows us to see ‘participation (as)… both the product and process of learning’ (p. 38). Thinking about participation within the social context in this way helps me to look at how teachers facilitate CLD student participation through enactment of exemplary practices for culturally and diverse learners. However, since students cannot participate in the classroom discourse without also having acquired the language being used, I also borrow from Gibbons’ frame to look at how teachers scaffold language acquisition. Considering the interplay between acquisition and participation in academic language development and content learning has been a powerful conceptual tool for me as I attempt to understand how teachers support culturally and linguistically diverse students to meet the communicative demands they face in the classroom.

I build on Gibbons’ frame of looking at how teachers scaffold language acquisition based on Vygotsky and Moschkovich’s use of Gee’s Discourse and participation in developing my theoretical lens for this study. Anna Sfard (1998) points to two central metaphors underlying educational research, the acquisition metaphor and the participation metaphor. Sfard argues that the metaphors we employ as researchers are indicative of our primary levels of thinking about the learning process. When we use terms like ‘language acquisition’ or ‘concept development’, we invoke the belief that learning involves the transmission of information from one individual to another. When we adopt this acquisition metaphor, it is easy to focus only on the language that students have yet to acquire. This stance can cause educators
to feel compelled to ‘give students English’ to make up for this ‘deficiency’ at the expense of preservation of their native language (Tse, 2001).

Sfard contrasts this acquisition metaphor with a participation metaphor, in which we describe learning using terms such as ‘facilitation’ and ‘engagement’. Sfard claims that neither the acquisition metaphor nor the participation metaphor tells the entire story alone. From this view, researchers need to consider both acquisition of new language and learning, as well as participation within the classroom discourse for CLD students. My sociocultural framework of viewing language as a resource for participation allows me to consider how teachers facilitate both the language acquisition of their CLD students as well as participation in the classroom Discourse.

Gee (1989) defines Discourses as ‘identity kits’ (p. 5) that encompass more than language, but also include the values and viewpoints that help define membership within a community. This portrayal of Discourse matches the participation metaphor, because to be successful, one needs to be accepted as an effective participant within the Discourse. I would also argue that participation within the Discourse of the classroom is where, from Cazden’s (2001) perspective, social relations, and identity formation take place. Thinking of participation within a content-area as a cultural activity or event (Stigler & Hiebert, 1998; Zevenbergen, 2000) helps us understand that participants must learn how to engage, or participate, within the academic discourse in order to be engaged as participants within the community (Seymour & Lehrer, 2006).
An example of needing to know the rules and norms of the Discourse in the classroom may involve knowing how to disagree with someone or when and how to ask questions of the teacher. While it may be appropriate in some cultures for students to listen to the teacher, taking notes without questioning or examining closely what the teacher says during a sustained lecture, this is not the expected norm in U.S. classrooms. Here part of the classroom Discourse requires that teachers support students to reflect on what they are learning, and question when they do not understand. This understanding of the Discourse, or social norms, can be contrasted with the discourse, or linguistic demands of communicating in a given context. Research indicates that within the classroom, teachers can support students to master the particular language structures required in order to participate in the classroom (e.g., Mrs. ---, could you explain...?). But merely knowing these words does not ensure that students know when and how to use them appropriately. This distinction enables me to look at how discourse, or ‘language-in-use’ (Rex, Steadman, & Graciano, in press), interacts within the larger Discourse, or social system, to help me conceptualize academic language.

This dissertation seeks to answer the primary question: In what ways do teachers facilitate the participation of CLD students in the classroom? With this question I explore how teachers facilitate classroom interactions that engage CLD students in the classroom. My secondary research question asks: In what ways are teachers enabled to facilitate the participation of CLD students? This question explores
the factors that impact these classroom interactions including variables related to the specific students, teachers, and the institutional contexts in which they are situated. Figure 2 (below) demonstrates how these variables within the social setting can interact to impact how teachers facilitate these classroom interactions.

As Freeman and Johnson (1998) claim, ‘schools are powerful places that create and sustain meanings and values’ (p. 409). My sociocultural lens allows me to consider teachers as participants within the Discourse of a particular school setting. Figure 2 demonstrates how I use my sociocultural perspective to think about factors influencing how teachers facilitate classroom interactions with culturally and diverse learners. First I think about the classroom as situated within the larger institutional setting, which includes teacher networks and larger structures that influence instruction within the school context (Freeman & Johnson, 1998; Varghese, 2006). These factors include discourses taken up in schools regarding diverse learners and the teachers serving them. While national and local educational policies and discourses also influence instruction on a macro-institutional level, for this study I look at the school as the social setting and how these discourses may be taken up locally in the contexts where teachers operate, to help me explore how the school context influences how teachers facilitate student participation. In order to answer my secondary research question, which looks at ways are teachers enabled to facilitate participation of CLD students, I consider teacher networks within schools and school structures that impact teachers and students.
Since teaching is not an individual act, my sociocultural perspective allows me to consider the social and structural influences that may affect how teachers facilitate CLD student participation. In addition to the school context, I also look at how teachers’ knowledge base (Fradd & Lee, 1998; Freeman & Johnson, 1998) and experiences, attitudes and beliefs (Freeman & Johnson, 1998) may influence their practice. Teachers bring their own knowledge of content and pedagogy (Fradd & Lee, 1998) in addition to their socially constructed perceptions of their roles as teachers (Freeman & Johnson, 1998). While neither of these is the specific emphasis of this study, I recognize that these factors influence teachers and their practices.

In addition to the school context and factors influencing how teachers approach classroom interactions, students also bring cultural and linguistic funds of knowledge (Moll, et al., 1992) in addition to prior learning experiences that may shape how they experience classroom interactions. Employing Gibbons’ frame helps me understand the home-based registers, or literacies, that include cultural, linguistic and content funds of knowledge that students bring to the classroom.

My research explores how mainstream teachers engage culturally and linguistically diverse learners as participants within the math discourse community of two classrooms using a sociocultural perspective. I build on Moschkovich’s (1999, 2002, 2007) work, by looking at Discourse in the broader sense and how teachers initiate culturally and linguistically diverse learners as members of the classroom Discourse community (Khisty, 1992; Moschkovich, 2007), as well as Gibbons’ (2002,
2003, 2006) sociocultural perspective based on Vygotsky (1962, 1978). Moschkovich claims that we need to view math language from a sociocultural perspective that takes into account the access and participation of culturally and linguistically diverse learners, in addition to merely their acquisition of new vocabulary. Research has demonstrated that communication within the mathematical discourse is a key aspect of what teachers see as doing math in the classroom (Barwell, 2005; Barwell, et al., 2005; Hufferd-Ackles, et al., 2004; Morgan, 2005). While earlier distinctions between conversational and academic language have been useful tools for educators to begin to understand the linguistic demands of the content-area classroom, with this study I extend this distinction and explore how teachers address the linguistic, as well as the social, demands of participating within the academic discourse.
Figure 2. Sociocultural Perspectives of Classroom Interactions

Figure 2 demonstrates how I conceptualize classroom interactions using my sociocultural perspective. Since I view language as a resource for culturally and linguistically diverse learners as they participate in the classroom, I consider classroom interactions where teachers facilitate this participation to be the focus of my analysis. Since my primary research question addresses how teachers facilitate this participation, classroom interactions are my primary unit of analysis. My secondary question addresses the ways in which teachers are enabled to facilitate this participation. Therefore, I situate these interactions within the institutional setting of the school, including teacher networks and structures that may shape teachers’ practices. I also look at the sociocultural influences on the mainstream teacher within this context,
including knowledge base and their experiences, attitudes, and beliefs. Students also bring resources to the classroom, including cultural and linguistic funds of knowledge and prior learning, which may also shape how teachers are enabled to facilitate the participation of CLD students within the mainstream classroom.

Summary

In this introductory chapter, I have posed my research questions and outlined the background and rationale for my study, then described the organization of this dissertation. I then provided a review of the literature and outlined my theoretical framework. I will now proceed in Chapter 2 with an explanation of my logic of inquiry and the research design and methodology I employed in this study.
CHAPTER 2: RESEARCH DESIGN AND METHODOLOGY

The goal of this study is to investigate participation and exemplary practices for culturally and linguistically diverse learners in mainstream classrooms. With this study I pose my primary research question: In what ways do teachers facilitate participation of culturally and linguistically diverse students in the classroom? The intent of this chapter is to elucidate the methodology and design I have employed in this research and how my theoretical framework has informed my methodological decisions. I will begin by discussing my logic of inquiry, specifically situating my research design with my sociocultural frame of viewing learning as participatory in nature. I will then discuss my role as researcher, followed by my research design. In the description of my research design, I will describe the nomination process for participants in the study, as well as the settings, participants, and data collection strategies I employed in this study. I will conclude this chapter by elaborating my processes for coding and analyzing my data.

Logic of Inquiry

As Miles and Huberman (1994) claim, the qualitative researcher’s ‘conceptual framework explains the main things to be studied’ (p. 18). For this reason, I will now discuss my logic of inquiry for this study of exemplary teaching practices for CLD students through the perspective of my theoretical framework. I take a sociocultural
approach in this study, in which I consider language to be a ‘resource for participation’ (Zuengler & Miller, 2006, p. 37) in the classroom. This study looks at how teachers of CLD students facilitate opportunities for students to participate in the class discourse using this academic language. My work is situated in the interpretive tradition (Merriam, 1998), exploring the lived experiences of both teachers and the students.

I have analyzed key interactions in two classrooms to explore how teachers facilitate their culturally and linguistically diverse learners’ participation within the classroom discourse. I employ qualitative case study methodology, which enables me to document these teachers’ math instruction in their upper elementary classrooms, one grade three and one grade four, in order to see how these teachers enact their practice through a relatively ‘wide net’ (Merriam, 1998, p. 33). The case study design enabled me to look at these classroom interactions through observations and selected transcriptions, as well as staff perspectives through interviews with teachers, principals, and ELL staff, and student perspectives through interviews with CLD students and student work products. This broad range of data provided me with rich information about how and why teachers enacted the practices they did and how CLD students experienced these practices.

Since I view ‘learning as participation, which is relational and interactive’ (Zuengler & Miller, 2006, p. 51), I was particularly interested in looking at the ‘kinds of participation (teachers make) accessible to students’ (Zuengler & Miller, 2006, p. 51). Within each case, therefore, the primary unit of analysis to help me understand
CLD student participation within the academic discourse was teacher-constructed interaction during content instruction.

I have chosen to look at mainstream classrooms because CLD students spend the great majority of their time in mainstream, or regular, classrooms, regardless of whether or not they participate in English language learner (ELL) programs. Also, the mainstream classroom is where CLD students learn content (e.g., math). Since I am particularly interested in looking at participation using academic language, I needed to look at instruction where this academic language usage would take place – the content-area classroom. I chose to focus on mathematics as a content-area, largely because current research points to the rigorous demands of participating within the math discourse (Barwell, 2005; Hufferd-Ackles, et al., 2004; Morgan, 2005; Sherin, 2002). A growing body of research also examines how linguistic minority students struggle to gain access to this discourse (Civil, 2007; Gutiérrez, 2002; Khisty, 1992; Khisty & Chval, 2002; Moschkovich, 1999, 2000, 2002, 2007; Wood, et al., 2006; Zevenbergen, 2000). I focus on upper elementary grades, because this level marks the time when many linguistic minority students lose ground academically in relation to their native English-speaking peers (Collier & Thomas, 2004) and the cognitive and academic demands increase significantly for students. Due to the qualitative nature of this study, I, as researcher, am the ‘primary instrument for data collection and analysis’ (Merriam, 1998, p. 7). For this reason, I will now address my role as researcher in the next section.
Researcher’s Role

As qualitative researchers, Davis (1995) claims that in order ‘to gain an understanding of the meanings of research participants, we have to be keenly aware of the ways we interpret meaning from our own sociocultural frameworks’ (p. 437). It is with this awareness that I wish to address how my role as researcher impacts this study. I bring both ‘theoretical and experiential frames of reference’ (Davis, 1995, p. 436) to this research. I will first address how my theoretical frame of reference influences my work; next I will discuss my experiential frame of reference.

As stated previously, I view language as a resource students need in order to access academic content and participate in the classroom discourse. My sociocultural framework shapes how I think about language and its importance in how teachers facilitate student participation. Since ‘theory and method are inextricably bound together’ (Davis, 1995, p. 436), my conceptualization of language shapes both my data collection techniques and data analysis strategies. For example, in this study as I have looked at how teachers’ facilitate CLD students’ participation in the classroom, I have examined opportunities teachers have created for students to use academic language during classroom interactions, not merely acquire it. My interest in looking at how teachers facilitate CLD students participation in the classroom discourse causes me to pay particular attention to interactions the teachers create in the classroom context for students to use this new language.
My experiential frame of reference as a former classroom teacher, university ESL instructor, and current ELL administrator also shapes how I approach this study. As mentioned previously, this positionality has afforded me both advantages and disadvantages in the field. First, I have had relative ease of access to classrooms and teachers due to my position at the university and in a school district. At the time of my data collection with Mrs. Schaeffer, I had recently spent hours with her as an instructor in her ESL endorsement program. In addition to teaching several courses, I also served as her practicum supervisor and had already visited her class twice. While it could have been uncomfortable for her to have me conducting research in her classroom, she was receptive to the idea, as she and I had already developed an acquaintance.

I was also afforded access to Mrs. Hutchins' classroom due to my position in a school district. At the onset of this research, the district ELL administrator in Mrs. Hutchins' district was a colleague of mine, who nominated her for inclusion in my study. This colleague facilitated initial contacts between Mrs. Hutchins’ principal and me, providing me ease of access that I may not have had without this relationship. Since the time of Mrs. Hutchins’ nomination, I switched districts and worked in her school district as the ELL administrator at the time of data collection in her classroom. While this proximity made logistics of collecting data somewhat easier, it made navigating my different roles more complex. Though I was at the time of this study an administrator in her district, I did not directly supervise Mrs. Hutchins, nor did I interact with her directly in this role on a regular basis. However, due to the unique
nature of my position, I was intentional throughout this study to maintain all study protocols and procedures and not to blur my role as researcher with my role as administrator.

Because of my previous classroom experience and current administrative experience, I have spent a significant amount of time in classrooms throughout my career. I have a firsthand working knowledge of classroom, school, and district contexts. For example, I understand specific logistics that impact teachers, including how bell schedules, release periods, and specialist times impact teachers in their management of time. I am also familiar with our larger state educational context, including the state’s English language development (ELD) standards, the recent state adoption of new math standards, as well as current state testing practices. However, this proximity did also pose its challenges.

In particular, as a practitioner situated in a school district, I tend to approach classroom instruction with a disposition aimed at evaluating and improving a situation, while as a researcher, my role instead is to inquire and provide analysis based on my theoretical framework. While there have been insights to gain by my ‘insider’ status in the district, I made every effort to maintain the role of researcher throughout this study.

Research Design

This study features discourse analysis within two case studies of classroom teachers with CLD students to address my research question: In what ways do teachers
facilitate participation of culturally and linguistically diverse students in the classroom? In order to address my question, I chose to study more than one teacher because I wanted to understand how teachers engage CLD learners in multiple settings. I narrowed my sample to two classrooms because I wanted to be able to balance the rich description (Merriam, 1998) afforded through case study with the opportunity to compare between cases. Two cases seemed to offer the balance of some variety of contexts, with the opportunity to gather in-depth data to establish a sense of how each teacher facilitates participation with CLD students.

I solicited nominations for teachers to create a purposeful sampling (Miles & Huberman, 1994) of two ‘good teachers’ with CLD students. I sought teachers for this study who demonstrated some degree of engagement of CLD learners, so that I could see teachers who may be considered successful in facilitating the participation of culturally and linguistically diverse learners.

Nomination of Teachers

For this study I solicited nominations for intermediate level (grades three through six) mainstream teachers with CLD students from many sources, including local district-level ELL contacts, principals, and faculty in the College of Education at the local university. I sought recommendations of ‘good teachers’ from these sources, because I wanted to look at contexts where positive things were thought to be happening for CLD learners. I did not explicitly define ‘good teaching’ for those who nominated participants, but I asked for recommendations of teachers whom they
perceived as successful with CLD learners. This enabled me to seek classroom environments where some degree of participation with academic language and content was taking place. I chose to focus on intermediate grades because these years pose a particular challenge to culturally and linguistically diverse learners, as the cognitive demand of instruction increases, and typically the instruction relies more heavily on linguistic input. In order to be included for participation in this study, each teacher needed to have representation of culturally and linguistically diverse students in her class at the time of the study.

I was also interested in selecting teachers from schools with a significant representation of CLD students, which performed at least at the state average on achievement scores\(^2\). I wanted to look at schools where these students, as a group, did at least as well as CLD students at the state level. While there are multiple factors impacting students’ achievement, I wanted to ensure that I was looking at school contexts in which CLD students were doing as well as or better than their peers across the state.

Nomination for participating teachers took place in two phases. I initiated this study in 2006 seeking nomination for a pilot teacher for this study. At that time, I was beginning my investigation in the research into academic language development and content instruction for CLD learners I used an established rubric provided by the

\(^2\) Due to state reporting procedures, I used percentages of students participating in ELL programs as my measure of CLD representation for each school and the state. I used percentages of students ‘at standard’ in reading and math on the state assessment as my achievement measure.

After receiving nominations for three local teachers, I conducted intake interviews with potential candidates and observed each teacher during a math lesson to determine if there was a fit with the study. During these observations, I looked for evidence of good instructional practices and attention to academic language according to the five key pedagogical practices as identified on the CREDE rubric (see Appendix). These practices include: (a) joint productive activity; (b) language and literacy development across content; (c) contextualization of concepts, (d) cognitively challenging activities, and (e) instructional conversation (CREDE, 2002). Together, these practices constitute a holistic instructional framework that describes 'standards for effective teaching practice' (Dalton, 1998, p. 1) for culturally and linguistically diverse learners, with an emphasis on student construction of knowledge, explicit connections to prior experiences and previous learning, as well as an intentional emphasis on content-based student-to-student interactions, or instructional conversations, (Tharp, et al., 2000).

While there are other models of instructional practice for CLD students in addition to the CREDE framework, this rubric is comprehensive, easy to use, and has a focus on looking at teacher facilitated interaction of CLD learners. Of the three teachers I observed in this first round of nomination, only Mrs. Schaeffer demonstrated
some degree of implementation of each of the five practices on the CREDE rubric, including the facilitation of CLD student participation.

In 2008 I sought nominations for a second teacher to include in this study. I used the same process seeking recommendations of ‘good’ intermediate level (grades three through six) mainstream teachers with CLD students from district-level ELL contacts, principals, and faculty in the College of Education at the local university. Mrs. Hutchins, like Mrs. Schaeffer, demonstrated some degree of each of the five CREDE practices, including her facilitation of participation of CLD students.

The two teachers featured in this study, Mrs. Schaeffer, third-grade teacher at Salmon Falls Elementary School, and Mrs. Hutchins, fourth-grade teacher at Pinecrest Elementary School, teach at schools situated in different school districts in the Pacific Northwest using different program models for ESL instruction. Most districts in this region implement English-only instructional models for ELLs, either ESL pullout, content ESL, or some hybrid model combining features of various models (Valencia, Stritikus & Magarati, 2006). Looking at teachers from two different districts afforded me the opportunity to look at classrooms operating within different institutional contexts.

I will next describe the settings and participants from Mrs. Schaeffer’s and Mrs. Hutchins’ classrooms. Then I will describe the data collection strategies I employed, followed by a discussion of my coding processes and data analysis techniques.
Case Study #1 – Setting and Participants at Salmon Falls Elementary

Setting - Salmon Falls Elementary School

Salmon Falls Elementary School serves students grades K-5 within a large urban district in the northwestern United States. Approximately 34% of Salmon Falls’ students are identified as English language learners and approximately half of the school’s students qualify for free/reduced lunch. ELL service at Salmon Falls consists of a half-day newcomer program for students who test at level one (beginning) on the state English language development (ELD) assessment. Once ELL students reach level two on the ELD assessment, they receive service through an ESL facilitator model, in which an ESL teacher/coach consults regularly with the classroom teacher to help facilitate language development embedded within content-area instruction. Students at level two and beyond no longer receive direct ELL service, but are served through the support provided to the teacher by the ESL teacher/coach. Salmon Falls had at the time of this study more than four times the state average of ELL students (34% compared to 7.5%). In addition, the state average free/reduced population at the time of this study was 37%, yet 50% of the students at Salmon Falls qualify for free/reduced lunch. Despite these differences, Salmon Falls matched the state averages of students meeting standard in reading and math on the annual state assessment. This school met my criteria of having a significant percentage of ELL students compared with the state average and meeting or exceeding the state averages for student achievement.
Participants – Salmon Falls Elementary School

Mrs. Schaeffer

At the time of my data collection, Mrs. Schaeffer was in her sixth year of teaching and had been teaching at Salmon Falls Elementary School for three years. Mrs. Schaeffer is a White, monolingual English-speaker who was raised in a small, rural, working-class town. Neither of her parents went to college. Mrs. Schaeffer was proud of her accomplishments of getting her Bachelor’s degree and pursuing her Master’s. She approached her role as a teacher wanting to feel useful and provide opportunities to students who, like her, may not have had the example of a college education in their families.

I met Mrs. Schaeffer when I was an instructor in her ESL endorsement sequence at the local university. I had worked with Mrs. Schaeffer over the course of a year as her instructor of ESL methods and assessment courses, as well as her practicum supervisor. Mrs. Schaeffer was nominated for inclusion in this study by another professor teaching in the endorsement program and myself. In an interview, the ESL teacher at Salmon Falls discusses her experience working with Mrs. Schaeffer:

ESL teacher/coach: She’d (Mrs. Schaeffer) come in saying … what language do you see here that I need to make sure (student) understands before (student) does this? …She’s gotten more to the point where she didn’t need to ask as much, she would just know. She would automatically think through that. But, she’s really good at predicting what she needed to do before. Instead
of just doing it and then saying, Oh, so-and-so really didn’t get that, or he didn’t know how to do it, he struggled. But, really looking ahead and saying this is what I need to do to help him be successful the first time. *(ESL teacher/coach interview, 3.7.07)*

Here the ESL teacher describes Mrs. Schaeffer as conscious of the language demands of the content and her interest in modifying instruction before students get frustrated. In an interview, the principal describes Mrs. Schaeffer’s expectations that all students meet high academic standards:

*Principal:* She’s (Mrs. Schaeffer) one of those teachers where you know unless all kids are getting it, she’s not satisfied... She’ll do whatever it takes. *(Principal interview, 3.14.07)*

*Students*

Table 1

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>African American</th>
<th>Hispanic American</th>
<th>Asian American</th>
<th>White</th>
<th>Native American</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>14</td>
<td>0</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>100%</td>
<td>4%</td>
<td>18%</td>
<td>14%</td>
<td>64%</td>
<td>0%</td>
<td>41%</td>
<td>59%</td>
</tr>
</tbody>
</table>

At the time of this study, Mrs. Schaeffer had a total of four culturally and linguistically diverse learners during in her class her math instruction. One of these
students was currently in the state ELL program; the other three spoke other languages at home, but were not officially receiving service. These four students were chosen as focal to this study because each has a primary language other than English, and speaks this primary language at home, meeting my criteria for being considered culturally and linguistically diverse.

All students in Mrs. Schaeffer’s third-grade class were asked to participate in the study in order to capture a sense of the teacher’s engagement of her CLD students within the context of class participation as a whole. I visited the class and explained the study to the students and allowed them to ask me questions so they would understand why I was there. All but three of the students (native English-speakers) granted their assent to participate. Parent consent was also sought by sending letters home. The consent form went home in Spanish to three of the four CLD learners’ families, followed by a phone call home in Spanish from the school explaining the study in order to provide information about the study in a language each family could understand. The fourth CLD learner’s family speaks both Arabic and English at home, so the consent form was sent in English.

Since my research question focused on how the teacher facilitates participation with her culturally and linguistically diverse learners, the four CLD students in the class: Carlos, Dolores, Amadi, and Adella, were the focal student participants in the study (see Table 2).
Table 2

CLD Learners in Mrs. Schaeffer’s Third-grade Class

<table>
<thead>
<tr>
<th>Student</th>
<th>Language/s at home</th>
<th>First exposure to English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlos</td>
<td>Spanish</td>
<td>Head Start, age 4</td>
</tr>
<tr>
<td>Dolores</td>
<td>Spanish and English</td>
<td>Preschool</td>
</tr>
<tr>
<td>Amadi</td>
<td>Arabic</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>Adella</td>
<td>Spanish</td>
<td>Second grade</td>
</tr>
</tbody>
</table>

Carlos (Spanish-speaking), Dolores (Spanish-speaking), and Amadi (Arabic-speaking) were ineligible for English language learning support based on an oral proficiency test in English given in kindergarten. Carlos was born in the United States and started attending English-speaking schools in Head Start, his first exposure to English. Dolores was also born in the United States. While both of her parents are from Mexico, they met in the Northwest. Dolores’ mother speaks English fluently, but Spanish is the primary language of the home. Dolores first heard English at preschool. Amadi’s family is from Egypt, though Amadi was born in the United States. Both of Amadi’s parents speak English, but Arabic is the language of the home. Amadi first heard English in kindergarten. Adella, a Spanish-speaking girl, was born in Mexico and entered the United States one and a half years previous to the study. She had attended the district’s newcomer program the previous year, and was receiving ELL
support, in which the ESL teacher/coach consults regularly with the classroom teacher to provide language support at the time of this study.

Case Study #2 – Setting and Participants at Pinecrest Elementary

Setting - Pinecrest Elementary School

Pinecrest Elementary School is a K-6 elementary school within a medium-sized suburban district in the northwestern United States. Approximately 18% of the students at Pinecrest participate in the ELL program and nearly 40% of the students are eligible for free/reduced lunch. A full-time ELL teacher provides ELL service at Pinecrest, with support from a paraeducator. ELL service consists of both in-class and pullout support. Typically students at level 1 on the state ELD assessment are pulled out for support and may also receive in-class help. Students at levels 2-3 may either be pulled out and/or supported in-class by ELL staff, depending on student needs and instructional plans devised between the classroom teacher and the ELL teacher. The year before this study was conducted, Pinecrest received a state School Improvement Award for meeting Adequate Yearly Progress (AYP) three years in a row, and showing significant gains in performance of subcategories (including African American, Hispanic, and Special Education subgroups). Pinecrest had twice the state average of ELL students (17% compared to 7.5%) at the time of this study. Pinecrest’s free/reduced population was comparable with the state average (38% compared with 37%). Despite these numbers, Pinecrest students outperformed the state average in reading by 10% (87% met standard compared with 77% in the state). In math, 86% of
Pinecrest’s students met standard, compared with only 58% at the state level, a difference of 28%. Therefore, this school also met my criteria of having at least a comparable ELL population to the state and having met or exceeded the state averages in achievement.

Participants – Pinecrest Elementary School

Mrs. Hutchins

At the time of data collection, Mrs. Hutchins had been teaching more than twenty-five years and had received the district’s Teacher of the Year award six years previously. Her receipt of the Teacher of the Year award afforded her a great deal of respect from her colleagues across the district. Mrs. Hutchins comes from a White, monolingual English-speaking middle-class background where she described education as valued and modeled. At the time of this study her own adult children were attending college. In the evenings, Mrs. Hutchins provided tutoring services for struggling learners.

Mrs. Hutchins’ principal and the district ELL administrator nominated Mrs. Hutchins for participation in this study. Mrs. Hutchins does not have formal training in working with ELL students. Mrs. Hutchins, however, has participated in school-wide professional development initiatives at Pinecrest, which have provided on-site training in the area of best practice for CLD students. Below the principal at Pinecrest describes Mrs. Hutchins’ teaching:
Principal: She is an exemplary teacher... She just relies heavily on teaching academic language pretty explicitly, especially in math... She is very visual, she models a lot. She models beautifully. And she also differentiates in every way she can. So, she also is she is just compulsive about checking for understanding. She knows where her ELL kids, and they can be in vastly different places, but she knows where they are, formally and informally... You could stop her in the middle of her math lesson, I bet, and say do you think Claudio is getting this right now? And she would be like; here is what I know...

(Principal interview, 12.05.08)

The ELL teacher at Pinecrest describes how Mrs. Hutchins maintains high expectations for all her students, while also providing supporting their academic language acquisition:

ELL Teacher: I think, I just feel like with ELL kids, you know I mean she just expects them to do the best that they can do, but she does also understand that, you know, that they have, they have multiple lessons, if you know what I mean. They aren't only learning math, they are also learning English at the same time. And they are learning how to understand. And maybe even behave. All at the same time. (ELL teacher interview, 12.05.08)

Interviews with both staff members confirmed Mrs. Hutchins as a 'good teacher' in her practice with culturally and linguistically diverse learners, citing her
high expectations for all students, differentiation of instruction, and attention to the language demands her CLD students face in the classroom.

*Students*

Table 3

Student Composition of Mrs. Hutchins’ Class

<table>
<thead>
<tr>
<th>TOTAL</th>
<th>African American</th>
<th>Hispanic American</th>
<th>Asian American</th>
<th>White</th>
<th>Native American</th>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>5</td>
<td>2</td>
<td>3</td>
<td>14</td>
<td>1</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>100%</td>
<td>20%</td>
<td>8%</td>
<td>12%</td>
<td>56%</td>
<td>4%</td>
<td>56%</td>
<td>44%</td>
</tr>
</tbody>
</table>

At the time of this study, Mrs. Hutchins had a total of seven culturally and linguistically diverse students during her math instruction. Three of these students were currently in the state ELL program, Xiu, Leticia, and Claudio. The other four spoke other languages at home, but were not officially receiving service. These seven students were chosen as focal to this study because each has a primary language other than English, and speaks this primary language at home, meeting my criteria for consideration as culturally and linguistically diverse. All students in Mrs. Hutchins’ fourth-grade class were asked to participate in the study, again to enable me to look at how the teacher facilitated participation of her CLD students within the context of the classroom as a whole. I visited the class and explained the study to the students and allowed them to ask my questions so they would understand my presence and role in the classroom. All but two of the students (both native English-speakers) granted their
assent to participate. Parent consent was sought by sending letters home. Mrs. Hutchins discussed this study at a parent information meeting and conveyed that parents were able to understand forms in English, so the consent form went home only in English.

Since my research question focused on how the teacher facilitates participation of CLD learners, the seven culturally and linguistically diverse learners in the class: Layla, Daniella, Ruta, Adan, Xiu, Leticia, and Claudio, were the focal student participants in the study (see Table 4).

Table 4
CLD Learners in Mrs. Hutchins’ Class

<table>
<thead>
<tr>
<th>Student</th>
<th>Language/s at home</th>
<th>First exposure to English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layla</td>
<td>Tigrinya</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>Daniella</td>
<td>Tagalog</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>Ruta</td>
<td>Tigrinya</td>
<td>First grade</td>
</tr>
<tr>
<td>Adan</td>
<td>Spanish</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>Xiu</td>
<td>Chinese and English</td>
<td>First grade</td>
</tr>
<tr>
<td>Leticia</td>
<td>Spanish</td>
<td>Kindergarten</td>
</tr>
<tr>
<td>Claudio</td>
<td>Tagalog</td>
<td>End of second grade</td>
</tr>
</tbody>
</table>

Layla (Spanish-speaking) was ineligible for English language learning support based on an oral proficiency test in English given in kindergarten. Daniella (Tagalog-speaking) was eligible for ELL in kindergarten, but refused services. Ruta (Tigrinya-
speaking) started receiving ELL services in first grade and exited the program at the end of second grade. Adan (Spanish-speaking) started receiving ELL support in kindergarten and also exited the ELL program at the end of second grade. Xiu (Chinese-speaking), Leticia (Spanish-speaking) and Claudio (Tagalog-speaking) still received ELL support at the time of this study, and all were currently at Level 3 according to the annual state English language development test they took in the spring of their third-grade year. At the time of this study, both Adan and Leticia attended a Spanish literacy course, in which they were developing their reading and writing skills in Spanish in an after school program run through their church.

Data Collection Strategies

I will now describe my data collection strategies for this study. I have previously described how I sought nominations for teacher participants and the settings of each case study. I will now describe how I implemented discourse analysis and a case study design in each classroom and how my theoretical orientation informed my methodological decisions. Within this case study design, I collected multiple data sources for each case including classroom observations, staff interviews, pre- and post-lesson teacher interviews, and interviews with the focal students in each classroom. This collection of data from a variety of sources helped me to see each teacher's practice with CLD learners from a variety of perspectives. My primary question guiding this study is: In what ways do teachers facilitate participation of culturally and linguistically diverse students in the classroom? My secondary research question: In
what ways are teachers enabled to facilitate participation of CLD students? I will now
describe the time frame for this study and how my data collection strategies map back
to these research questions.

Time Frame

Data was collected for this study in two stages. I solicited nominations for
potential teachers beginning in the fall of 2006. I conducted the first case study with
Mrs. Schaeffer in 2006-2007 school year. My observations in Mrs. Schaeffer’s class
took place in March of 2007, after consent and assent had been granted. I conducted
the second case study with Mrs. Hutchins in the winter of late 2008 and early 2009.

2006-2007 School Year

I solicited nominations for participants in the fall of 2006 and the winter of
2007. In the fall of 2006 I observed two other teachers for potential inclusion in the
study, but did not determine them to be appropriate candidates for inclusion based on
their ratings on the CREDE rubric. In the winter of 2007, I contacted Mrs. Schaeffer
about the possibility of conducting my study in her class after discussing her potential
nomination for inclusion in the study with a professor who worked with her in the ESL
endorsement sequence. Mrs. Schaeffer was an eager contributor to class discussions
about CLD learners. She had been enthusiastic in making accommodations to her
instructional delivery based on her learning from in the ESL coursework and seemed
like a good potential candidate for inclusion in the study.
Through our experiences with her in the ESL endorsement classes and my observations in her class for the ESL practicum, the professor and I determined it would be worth considering Mrs. Schaeffer for this study. I informally observed her class and met with her and her students. Once we confirmed that I would conduct the study in her class, consent and assent for all participants were granted. At this time in the school year, Mrs. Schaeffer had two new math topics she would be introducing for the rest of the school year, which were fractions and geometry, so we arranged for my observations to take place during these units.

In the spring of 2007, I conducted interviews with the ESL teacher and the principal. In early March, I began the first series of classroom observations during math instruction, which lasted a total of seven days. These lessons focused on the concept of fractions. I conducted pre- and post-teacher interviews during this time either before or after class. Mrs. Schaeffer also e-mailed me at various times within this time frame with further thoughts and reflections. During this time, I typed field notes in the evening after each lesson, and began looking for codes and themes to emerge from the classroom observations. Observations lasted between one to two hours. Interviews lasted between thirty minutes to one hour. Due to the large amount of data collected, I created a data collection log, where I documented each data source for this case study. This enabled me to see notes from my corpus of data in one place and to easily cross-reference notes between a lesson and an interview, for example.
In April of 2007, I transcribed all interviews using Express Scribe software and continued coding classroom observations for opportunities when Mrs. Schaeffer facilitated CLD students' participation in math-related interactions. Once interviews were transcribed, I coded them for mention of CLD student participation, academic language, content, and equity issues, and looked for links from codes that emerged in analysis of the classroom observations with the pre- and post-lesson interviews.

I conducted my second series of classroom observations with Mrs. Schaeffer in May of 2007. This series of lessons lasted five days with the instructional focus in geometry. Classroom observations ranged from one hour to ninety minutes. During this time, I also conducted pre- and post-lesson interviews with Mrs. Schaeffer, as well as student interviews with the four focal CLD student participants. Teacher interviews lasted between thirty to forty-five minutes; student interviews lasted between fifteen and thirty minutes.

In the summer of 2007, I conducted an extended interview with Mrs. Schaeffer, which took about ninety minutes. This started with a video-stimulated interview segment (Harper, 2002), in which I showed her a video clip of a brief episode from one of my classroom observations. I used a semi-structured questioning format (Merriam, 1998), asking her to tell me about the purposes she had for the lesson and what she noticed about her instructional strategies. This helped confirm my emerging assertions (Erickson, 1986) about her facilitation of participation with her CLD students.
In this interview I followed up further with questions regarding other emerging assertions I was developing regarding opportunities Mrs. Schaeffer created for her students to use of academic language and access to content. In this interview, I also asked about her motivation to go into teaching and what she thought made a good teacher to help me gain an understanding of the experiences, attitudes, and beliefs that may shape her practice.

2008-2009- School Year

In the fall of 2008, I followed up with previous recommendations of teachers I had received for inclusion in this study. At that time I met with Mrs. Hutchins and discussed her potential consideration for participation in the study. By then I was working in her school district, so we discussed this research as being separate from my role as an administrator in the school district. She agreed to have me visit her class to consider whether her class was a fit for the study, so I observed her class twice informally after having met with her.

Based on these observations, I determined that she demonstrated some degree of implementation of the components on both the CREDE rubric, including the facilitation of CLD student participation, so I pursued consent and assent at this time. We made arrangements for me to conduct my observations in December and January. Because I was looking at opportunities teachers created for CLD learners to participate within the classroom discourse, I wanted her to select topics she felt comfortable
teaching with diverse learners, so she and her students would feel more comfortable with my observations. She chose the topics of area and probability/statistics.

In December of 2008, I conducted interviews with both the ELL teacher and the principal of Pinecrest. I asked them about the demographics of the school, the ELL program, and how Mrs. Hutchins works with CLD learners. This helped me gain an understanding of the school context in which Mrs. Hutchins teaches. I conducted my first series of classroom observations at this time, which lasted four days. The focus of instruction for these lessons was the concept of area. While the district adopted curriculum was *Growing with Mathematics* (Irons & Rowan, 2004) at the time of this study, Mrs. Hutchins and her teaching partner, the other fourth-grade teacher, decided to create their own lessons to address the standards that more closely match the instructional needs of their students. Each observation lasted approximately two hours. I also conducted pre- and post-lesson interviews each morning before school. In the evenings I typed field notes from the day and logged the data on my data collection log for the second case study.

In January of 2009, I conducted my second series of classroom observations, which lasted four days. Each lesson lasted approximately two hours. These lessons were focused on probability and statistics. I conducted pre- and post-lesson interviews with Mrs. Hutchins in the morning before each lesson. At this time I conducted student interviews, lasting approximately fifteen to thirty minutes with each of the target CLD learners. I conducted an extended interview with Mrs. Hutchins at this time as well.
Due to scheduling constraints, I did not have the opportunity to conduct a video-stimulated interview with her as I had done with Mrs. Schaeffer, so I asked her to reflect back on the lessons she had taught the best she could. We discussed her motivation for going into teaching and what she thought made a good teacher in order to provide a sense of the experiences, attitudes, and beliefs that may shape her practice with culturally and linguistically diverse learners. Following my data collection with Mrs. Hutchins, I employed the same data analysis procedures as described above with Mrs. Schaeffer.

**Classroom observations**

Data from classroom observations were the focus of my data collection and analysis. I looked particularly for how each teacher facilitated the participation of CLD learners. I also looked for how each teacher introduced concepts and what differentiation might have been in place for learners with different access points, in addition to opportunities teachers created for CLD students to acquire and use academic language. I first sought to determine what underlying organizational structure guided each teacher’s practice. For example, Mrs. Schaeffer had a rather consistent pattern of introducing the lesson, providing some kind of application activity where students interacted together with the content, then a whole group share back. Once I established the lesson structure within each classroom, I looked more closely at each segment of the lesson and how students were engaged. Classroom interactions where the teacher constructed opportunities for student participation were transcribed
for further analysis. Because I was the only researcher in the classroom during these observations, I was unable to capture the range of small group interactions, so I focused on whole group interactions and those involving target CLD students.

In order to get a sense of how teachers facilitated students’ engagement with academic language, I looked for explicit linguistic expectations through techniques such as metalinguistics and/or revoicing; vocabulary and language development through instructional practices such as language objectives or word walls. I also looked for evidence of high expectations and intellectual press (Kazemi & Stipek, 2001) to help me understand each teacher’s use of instructional practice with CLD students. I also looked for evidence of equitable access to rigorous concepts, by examining the amount and nature of participation experienced by diverse learners during teacher constructed opportunities for students to participate in the classroom discourse (e.g., during student explanations).

Since my focus was on teachers’ facilitation of student participation, I applied strategies of classroom discourse analysis similar to those Gibbons (2003, 2006) applied in her studies of exemplary teachers in science classrooms to look at how CLD students participated and what moves teachers made to facilitate this participation within the classroom. This helped me gain a more nuanced understanding of the use of traditional and nontraditional participation structures (Cazden, 2001) at play. For example, each teacher in this study used a different form of nontraditional participation
structure, which afforded students an opportunity to control the dialogue, instead of the teacher.

*School staff interviews*

I interviewed the ELL teacher and the school principal in each case in order to confirm the selection of the nominated participant as a fit for the study, to understand her role within the school, and to establish an understanding of the teacher networks and structures operating within the school context and the ELL instructional model in place in the school. I asked about the school’s ELL program, the CLD population, how diverse families are welcomed at the school, and specifically about the nominee’s instruction in order to help me understand the context within which each teacher operates. I also asked the principal to describe the school demographics, professional development, and instructional priorities, to learn more about the larger school contexts.

*Pre- and Post-lesson interviews*

Before and after each lesson, I conducted a brief interview with each teacher. I asked about the lesson she was about to teach or had just taught and about her instructional plans for the next lesson. I asked her about language use, both hers and her students’, as well as how she felt all of her students were able to access the curriculum and participate in the classroom discourse. In these interviews, I looked for each teacher to reflect on her practices with CLD learners and their participation. I also
paid attention to teachers’ reflection and attention to individual student needs, as these interviews were key opportunities for the teachers to discuss and evaluate CLD student participation, their instruction, and their goals for future lessons.

*Student Interviews*

In interviews with the CLD learners I asked about each student’s perceptions about the lessons I had observed, what he/she felt he/she learned during the lessons, his/her opportunity to learn and use English, as well as general perceptions the student had about participating in the class. I paid close attention to evidence of equitable access. While I asked questions designed to elicit information about participation, language use, and expectations within the classroom, I did not expect students to directly explain how these practices are enacted. Instead I viewed student responses, in conjunction with staff interviews and classroom observations, together to create a picture of the teacher’s practices and opportunities the teachers facilitated for students to participate in the discourse.

*Documents*

I obtained copies of the curriculum to be used for instruction from each teacher, as well as instructional plans and printed copies of all the material each teacher used during the lessons. I also collected copies of student work to look for examples of how students take up the academic discourse in their written work. I paid particular attention to academic language use in the written samples of student discourse.
For this study I employed a case study methodology using classroom discourse analysis techniques to analyze my data within each case. I organized my findings around my two research questions: (a) In what ways do teachers facilitate participation of culturally and linguistically diverse students in the classroom? and (b) In what ways are teachers enabled to facilitate participation of CLD students? I generated codes from classroom observations based on the research in exemplary practices to help me understand each teacher’s facilitation of culturally and linguistically diverse student participation and instructional practice.

Coding

My process of coding data was iterative and cyclical, and took place in two major phases, which I describe below. The phases were not always chronological in sequence, as I engaged in each phase of analysis separately for each case study, and some of the analysis of one case study happened simultaneously with the analysis of the other.

Phase One

My first phase of analysis and coding involved viewing and reviewing videotapes from the classroom sessions and reviewing my field notes. I first generated etic codes for these classroom observations, based on research in exemplary practices in the areas of academic language development, best instructional practice, and
equitable access. I used my theoretical frame of looking at discourse (small d) and Discourse (big D) to help inform how I coded my data. For example, from classroom observations I generated codes for ‘vocabulary’ (V) and ‘language objectives’ (LO), and mapped those back to academic language development as well as development of discourse (small d). I looked for patterns within each classroom data set to help me see how each teacher provides opportunities for student participation. For example, I coded ‘instructional conversations’ (IC) in Mrs. Schaeffer’s class, and mapped these back to equity of access and Discourse (big D). I took particular note of opportunities teachers created for sustained interactions of more than one or two turns that involved codes connected with equity of access and Discourse.

Next I took the codes generated from classroom observations and looked at how they related back to the interviews. I organized data from both of these sources into the three conceptual ‘bins’ based on the research in exemplary practices. This process allowed me to look at disconfirming evidence (Erickson, 1986), which consisted of codes that did not map back to any of these. For example, in my coding of interviews with Mrs. Hutchins, I had to consider my codes for ‘collaboration’ outside the areas of research in exemplary practice and look to my sociocultural framework to help me make sense of how the institutional context of instruction may be impacting her practice.

Through an iterative process of creating analytical memos and refining my codes (Emerson, Fretz, & Shaw, 1995), I reviewed the classroom data multiple times,
looking for emerging themes that tied back to my research questions. I used these
codes to create a framework of each teacher’s instruction and look at how teachers
facilitate participation of CLD learners. I then viewed transcripts of teacher interviews
to look for correlation (see Table 5 for an example of Mrs. Schaeffer’s Lesson
Sequence). I shared the framework with each teacher in order to seek her input on my
perceptions of her practice. This sharing of my initial analysis helped me understand
and contextualize each teacher’s practice with CLD students.

Table 5

Mrs. Schaeffer’s Lesson Sequence

<table>
<thead>
<tr>
<th>Part of Lesson</th>
<th>Group Structure</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to unit <em>(only done once per unit)</em></td>
<td>Partners or individual Whole group</td>
<td>Connect to previous unit, concrete exposure to vocabulary</td>
</tr>
<tr>
<td>Introduction to lesson</td>
<td>Partners or individual Whole group</td>
<td>Connect to previous learning, activate background knowledge, review concepts</td>
</tr>
<tr>
<td>Quick-write Days 1, 7</td>
<td>Whole group</td>
<td>Connect to previous learning, activate background knowledge, review concepts</td>
</tr>
<tr>
<td>Set up for task</td>
<td>Whole group</td>
<td>Share objectives, build concepts, model, set up task</td>
</tr>
<tr>
<td>Student work time</td>
<td>Partner, individual Whole group</td>
<td>Practice, apply concept</td>
</tr>
<tr>
<td>(Introduce new vocabulary)</td>
<td>Whole group</td>
<td>Build academic language</td>
</tr>
<tr>
<td>Day 3, 5, 7</td>
<td>Whole group</td>
<td>Develop math theories to</td>
</tr>
<tr>
<td>(Rule formation,</td>
<td>Whole group</td>
<td></td>
</tr>
<tr>
<td>Day 3, 5, 7</td>
<td>Whole group</td>
<td></td>
</tr>
</tbody>
</table>
Part of Lesson  | Group Structure  | Purpose  
--- | --- | ---  
Day 4, 6, 7  | Whole group  | Model, check for understanding, review concepts  
Group share back  | Whole group  | Review objectives, preview next day’s lesson  
Closure  | Whole group  |  

*Phase Two*

Once the first set of codes emerged mapping to the research on exemplary practices, in phase two of my analysis I continued to review the video recordings of the classroom lessons, transcriptions of key interactions, and written student work samples to seek specific examples and/or non-examples of the teacher’s and students’ use of discourse to elucidate these findings. During this phase, I mapped the codes I had developed from the classroom observations back to each teacher’s description of her instructional practice from pre- and post-interviews, to look for emic codes (see example in Table 6 below). These emic codes were another opportunity for me to confirm and disconfirm my findings about exemplary practices and teachers’ facilitation of CLD student participation, and to raise questions about where teacher’s descriptions of their practice did or did not match practices observed.

I used interview data (ELL teacher, principal, teacher, student) to look for analytical codes that addressed my research question regarding the teacher’s facilitation
of student participation within the academic discourse. In this phase I looked for
interviews to yield ‘in vivo codes’ (Charmaz, 1995, p. 345) that emerged as the
teachers talked about their instruction, their language use, and students’ access to
content. Table 6 (below) illustrates how the codes that emerged from Mrs. Schaeffer
map onto the elements of exemplary practices discussed in depth in Chapter 1.

Table 6

<table>
<thead>
<tr>
<th>Exemplary Practices</th>
<th>Code from Mrs. Schaeffer</th>
<th>What it looks like in Mrs. Schaeffer’s class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Language Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Explicit linguistic expectations</em></td>
<td>“Making language explicit”</td>
<td>Elucidating language demands of content for students</td>
</tr>
<tr>
<td><em>Acquisition of academic language</em></td>
<td>“Vocabulary”</td>
<td>Clarifying and teaching new vocabulary terms</td>
</tr>
<tr>
<td><strong>Best Instructional Practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cognitive challenge with differentiation</em></td>
<td>“Objectives”</td>
<td>Telling students the content and language objectives explicitly for each lesson</td>
</tr>
<tr>
<td><em>Engagement and meaningful connections</em></td>
<td>“Building connections”</td>
<td>Explicitly linking new learning to students’ previous experiences and prior learning</td>
</tr>
<tr>
<td><strong>Equitable Access</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>High expectations for all learners</em></td>
<td>“Expectations”</td>
<td>Expecting high levels of performance from students, with varying levels of scaffolding</td>
</tr>
<tr>
<td><em>Active student participation</em></td>
<td>“Building community”</td>
<td>A learning environment in which students feel safe</td>
</tr>
</tbody>
</table>
### Exemplary Practices

<table>
<thead>
<tr>
<th>Exemplary Practices</th>
<th>Code from Mrs. Schaeffer</th>
<th>What it looks like in Mrs. Schaeffer’s class</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Learning from each other”</td>
<td></td>
<td>sharing ideas</td>
</tr>
<tr>
<td><strong>Responsiveness to individual student needs</strong></td>
<td>&quot;Reflective&quot;</td>
<td>Teacher-facilitated student to student discussion about content</td>
</tr>
<tr>
<td>Consideration of students’ participation and understanding during instruction; well-planned, intentional lessons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

I used the same process of mapping my emic codes with Mrs. Hutchins’ etic codes (see Table 7 below)

### Table 7

<table>
<thead>
<tr>
<th>Codes from Mrs. Hutchins and Exemplary Practices</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Exemplary Practices</th>
<th>Code from Mrs. Hutchins</th>
<th>What it looks like in Mrs. Hutchins’ class</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Academic Language Development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Explicit linguistic expectations</em></td>
<td>‘Talking one teacher to another’</td>
<td>Students develop and use mathematical language to communicate their ideas orally and in math journals</td>
</tr>
<tr>
<td><strong>Acquisition of academic language</strong></td>
<td>‘Vocabulary’</td>
<td>Instruction and discussion of key terms</td>
</tr>
<tr>
<td><strong>Best Instructional Practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cognitive challenge with differentiation</em></td>
<td>‘High standards’</td>
<td>Expecting high levels of performance from students, with varying levels of scaffolding</td>
</tr>
<tr>
<td>‘Breaking down’</td>
<td>Identifying each component</td>
<td></td>
</tr>
<tr>
<td>Exemplary Practices</td>
<td>Code from Mrs. Hutchins</td>
<td>What it looks like in Mrs. Hutchins’ class</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>-------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>the task'</td>
<td></td>
<td>of new learning within a lesson, differentiating instruction as needed</td>
</tr>
<tr>
<td>Engagement and meaningful connections</td>
<td>‘Student engagement’ and ‘application’</td>
<td>Students connecting with content through arts and movement, connections with previous experiences and learning; Real-world applications for new math concepts</td>
</tr>
<tr>
<td>Equitable Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High expectations for all learners</td>
<td>‘Expect your best’</td>
<td>Expecting high levels of performance from students, with varying levels of scaffolding</td>
</tr>
<tr>
<td>Active student participation</td>
<td>‘Kids as teachers’</td>
<td>Student-led explanations or demonstrations of new and reviewed concepts</td>
</tr>
<tr>
<td>Responsiveness to individual student needs</td>
<td>‘Who is on board?’</td>
<td>Responsiveness to students’ participation and comprehension during instruction; well-planned, intentional lessons to support individuals</td>
</tr>
</tbody>
</table>

**Discourse Analysis**

In order to help me understand how each teacher facilitated CLD students’ participation in the classroom, I used discourse analysis to look at the classroom participation structures being employed. In particular, I was interested in traditional
and nontraditional participation structures (Cazden, 2001). I use Cazden’s (2001) definition of traditional classroom participation structures as following an initiation-response-evaluation (IRE) pattern in which the teacher controls and evaluates student responses, juxtaposed against nontraditional classroom discourse patterns, which vary in their structure, but are considered more student-directed and not teacher-evaluated. My analysis of classroom participation in these two cases focused on opportunities when the teacher ceded her control of the discourse. I was particularly interested in these student-controlled exchanges that were content-driven and focused on a particular learning outcome or objective and where CLD students participated actively.

In applying discourse analysis to look at participation structures, I used a column format for transcribing key interactions. As an example, in one key interaction I observed in Mrs. Schaeffer’s room, I started by transcribing the dialogue in paragraph form. I then organized the responses into columns organized by whether it was a student speaking or the teacher. Once the turns were organized by columns, I could look at how the teacher’s comments related to the student comments, demonstrating teacher moves to facilitate student participation. In the example below, which will be elaborated in Chapter 3, I found key words in the teacher’s turns that signaled students to respond back to other students, not to her directly. This analysis helped me to look at how the participation structures during certain interactions operated.
Dolores: (On Smart Board) Me and my partner figured it out, is that they are the same because you could see a triangle into a square like that. You can fit those two like that. And if you have a triangle, you can draw the line.

Student: She’s right.

Mrs. Schaeffer: So instead of cutting one rectangle and one triangle, it looks like you took, you cut it down there and compared the two triangles and the two rectangles. **Stick with Dolores’s idea** for a moment. Does anyone now agree with Dolores? If you think they are now the same, you can move over.

<table>
<thead>
<tr>
<th>Students</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dolores:</strong> So me and my partner figured it out, is that they are the same because you could see a triangle into a rectangle like that (<em>draws on SmartBoard</em>). You can fit those two like that and if you have a triangle, you can draw the line.</td>
<td>...Stick with Dolores’ idea for a moment. Does anyone now agree with Dolores? If you think they are the same now, move over.</td>
</tr>
<tr>
<td><strong>Student:</strong> She’s right.</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher:</strong></td>
<td></td>
</tr>
</tbody>
</table>
Summary

With this chapter, I have described my logic of inquiry and my role as researcher. I also outlined my discourse analysis and case study research design and methodology for this study including a description of my timeline, followed by a description of the settings and participants of each of my two cases. I have also described my data collection and analysis techniques. Chapter 3 will feature my analysis of Mrs. Schaeffer’s classroom and the ways in which she facilitates participation of her CLD students. Chapter 4 will follow with an analysis of Mrs. Hutchins’ classroom. Then Chapter 5 will include a cross-case analysis, and will address my second research question: In what ways are teachers enabled to facilitate participation of CLD students?
CHAPTER 3: FINDINGS – CASE STUDY #1

This study seeks to answer the question: In what ways do teachers facilitate participation of culturally and linguistically diverse students in the classroom? With Chapter 3 of this dissertation, I will begin to answer this question by analyzing my findings in the first of two case studies, Mrs. Schaeffer’s third-grade classroom. I will begin this chapter with a description of the two math units from which I will draw my analysis. I will then share my findings regarding Mrs. Schaeffer’s practice as elucidated through the analysis of an instructional conversation she conducted during her math instruction, reflecting on how Mrs. Schaeffer may have facilitated her CLD students’ participation in this episode.

For this analysis, I focus on two series of lessons within Mrs. Schaeffer’s third-grade math instruction. The first is a unit on fractions from the Investigations curriculum, *Fair Shares* (Tierney & Berle-Carman, 1995), taught in March 2007. The second unit was *Geometry*, also from the Investigations program (Tierney & Berle-Carman, 1995), and was taught in May 2007. All third-grade teachers in Mrs. Schaeffer’s school district are expected to teach the same units at roughly the same time of year. There are a few extra weeks allowed at the end of the school year, which teachers can use at their discretion if some lessons take longer than expected. The first series of lessons I observed was scheduled to last four days, but Mrs. Schaeffer ended up using seven days. For the *Fair Shares* unit, the overall objectives for the unit were for students: (a) to develop an understanding that fractions are equal parts and (b) to
partition area into equal parts. For Geometry, overall objectives for students were: (a) to determine the shape, number of spatial relationships of faces of a cube and of solids in general and (b) to find and use patterns to design open boxes for a cube.

Teacher-facilitated CLD Participation

During the course of my classroom observations in Mrs. Schaeffer's class, she employed a nontraditional participation structure (Cazden, 2001), called the instructional conversation (Dalton, 1998; Goldenberg, 1991; Tharp et al., 2000), through which culturally and linguistically diverse learners and other students participated in the math discourse. Below I will discuss the features of an instructional conversation, as well as the context in which this example of instructional conversation took place in Mrs. Schaeffer's classroom. I will then explore how Mrs. Schaeffer enabled this conversation to happen and what it may tell us about how she facilitated her culturally and linguistically diverse learners' participation. In particular, I will look at the moves she made in the course of her instruction related to classroom environment, language development, and instruction that set the stage for her CLD learners' participation within this instructional conversation.

An instructional conversation is defined as a student-to-student classroom interaction facilitated by a teacher that maintains a particular academic focus (Dalton, 1998; Goldenberg, 1991; Tharp et al., 2000). Within an instructional conversation, the teacher's role is to scaffold purposeful communication between students, supporting
their communication with each other around key concepts. This represents a nontraditional participation structure (Cazden, 2001), since the teacher does not manage and evaluate student turns per se. Instead, the teacher takes the role of facilitator to encourage students to speak and respond to each other, instead of to her, ceding control of the conversation and setting the stage for authentic student participation within the content discourse.

Four instructional conversations occurred during my observations, with the most extended instructional conversation occurring during lesson 6 of the Fair Shares unit (Lesson, 3.19.07), which is featured below. Mrs. Schaeffer had administered the Teacher Checkpoint, the first formative assessment of the unit, to partners the previous lesson, having students look at two different shaped fractions that were both one sixth. Students talked as partners to discuss their initial ideas, then worked independently to record their thinking in writing. The students were shown a picture of a brownie cut into four pieces:

![Figure 3. Mrs. Schaeffer's Fair Shares Visual](image-url)
The text below this picture read: *Some people think these are not fair shares.*

*Write what you believe. I believe that the rectangle pieces and the triangle pieces ________ (are/are not) the same size because ________ (Tierney & Berle-Carman, 1995).*

When students completed their work independently and turned it in to Mrs. Schaeffer, she concluded that approximately half of the students thought they were the same size and half did not. While the curriculum suggested that the teacher collect this information about students’ thinking and move on to the next lesson, Mrs. Schaeffer instead created a situation in which students would sit at opposite ends of the room, indicating their belief as to whether the triangles and rectangles were the same size. She then facilitated an instructional conversation, in which students shared their thinking with the purpose of convincing their peers of their belief about the shapes:

<table>
<thead>
<tr>
<th>Student-to-student</th>
<th>Teacher facilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Teacher:</em> Is there anyone willing to prove that their answer is right? Let’s start with, Dolores, why don’t you go ahead.</td>
<td></td>
</tr>
</tbody>
</table>
Dolores: So me and my partner figured it out, is that they are the same because you could see a triangle into a rectangle like that (*draws on SmartBoard*). You can fit those two like that and if you have a triangle, you can draw the line.

Student: She’s right.

Teacher: ...Stick with Dolores’ idea for a moment. Does anyone now agree with Dolores? If you think they are the same now, move over.

Amadi: I see what she is doing. That’s kind of like the way our team, me and my partner were thinking.

Eric: (*mumbles something*)

Teacher: Eric? Do you have a question for Dolores? She’s over here, so make sure you ask her.

Eric: (*to Dolores*) What happens if you move the triangle to the rectangle and it’s not equal?

Dolores: (*shows how to do it, moving pieces using document camera*)

Eric: If you put one triangle on a rectangle, does it fit?

Teacher: So, Eric, here’s what I am hearing you say is that Dolores...

*(Lesson, 3.19.07)*
In this example, Mrs. Schaeffer's goal was to have students articulate their beliefs about fair shares and to convince each other that their belief was correct. This was an instructional conversation because the topic was focused on a specific instructional objective and the communication was purposeful and crafted to be student-to-student. Though many students volunteered to begin the discussion, including two other CLD students, Adella and Amadi, Dolores was called on to initiate the conversation above. As an outcome of the exchange, several students changed their minds about whether the two shapes were the same size. While by the end of the lesson three students remained unconvinced (all native English-speakers), Mrs. Schaeffer reflected that this lesson gave students a genuine opportunity to use their mathematical language in relation to fair shares and fractions, as well as providing them a meaningful context in which to engage the ideas. It also provided her a formative assessment opportunity, which she then used to inform her further instruction on equivalent shapes and fractions.

In interviews, Mrs. Schaeffer referred to this nontraditional format as students 'learning from each other' (Post lesson interview, 3.21.07). Adella stated in her student interview, that sometimes students actually learn more from each other than they do from the teacher. As defined in Mrs. Schaeffer's classroom, learning from each other meant that students talk directly with other students to ask about, challenge, and clarify their ideas. The focus was not on the teacher deeming a comment correct, but on a genuine dialogue between peers in which they explore academic concepts.
Students in Mrs. Schaeffer's class demonstrated several competencies through their participation in this instructional conversation. First, both Dolores and Amadi, as CLD students, volunteered to participate and share their mathematical thinking with the class. Also, both used academic terms in their explanations correctly. Dolores in particular demonstrated an understanding of how the shapes were the same 'size', and was able to successfully manipulate the shapes using the SmartBoard to demonstrate this to the class. I will now explore the practices in which Mrs. Schaeffer engaged, in the areas of class environment, academic language development, and instructional practice, that may have facilitated the competencies demonstrated in this instructional conversation that took place in her math classroom.

Class Environment

Student participation in the instructional conversation reflects a classroom environment where norms and expectations around this sort of interaction have been established ahead of time to some degree. I conducted my observations with Mrs. Schaeffer in March and May, so I was unable to observe when she first established her class norms and expectations at the beginning of the school year. In interviews however, Mrs. Schaeffer made note of establishing a classroom community where her CLD students felt comfortable participating. Mrs. Schaeffer described making her diverse learners feel comfortable in the classroom as a starting place for supporting them in her instruction and allowing them to feel comfortable taking risks participating in class. In an interview Mrs. Schaeffer also discussed how she explicitly teaches
students how to disagree appropriately in her classroom, to encourage students to share and challenge ideas. She stated that she explicitly gave the students the language of how to say 'I disagree with so and so because' (Post lesson interview, 3.16.07) to facilitate a safe environment for intellectual discourse. In the instructional conversation featured above, students had the opportunity to both extend and challenge each other’s thinking, including disagreeing and questioning.

Mrs. Schaeffer described her classroom community as a place where students feel safe and learn from each other. She articulated this community as a crucial component in supporting the participation of all her students:

*Mrs. Schaeffer: I think I’ve always done a good job of building community in my classroom...I’ve really worked hard on letting them respond to each other. I feel like their participation level in class as a whole is much higher, particularly this year. (Post lesson interview, 3.21.07)*

Mrs. Schaeffer specifically described Adella’s experience, as a culturally and linguistically diverse learner who started the year with the least amount of English. Adella had been in an ELL newcomer program the year before coming to Mrs. Schaeffer’s room. Mrs. Schaeffer described the need to make Adella feel safe in her classroom community:
Mrs. Schaeffer: This year I have Adella. (I need to) have respect for (her) new environment, and I need to make that safe environment for her. *(Post lesson interview, 3.21.07)*

In each of the lessons I observed, Adella raised her hand and participated appropriately in whole class discussions by providing an answer and/or explaining her thinking. In the lessons observed Mrs. Schaeffer provided opportunities for students to interact in partners, teams, and whole group settings. While Carlos, Dolores and Amadi were all more likely to share actively with a partner during partner work, all four CLD students also participated within the whole class conversations. Interestingly, Adella rarely spoke to her partner during partner work, but listened actively. Twice Adella volunteered to share what her partner had told her during a whole class discussion after listening nearly silently during partner work. Adella shared her feelings about classroom participation below:

*Adella:* We have to explain our work, how we did it...so we get better at explaining stuff...*I like to explain stuff to people so I learn more...*Mrs. Schaeffer always says that we learn more from each other than we learn from her. *(Interview, 5.18.07)*

Often culturally and linguistically diverse learners feel more comfortable sharing with a peer than speaking in front of the whole class, but not Adella. She was far more likely to share whole group, using information she gained from partner work.
A key instructional practice identified as important for CLD students, joint productive activity, involves students collaborating with each other and drawing upon their unique backgrounds to contribute to a joint product (Dalton, 1998; Tharp et al., 2000). This often involves students helping each other, one as expert, one as novice. In one activity I observed Adella and her partner working together to physically put fractions in order from smallest to largest. While Adella did not verbalize her thinking as her partner did, she was able to move the fractions with her partner and co-create their sequence from smallest to largest.

While I was unable to observe Mrs. Schaeffer establishing her class community norms and expectations at the beginning of the year, both she and students made reference to the sense of classroom community and taking risks to share their ideas through interviews. This classroom environment that Mrs. Schaeffer established where students had been given the language of how to share ideas and disagree may have supported her CLD students' participation in the instructional conversation above.

*Academic Language Development*

Mrs. Schaeffer created opportunities for students to acquire academic language through her development of content vocabulary, use of a mode continuum (Gibbons, 2006), and language activities involving reading, writing, listening and speaking about mathematics. Mrs. Schaeffer facilitated academic language acquisition for her CLD students by introducing key vocabulary for students at the outset of a unit. In Lesson 1 of *Fair Shares*, Mrs. Schaeffer conducted partner and whole group discussions that
were not included within the prescribed curriculum about what the terms ‘fair’ and ‘share’ mean to build vocabulary as students were introduced to the *Fair Shares* unit:

*Mrs. Schaeffer:* If something is fair, what does that mean? Discuss your ideas with your partner.

(Partner discussions)

*Mrs. Schaeffer:* What does it mean if something is fair?

*Adella:* Like if you’re sharing something, you’re gonna break it in half. Same amount, that’s fair.

*Brenda:* Fair means there could be two people or more, that is an even number.

*Carlos:* Cut something so it’s the same size each.

*Mrs. Schaeffer:* What is each?

*Carlos:* Each kid get two. And not one is bigger, one is smaller. Just the same size.

In the whole group exchange above, Adella and Carlos, two of the CLD students, were active participants, sharing their ideas about what it means for something to be fair. During the partner discussions before the whole group exchange, Adella listened to her partner share but did not offer any ideas. This was a common pattern for Adella. In the partner setting, she often chose to just listen to her partner without commenting. During the whole group debrief, Adella participated more often. In the above episode Adella did not speak with her partner during the partner
discussion before the whole group discussion, but appeared to listen actively while her partner, a native English-speaker, shared. When the time came to share ideas with the whole group, Adella raised her hand during whole group share out, and expressed these ideas as her own. In her student interview, Adella acknowledged that she ‘liked to explain stuff to people, so I learn more’ (Interview, 5.18.07). Since the Fair Shares unit was students’ first formal exposure to fractions and sharing equally, in an interview Mrs. Schaeffer described this introductory activity as an opportunity to ‘build the background of language’ (Post lesson interview, 3.16.07) students needed to be successful in the unit.

In Mrs. Schaeffer’s fractions unit, she had students interact with the concepts of sharing and fractions in Lessons 1 and 2 allowing students to explore and talk about the ideas using their own home-based registers, before introducing the formal academic terms in Lesson 3. This progression supported CLD students’ acquisition of academic language through use of what Gibbons (2006) calls a ‘mode continuum’. The first two days, in which Mrs. Schaeffer did not address vocabulary explicitly, students participated in activities regarding sharing brownies using their own terminology. In Lesson 3, Mrs. Schaeffer referred back to these experiences to introduce the academic language of the unit: fraction, one whole, one half, one fourth, etc. Her students had concrete experiences with the mathematical concepts of parts and wholes (Lessons 1 and 2) before introducing the academic terms (Lesson 3).
In Gibbons’ (2006) study of exemplary teachers of science for English language learners, she found teachers using a process, which she called moving students through a mode continuum. The concept of a mode continuum builds on Vygotsky’s (1962) concept of scaffolding, and refers to the transition from interactions within the content characterized by student-produced less formal language, to interactions within the content the teacher constructs where students learn and use the more academic terminology for the same concepts. This movement through the mode continuum acts as a scaffold for students to acquire new vocabulary while developing the math concepts associated with these new terms.

Mrs. Schaeffer had a word wall in her room that she used for each new math unit. As she introduced each new term, it was posted on the math word wall and remained there for the duration of the unit. In a whole group word wall activity, she introduced key terms that she had written on sentence strips (fraction, one whole, one half, one fourth) and recorded them on cards using color to distinguish different ways to read the different fractions (see below). These cards were then posted as part of the word wall.

Figure 4. Mrs. Schaeffer’s Word Wall
In Mrs. Schaeffer’s fractions unit, *Fair Shares* (Tierney & Berle-Carman, 1995), she also provided opportunities for students to engage with academic language in reading, writing, listening and speaking. In academic reading, on the first day of the unit, she led the students through a pre-reading activity in which they made predictions about what they would learn based on the text. She had two prompts on the board as students reviewed the books with their partners; ‘What do you notice? What will we be learning about? *(Lesson, 3.12.07).* This pre-reading activity was open-ended and focused students’ attention on the math content they would encounter throughout the unit.

In writing, Mrs. Schaeffer had students do quick-writes before an oral sharing activity as part of her introductions to Lessons 1 and 7. Mrs. Schaeffer provided opportunities for ongoing oral language development by providing opportunities for students to use the new mathematical language daily during lessons in small group and whole group activities. Together these practices of including reading and writing opportunities, in addition to opportunities for students to use academic language orally, offered students chances to encounter and use the academic language of the content.

When Mrs. Schaeffer’s culturally and linguistically diverse students engaged in the instructional conversation convincing each other whether or not the triangles and rectangles were fair shares, they had already participated in the introductory vocabulary activity at the beginning of the unit, and interacted with the math word wall. Students had the opportunity to explore the concepts of fair shares in the brownie activity before
being introduced to the academic terminology of the fractions in Lesson 3. Students had also engaged in the reading, writing, listening and speaking activities using the math language around fair shares. These opportunities that Mrs. Schaeffer had created to support her culturally and linguistically diverse students' academic language development may have contributed to their ability to participate in the instructional conversation in Lesson 6 (above).

**Instructional Strategies**

In addition to moves Mrs. Schaeffer made to establish a supportive classroom environment and to support CLD students' academic language development, she also engaged in instructional strategies that may have also contributed to her students' participation in the instructional conversation. These instructional moves Mrs. Schaeffer made include her attention to content and language objectives, differentiation, and attempts to connect new concepts for students to real-world situations and prior learning.

In Mrs. Schaeffer's math instruction, she planned her lessons around the content objectives students would need to master at the end of the unit, as well as language objectives that she developed to align with these content objectives. In Mrs. Schaeffer's description of her planning process, she organized her instructional units around the skills and concepts all students needed to have at the end of the unit, not necessarily by the suggested instructional sequence. This backward planning enabled her to set a target for all students, then to plan her lessons to support students to meet
these targets. Mrs. Schaeffer articulated her objectives intentionally to the students at the beginning of each lesson (see Table 8 below): ‘I need to state the objectives and what they are going to learn, so that they have something in mind as they are thinking about it’ (Post lesson interview, 3.21.07). In Mrs. Schaeffer’s words, she did this so that ‘they know what they are going to be learning up front’ (Post lesson interview, 3.16.07).

Table 8
Mrs. Schaeffer’s Lesson Objectives During Fair Shares Unit

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Content objectives</th>
<th>Language objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson 3</td>
<td><strong>Today you will:</strong> Share fairly</td>
<td><strong>Today you will:</strong> Describe and evaluate when something is fair</td>
</tr>
<tr>
<td></td>
<td>Realize that fractions need to be fair (equal) parts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Compare fraction shares</td>
<td></td>
</tr>
<tr>
<td>Lesson 4</td>
<td><strong>Today you will:</strong> Compare fractions</td>
<td><strong>Today you will:</strong> Learn to write fractions that have different numbers on top</td>
</tr>
<tr>
<td></td>
<td>Prove that pieces are the same size even if they are different shapes</td>
<td></td>
</tr>
<tr>
<td>Lesson 5</td>
<td><strong>Today you will:</strong> Find fractions that are equal to one another</td>
<td><strong>Today you will:</strong> Explain to your partner and in writing how you know different shapes can be fair shares</td>
</tr>
<tr>
<td></td>
<td>Compare different shapes and determine if they are fair shares</td>
<td></td>
</tr>
<tr>
<td>Lesson 6</td>
<td><strong>Today you will:</strong> Share ‘brownies’ evenly by</td>
<td><strong>Today you will:</strong> Write and label the fractional</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lesson 3 (3.14.07)
Lesson 4 (3.15.07)
Lesson 5 (3.16.07)
Lesson 6 (3.19.07)
Mrs. Schaeffer introduced objectives at the beginning of her lessons and reviewed these objectives as part of her closure in five of the seven lessons in the *Fair Shares* unit (see Table 8 above). She posted her instructional objectives on the interactive white board at the onset of each of these lessons, and discussed these with students before proceeding with the new information. Table 8 (above) lists Mrs. Schaeffer’s objectives for the five days she posted them for her students during the fractions unit.

In addition to content objectives, research has shown that it can be beneficial in content-area instruction for teachers of English learners to also articulate language objectives for a lesson (Echevarria, et al., 2004). Language objectives are typically tied to content objectives, and engage students in at least one of the domains of the English language: reading, writing, listening and speaking. Mrs. Schaeffer’s language
objectives listed in Table 8 connected with her content objectives and focus primarily around writing (e.g., write, label) and speaking (e.g., describe, explain). When she listed her objectives for her students during the lessons, they were integrated as one set of instructional objectives for the day, not split out by content and language. In interviews, Mrs. Schaeffer discussed them separately, so they have been separated by content and language here for comparison.

The SIOP framework posits language objectives as an effective strategy in supporting the content and language learning of culturally and linguistically diverse students (Echevarria, et al., 2004). The focus on explicit objectives is believed to enable culturally and linguistically diverse learners to engage in the rigor of the content through cognitive challenge because the teacher provides a specific emphasis for the lesson and guides students where to focus their attention. According to the SIOP model, articulating a rigorous, yet attainable, instructional objective allows the teacher to focus her instruction, as well as language learners’ attention, on key concepts to be developed and not follow tangential paths that may cause students confusion. Explicit objectives are believed to provide diverse learners with the appropriate key concepts on which to focus as they strive to make meaning within the content classroom.

Mrs. Schaeffer’s objectives for Lesson 6 when the featured instructional conversation occurred (see Table 8 above), did not specifically address the instructional conversation activity, since that episode took place before her regularly scheduled lesson. She did, however, set up the activity by telling students orally that the
objective was for students to convince each other that the belief they held about whether the shapes were fair shares was correct. This objective in itself ties together the content goal of students developing an understanding of fair shares, in addition to a language goal of orally creating an argument that convinces others.

In addition to her focus on objectives, Mrs. Schaeffer held all her students to the same expectations in terms of content, but differentiated her expectations as to how students demonstrated their learning in the lessons observed. She used fraction kits students had created in the unit to allow them to show relationships using either these manipulatives or numerical notation, depending on their comfort level, when the instructional objective allowed for this variation to a written response. However, when her instructional objective was for students to ‘write and label the fractional pieces of a brownie’ (Lesson, 3.19.07), Mrs. Schaeffer expected each student to use the appropriate numerical notation.

Mrs. Schaeffer made attempts when ‘they (students) need more practice than the book allows for’ (Post lesson interview, 3.21.07), to provide the class that practice in partners and small groups. She explains below how she feels the extension of time gave her CLD students more time with the language and content:

Mrs. Schaeffer: I was supposed to do all of this in 4 one-hour math blocks.

What kind of learning would take place at that point? I think about my own classes (as a graduate student) and how I need to often hear and do the same thing multiple times to have really gained the knowledge. Thinking about
Carlos' comment about that fractions can be different shapes, I believe, it is only because he had multiple experiences with that concept that it stuck with him. *(Post lesson interview, 3.21.07)*

She argues here that Carlos would not have understood a key concept about fractions without having more time and opportunities, which she provided. Though Mrs. Schaeffer added time to the fractions unit for her entire class, she did not in lessons observed differentiate this accommodation by allowing some students who were more proficient with the content to move more quickly.

In an e-mail to me after a lesson, Mrs. Schaeffer described a situation in which she recognized the individual needs of a student and expressed the need to differentiate her instruction to support the student’s understanding:

*Mrs. Schaeffer:* I realized that I wasn’t clear and had difficulty explaining to the students, particularly to Christy, in Friday’s review activity. The ‘rule’ that was determined on Thursday was...the bigger the bottom number the smaller the piece as long as the top numbers were the same. But Christy stated...the smaller the bottom number the bigger the piece...I noticed she was getting somewhat confused when she looked at the rule posted. I should have said something like ‘it could be stated both ways and it really has the same idea but using different words. *(E-mail, 3.21.07)*
In the next lesson, Mrs. Schaeffer made this clarification to Christy and the rest of the class. Mrs. Schaeffer used notes to herself (and to me) about how individuals were responding in addition to student work to help her make instructional adjustments for individual students.

Mrs. Schaeffer discussed this quality in her post-lesson interviews. When asked the qualities that make up a good teacher, Mrs. Schaeffer listed ‘reflective’ as a key quality:

*Mrs. Schaeffer:* I think that **a good teacher has to be reflective**, particularly with the **array of diversity** (ability levels...high, spec ed, ELL) in classrooms. So this is very pertinent to a teacher of ELL's. I personally am constantly reflecting... **on the spot and modifying my questions, guidance or approach and strategies based on the students' facial expressions, oral statements or written work**, I often reflect again as I transition from one subject/activity to the next sometimes **jotting very quick notes** for reminders at the end of the day/evening. *(Interview, 6.26.07)*

In addition to articulating clear content and language objectives, and differentiating and responding to student needs, Mrs. Schaeffer also made moves to help students make connections with the new concepts they were learning by providing real-world contexts for the concepts being taught and explicitly connecting new concepts to previous learning. The first lesson of the unit that I observed was originally
designed to have students share one brownie between different people. Mrs. Schaeffer adapted the lesson, by connecting this activity to what the students had studied in the previous unit, division with remainders. She set up the task of sharing one brownie first as a division problem, where the class needed to share 24 brownies among 23 people. Then she had the students discuss how to share the leftover brownie between the two remaining adults: the cameraman and me. Mrs. Schaeffer described this activity as connecting students’ learning about division and remainders with dividing one whole, ‘it brought those relationships together in the sense of math’ (Post lesson interview, 3.16.07). When she discussed planning the fractions unit for her class, she said that students ‘needed some kind of background...to make that connection from what they’ve previously learned’ (Post lesson interview, 3.16.07).

As Table 5 (above) shows, Mrs. Schaeffer incorporated explicit connections to students’ prior learning and previous experiences at the beginning of the unit, and as an introduction to each of the day’s lessons. This routine of connecting lessons to previous learning, explicit use of descriptive language to denote the mathematical relationships (one out of two), as well as her focus on the mathematical language align with the analytical framework and enable students to ‘contextualize’ (Dalton, 1998; p. 22) new learning with what they already knew.

Moschkovich (2007) asserts that culturally and linguistically diverse learners need access to rigorous math curriculum that allows them to build on their home-based mathematical understandings. Mrs. Schaeffer seemed to hold the same expectations
for all her learners in the lessons observed, though she acknowledged the need to provide 'scaffolding (for them) to get there' (Interview, 6.26.07). Mrs. Schaeffer described the objectives she articulates for students at the beginning of each lesson as her articulating to students 'what I am expecting from you' (Interview, 6.26.07). She did not change her expectations for her students in terms of the mathematical targets she wanted them to reach, though she did expect that students may arrive at her targets in different ways and at different rates. Mrs. Schaeffer claimed that she wanted to 'give (all students) the same opportunities as everyone else' (Interview, 6.26.07) and that she 'works so hard for each of my kids to make each of them successful' (Interview, 6.26.07).

**Summary**

In this chapter I have examined Mrs. Schaeffer’s practices through her instructional conversation addressing the question: In what ways do teachers facilitate the participation of CLD students in classrooms? This analysis has elucidated how Mrs. Schaeffer had established a classroom environment that may have enabled her CLD learners to feel comfortable sharing their mathematical thinking as they did in the instructional conversation. She also provided opportunities for academic language development for her culturally and linguistically diverse learners through her use of explicit language with fractions, her use of a math word wall, and her employment of a mode continuum. Instructionally Mrs. Schaeffer held students to rigorous standards by
articulating content and language objectives, as well as connected new concepts to prior learning.

Chapter 4 will now follow with analysis of my findings from my second case study, Mrs. Hutchins' fourth-grade classroom. In Chapter 5 I will address my secondary question: In what ways are teachers enabled to facilitate participation of CLD students?
This study seeks to answer the question: In what ways do teachers facilitate the participation of CLD learners in the classroom? With Chapter 4 of this dissertation, I will continue to answer this question by analyzing my findings from the second of my two case studies, Mrs. Hutchins’ fourth-grade classroom at Pinecrest Elementary School. This chapter will first describe the two math units from which I will draw my analysis. Next I share my findings regarding Mrs. Hutchins’ practice as demonstrated in her facilitation of culturally and linguistically diverse learners’ participation in student-led explanations during her math instruction.

For this analysis, I focus on two series of lessons within Mrs. Hutchins’ fourth-grade math instruction. The first series of lessons dealt with the concept of area and the second with probability. At the time of this study, the state’s math standards had recently undergone significant revision. Teachers in Mrs. Hutchins’ district had met together at the beginning of the school year in grade level teams to align the district’s math curriculum, Growing with Mathematics (Irons & Rowan, 2004) to the new state standards. District teachers found that there was not significant alignment with the new standards in terms of sequence and depth of coverage of math concepts, and teachers were encouraged to supplement the curriculum to meet the new fourth-grade standards. For the school year included in this study, Mrs. Hutchins supplemented the district curriculum with her own activities and those developed with her grade level partner that aligned with the new standards. The standards Mrs. Hutchins addressed in
her area unit required students: (a) to determine the area of a figure using square units, 
(b) to determine the area of a rectangle using a formula and explain why the formula 
works, and (c) to determine the areas of figures that can be broken down into 
rectangles. In her probability unit, Mrs. Hutchins addressed the following standards: 
(a) to describe and compare the likelihood of events, (b) to determine a simple 
probability from a pictorial context, and (c) to display the results of a probability 
experiment and interpret the results.

Teacher-facilitated CLD Participation

Mrs. Hutchins used a nontraditional participation structure (Cazden, 2001), 
which I call ‘student-led explanation’ during the math lessons observed. This 
participation structure operated using the traditional initiation-response-evaluation 
(IRE) format, but in this case it is often a student who plays the role of teacher, 
initiating and evaluating responses. For the purpose of this analysis, I define a student-
led explanation as an opportunity Mrs. Hutchins provided for a student to come to the 
front of the classroom and assume the place of the teacher to explain a process or 
describe his or her mathematical thinking. While there were other opportunities for 
students to participate in class discussions during my observations, I only counted turns 
when students spoke from the front of the room as student-led explanations.

The following student-led explanation took place as students were reviewing 
homework from the previous night during the probability unit. The homework

assignment called for students to play a coin toss game with someone at home and evaluate whether the game was ‘fair’. Then students were asked to make changes to the game to make it fair, then play it again using the student-created rules and collect data on the results.

The example below took place on January 13 (see Table 9) when a total of 6 students had the opportunity to provide student-led explanations. In the featured example, Daniella, a culturally and linguistically diverse learner, shares her thinking and Zavier, a native-English speaker, disagrees with her.

<table>
<thead>
<tr>
<th>Student-led Explanation</th>
<th>Teacher facilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Teacher:</em></td>
<td>Daniella, go ahead and take yours up. (Daniella moves to document camera with her homework.) OK, first off, tell us who you played with and what happened.</td>
</tr>
</tbody>
</table>
Daniella: I played with my cousin, and I won because I was heads. I had 12 and he had 10, I mean 8. So, what I did was I made a graph about it.

And then so I changed it. If you get tails you get to go again, and then B gets one turn. Then if you get heads, they win 2 chips and or you get tails, you get 2 chips. And if you throw heads, then A gets 1 chip, which we get the same amount and equal chance of winning.

Teacher: (To class) What do you think? Agree? Disagree?

Zavier: I disagree because so if A gets tails, then A gets another turn. A would win 2 chips, then A gets heads. A would win 2 chips, and that might happen most of the time. Then B would have it similar, would throw again...

Daniella: What I tried to do is give them an equal amount of chips and have an equal amount of winning. That is what I am trying to do.

Zavier: But if they throw again, why does he get one chip?

Daniella: That’s what I am trying to do.
Teacher: So, Daniella, what you're saying is that you don't have a heads player or a tails player? If they flip that, that's what they get to do.
You have an A player and a B player, and then whatever they get, that's the move they make. That's the points they get?
So, Zavier, what I hear him saying is that tails has a greater advantage, is that what you are saying?

Zavier: Yeah.

In the eight lessons I observed in Mrs. Hutchins' class, at least one student-led explanation took place each day for a total of thirty student explanations. I list the thirty student-led explanations by date of occurrence in Table 9 (below). While the example of student-led explanation above features only one CLD learner, Daniella, CLD students comprised 28% of the class and participated in 30% of the explanations during my observations.

Table 9

Student Explanations in Mrs. Hutchins' Class

<table>
<thead>
<tr>
<th>Date</th>
<th>Boys</th>
<th>Girls</th>
<th>CLD</th>
<th>Native-Eng.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.8.08</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>12.9.08</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>12.10.08</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Mrs. Hutchins’ class consisted of a total of twenty-five students, fourteen of whom were boys (56%), eleven of whom were girls (44%). Of this twenty-five, seven students were culturally and linguistically diverse learners (28%), eighteen were native English-speakers (72%). Within a total of thirty student-led explanations, twenty-four different students participated, with six not participating at least once in the eight lessons.

Mrs. Hutchins called the practice of student-led explanations treating ‘kids as teachers.’ Mrs. Hutchins described her reasons for student-led explanations as opportunities to reinforce student’s own thinking by providing explanations, to provide opportunities for students to hear alternative explanations, and to put her as teacher ‘out of the picture’:

_Mrs. Hutchins:_ I do think the more you have kids reviewing and reinforcing a concept, they say it differently than I do. And that helps other kids to
respond. So that is one of the reasons that I do it. The other is that I need to be
out of the picture. I need to remove myself entirely and give them some
ownership. (Interview, 1.16.09)

In an interview, Leticia, a CLD learner, described student-led explanations as validating to her understanding and helpful for them in understanding difficult mathematical concepts:

Leticia: Being the teacher is really nice. It is more easy when kids explain because they use their own words. (Interview, 1.16.09)

Claudio, another CLD learner, agreed that student explanations were more comprehensible and helped him understand:

Claudio: When kids are teachers, I get more ideas. They don’t use hard words. They use the opposite of word I don’t understand. (Interview, 1.15.09)

Culturally and linguistically diverse students comprised 28% of Mrs. Hutchins’ class (see Table 3 above). Of the thirty student explanations provided in this study, CLD students participated 30% of the time. One of the six students (17%) who did not participate in a student explanation during the lessons observed, Claudio, was a CLD learner. It could be argued that CLD students learning how to participate within the classroom Discourse should have more opportunities than mainstream students. But, it is unclear whether these six non-participants had other turns for student-led
explanations during other times of the school day, as I only observed during math instruction and in interviews, Mrs. Hutchins claimed to use this structure in other subjects.

From the standpoint of gender, the participation was somewhat different. While girls comprised 44% of Mrs. Hutchins’ class, they participated in the student explanations 53% of the time. Of the six non-participants, four were boys (67%), compared with two girls (33%). Since the class was 56% boys, the representation of 67% of the non-participants being boys seemed to indicate that girls had more of an opportunity to participate in these student-led explanations. With a difference of fourteen turns for boys and sixteen turns for girls, this number seems fairly small. However, since girls comprised only 44% of the class, this difference was not commensurate with their representation in the class. It appears from this analysis that girls may have had a greater chance of participating in student explanations than did boys. Since gender was not the emphasis of this study, and examination into the participation of boys and girls in mathematical discourse continues to be an issue in the research (Boaler, 2007; Fennema & Carpenter, 1998), this may merit further investigation in future studies.

Through participation in the student-led explanations, culturally and linguistically diverse learners in Mrs. Hutchins’ class demonstrated the competencies of using academic language to present and defend their mathematical thinking, as well as demonstrating their understanding of key mathematical concepts. Chapter 4 will
Class Environment

Mrs. Hutchins: Unless you buy into the philosophy that every kid can learn...that is just not going to cut it. We have to give these kids the skills.

(Interview, 1.16.09)

In the lessons observed, Mrs. Hutchins maintained a class environment where she held all students accountable to meeting high expectations and regularly monitored individual student progress toward her instructional goals, which may have contributed to supporting CLD students’ competency in participating in student-led explanations. She demonstrated high expectations through her focus on grade level standards while providing students access to the time and support needed for them to meet these standards. Mrs. Hutchins had established both her entry task and recess times as daily opportunities to provide support to struggling learners so they could access the grade level content during the math lessons (see Table 11 below). CLD students in Mrs. Hutchins’ class seemed to experience these high expectations as positive, as evidenced in their interviews. Leticia described Mrs. Hutchins’ instruction in comparison to that at another school, ‘I like it (here) because it’s harder’ (Interview, 1.16.09). The school principal described why she nominated Mrs. Hutchins for inclusion in this study:
Principal: She is a great mind around vertical alignment and rigorous, rigorous learning experiences for kids. It’s just who she is. And so she’s been just a zealot about making sure that every one of her kids has their best chance at succeeding with the fourth-grade standards…There is just no option for failure. Any given year, she has a critical number of ELL students or graduates, recent graduates of ELL. And she has the same expectations for them as she has for any student in her class. (Interview, 12.5.08)

In addition to maintaining an environment of holding students accountable to meet high standards, in lessons observed, Mrs. Hutchins collected anecdotal records to monitor students’ progress toward meeting her instructional objectives. When asked about how Mrs. Hutchins works with culturally and linguistically diverse learners, Pinecrest’s principal replied:

Principal: She is very visual, she models a lot. She models beautifully. And she also differentiates in every way she can. She is also just compulsive about checking for understanding. So she knows where her ELL kids, and they can be in vastly different places, but she knows where they are, formally and informally, in the subtext of her lesson. You could stop her in the middle of her math lesson, I bet, and say, ‘Do you think Claudio is getting this right now?’ And she would be like, ‘This is what I know…’ (Interview, 12.5.08)
Here we see the principal citing Mrs. Hutchins' instructional practices in differentiating as well as monitoring students’ academic progress. In the interview below, Mrs. Hutchins described her assessment of students’ understanding during the area unit:

Mrs. Hutchins: Tomorrow I am doing an assessment that is totally individual. They will have to do some work on paper. I am also going to talk to some of them individually – Kathy particularly. Adan seems to have a firm grip. I am still not convinced Claudio is totally on board. So, I need to really talk to him. Sheryl, some of those guys, I just need to follow up with. But as far as doing the assessment, there will be one practical problem. So, for some of those kids, I am going to read that to them. I want this to be a challenge, so I won’t read it to the whole class for that reason. But I may just pull a core group over tomorrow morning, read it to them, talk about any vocabulary in there, other than area, that they don’t know. Because I want to make sure we are actually testing math, not reading. (Interview, 12.11.08)

In this interview Mrs. Hutchins talks about student needs on two levels. On one level, she talked about which students needed more support with the concept of area (e.g., Kathy, Claudio, Sheryl). On another level she considered how to differentiate the task to elicit students’ understanding of area without relying on students’ being able to read the problem, attending to the individual language needs of students as well.
In post-observation interviews after each lesson Mrs. Hutchins referenced her interest in knowing ‘who’s on board?’ with the concepts and participation within the classroom. In the lessons I observed, Mrs. Hutchins collected data on student performance, keeping track of students’ language use around math concepts:

*Mrs. Hutchins:* I have a notebook where I keep data of kids and what they have said. So, when I sit down with a parent at a conference I can say to them, they can do problem solving on paper, but when it comes to relating it or applying it to another situation where they have to explain to other students, they can’t do that. *(Interview, 1.16.09)*

Through Mrs. Hutchins’ high expectations and monitoring of student progress toward her instructional objectives, she created a class environment that held CLD learners accountable to high standards and expectations, as well as keeping track of where students might need extra support and providing it when needed. This environment of accountability may have contributed to CLD students’ competencies as participants in the classroom discourse. This chapter will now proceed to look at how Mrs. Hutchins developed students’ academic language that may have facilitated student participation in student-led explanations.

*Academic Language Development*

Mrs. Hutchins supported CLD students’ development of academic language through her use of math journals to make mathematical language explicit and her use
of these journals as student-created glossaries. Mrs. Hutchins made math language explicit in a series of two lessons, in which students wrote different explanations of area in their math journals, as well as in her explanation for how to disagree in the classroom, which she described in an interview, but was not directly observed.

In the math journal lessons observed, Mrs. Hutchins addressed the linguistic expectation for explaining the concept of area in a two-part series of activities (Lesson, 12.8.09; Lesson, 12.9.09). In her first lesson, Mrs. Hutchins spent the class session introducing the concept of area by having students act out the difference between area and perimeter by moving to different parts of the classroom, build arrays with given areas with paper squares, and discuss different applications for using area in real life (e.g., buying a new carpet for the school’s computer lab). At the end of this first lesson as a formative assessment, Mrs. Hutchins had students write in their math journals to a third-grader to explain area to help her assess their understanding of the concept up to this point.

In her post-lesson interview (12.9.08), Mrs. Hutchins reflected that most students were able to communicate an accurate depiction of area in simple terms in this task, often by sharing the algorithm, but she did not have a sense of their deep understanding of the concept or a sense of whether they could explain the formula. For example, Adan, a culturally and linguistically diverse learner who had previously exited the ELL program, said in his math journal:
Adan: ‘The area is the opposite of perimeter. If you are trying to measure the area you need to measure the length and width and multiply it. **Length times width are area.**’ *(Math journal, 12.8.08)*

While Adan described the algorithm for calculating area accurately, Mrs. Hutchins was not convinced that he (and others) had the concept of area securely, so she adjusted her instruction the following day. In order to raise the expectations, both mathematically and linguistically, Mrs. Hutchins had the students explain area in their math journals again the next day in class. This time, however, the students wrote to the fifth-grade teacher, Mr. Gunn. By increasing the linguistic demand and changing the audience from a younger student to a teacher, Mrs. Hutchins moved her culturally and linguistically diverse students along a mode continuum (Gibbons, 2006), scaffolding her students’ use of more sophisticated mathematical language. Mrs. Hutchins explained her rationale:

*Mrs. Hutchins:* I changed the plan just a little bit, as far as having them explain. What I did was to have them explain in their journals to a third-grader how you find area. So, now I’ve changed it a bit. Because **now I want them to describe it to an adult.** So, that I can **bring that language up** just a little bit more, just **to see if they’ve really got it.** *(Interview, 12.9.08)*

In order to make her linguistic expectations clear for the task of explaining area to Mr. Gunn, Mrs. Hutchins led a class discussion about how this was different from
explaining area to a third-grader, as they did the day before. She set up the writing assignment for students, positioning them as communicating with Mr. Gunn 'one teacher to another':

_Mrs. Hutchins:_ A student comes in the middle of the year, in December, and has never even heard this word (area) before. And Mr. Gunn (fifth-grade teacher) has to teach this person what area is. Now first of all, what are those students going to need to know in order to solve area? What are they going to need to know? Tell Mr. Gunn how he would solve those area problems, and maybe a good way to talk to his students. So you are going to be telling an adult. This is a little bit different from yesterday. He has to know what those kids need to know. So, you're going to be talking, almost like one teacher to another; you are going to tell him what area is. (Lesson, 12.9.08)

In the class discussion following this explanation, Mrs. Hutchins elicited from students how their explanations to Mr. Gunn would be different from those to the third-graders. Ruta, a CLD learner, claimed there is a 'kid way' to explain math and an 'adult way' (Lesson, 12.9.08). When asked to elaborate on the adult way in a whole class discussion, students claimed an explanation to an adult would 'use complete sentences', 'include a picture', 'give examples', and 'have more information'. When Mrs. Hutchins pressed students to be more explicit about how the language might be
different, students claimed that they might include ‘detail words’ and ‘step by step’ instructions (*Lesson, 12.9.08*).

Table 10

Adan’s Math Journal

<table>
<thead>
<tr>
<th>‘Explain Area to a <strong>Third-grader</strong>’</th>
<th>‘Explain Area to <strong>Fifth-grade Teacher</strong>’</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘The area is the opposite of perimeter. If you are trying to measure the area you need to measure the length and width and multiply it. Length times width are area.’ * (Math journal, 12.8.08)</td>
<td><strong>First</strong> you measure the length and the width. <strong>After you do that</strong> you multiply the length and the width you will get the area. The area is the inside of something. But the outside is the perimeter. * (Math journal, 12.9.08)</td>
</tr>
</tbody>
</table>

In their math journals for this second task, students did include more explanation, and many included an example where they had not the previous day. In the comparison of Adan’s journal entries (Table 10 above), the explanations of area to a third-grader and to the fifth-grade teacher appear side-by-side. While Adan’s explanation to Mr. Gunn, the fifth-grade teacher still featured the algorithm for calculating area, he also explained more about the physical space described by the terms area and perimeter, building on his previous explanation that they are ‘opposite’. Adan also incorporated some of the language for giving step-by-step instructions discussed in class (‘first’, ‘after you do that’) when asked to elevate his explanation of area to match Mr. Gunn as his audience.
In addition to making math language explicit, Mrs. Hutchins claimed that students needed the language to disagree appropriately in order to be able to share their mathematical thinking in student-led explanations. She described how she introduced the idea of disagreeing appropriately with her class at the beginning of the school year:

*Mrs. Hutchins:* I ask students, “**How would you feel if you were that person standing up there** presenting something that you might not be real sure of anyway, and throwing all of your ideas out there for somebody else to just fry.” So, then I **role model,** you raise your hand. **You say, ‘I disagree. I think that’**. They don’t even have to say and here is why. It’s just ‘I think that’.

*(Interview, 1.16.09)*

Here Mrs. Hutchins described how she set the expectation that her students share their ideas and that they disagree with each other as part of the classroom discourse. She described modeling explicitly how to disagree and the language students would need to use in order to so do. In each of the eight lessons I observed, Mrs. Hutchins had students do some sort of student-led explanation in front of the class (e.g., how to describe area, how to label the homework appropriately, how to set up their paper for a survey). Culturally and linguistically diverse learners participated as both demonstrators and questioners in each of these lessons to an equitable degree compared with their native English-speaking peers (see Table 9 above). Though I did not observe the discussion Mrs. Hutchins’ described about how to disagree, since that
happened at the beginning of the school year, I did observe students taking up this language in response to student-led explanations.

Mrs. Hutchins also had students use math journals to record their mathematical thinking and new math vocabulary. In the class sessions observed on both area and probability, Mrs. Hutchins regularly had students make entries in their journals, which she monitored for accuracy. In addition to having students explain area to two different audiences (a third-grader and the fifth-grade teacher) in the probability unit, Mrs. Hutchins also had students share results of a coin toss and dice game in their math journals and make predictions as to whether the results would be even and odd. Students were later asked to revisit these predictions from their journals with a partner, which encouraged them to access their own explanations again, and enabled culturally and linguistically diverse learners to access language modeled by native English-speaking peers. Mrs. Hutchins also used student math journals as ‘glossaries’ for her students to use for reference for academic language:

Mrs. Hutchins: I notice that kids will say, ‘Perpendicular?’ And I see them filing through their math journal, because it is like a glossary in a way. I mean they go back and they can pinpoint, because they have drawn pictures in there. They’ve shown what their, what kind of the step by step process is.

(Interview, 1.16.09)
In developing the academic language CLD students may have needed to participate in student-led explanations, Mrs. Hutchins made linguistic explanations in math communication explicit for students and used math journals as glossaries for student reference. Chapter 4 will now continue with an explanation of the instructional practices Mrs. Hutchins employed that may also have facilitated her CLD students' participation.

**Instructional Practices**

Mrs. Hutchins employed instructional practices in the lessons observed that also may have supported her CLD students' participation in student-led demonstrations, including her emphasis on standards as the basis for rigorous expectations in her instruction, along with the allowance for extra time for students to complete assignments and get reinforcement in math concepts. Mrs. Hutchins kept anecdotal records of students' grasp of different instructional objectives within the math units observed, which she called 'breaking down tasks'. This practice may also have supported her CLD students' participation by helping her target instruction where students needed it. In addition, Mrs. Hutchins made attempts to connect content concepts to real-life situations through her use of arts integration and physical movement to help reinforce concept development during math instruction.

In interviews, Leticia and Daniella, CLD learners, both mentioned rigor and challenge as reasons they like Pinecrest and Mrs. Hutchins. When I asked Leticia, who
was receiving ELL support at the time of this study, how she felt about her class and her school, she replied:

*Leticia: I like Pinecrest better than my old school. They teach you so much and I can learn more things. I like it because it’s harder, because I can learn more things. (Interview, 1.16.09)*

Daniella, a culturally and linguistically diverse student whose parents refused ELL services in kindergarten, claimed she ‘loves a great challenge’ *(Interview, 1.12.9).* When asked to elaborate on why she likes fourth-grade Daniella says:

*Daniella: I love fourth-grade, I’m learning all these new stuff. It really challenges us so we can think more. (Interview, 1.12.09)*

In interviews, Mrs. Hutchins spoke of explicitly showing her students the grade level math standards she expected them to learn:

*Mrs. Hutchins: I show them the book (standards document). I held it up and said ‘this is my job, this is your job. And these are the things that you need to know. I think kids should know that. (Interview, 1.16.09)*

Within her lesson sequence (Table 11), Mrs. Hutchins also had times built-in each day that allowed her to meet with students individually to either differentiate their assignment or to support them with reinforcement of concepts.
Table 11

Mrs. Hutchins' Lesson Sequence

<table>
<thead>
<tr>
<th>Part of Lesson</th>
<th>Group Structure</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry Task - Ticket to recess</td>
<td>Individual (Teacher circulating)</td>
<td>Reinforce number sense and other math skills, formative assessment, reinforce of concepts as needed (Opportunity for differentiation)</td>
</tr>
<tr>
<td>Introduction to unit (Done once per unit)</td>
<td>Whole group, individual, partners</td>
<td>Connect to previous unit, introduce new concepts and vocabulary, formative assessment</td>
</tr>
<tr>
<td>Introduction and set up for lesson</td>
<td>Whole group; Student explanations</td>
<td>Connect to previous lessons, background knowledge, review, build concept, set up task</td>
</tr>
<tr>
<td>Student work and application of concept</td>
<td>Individual, partner, small group (Teacher circulating)</td>
<td>Student practice, apply concept</td>
</tr>
<tr>
<td>Math journal</td>
<td>Individual, partner sharing, gallery walk</td>
<td>Build academic language, formative assessment, use of math language</td>
</tr>
<tr>
<td>Group share back/walk-around</td>
<td>Whole group</td>
<td>Model, check for understanding Share student responses</td>
</tr>
<tr>
<td>Recess time</td>
<td>Individual</td>
<td>Homework and/or Entry Task completion, extra help if needed (Opportunity for differentiation)</td>
</tr>
</tbody>
</table>
While Mrs. Hutchins used her entry time each day to support individual students needing reinforcement, she also expected students who did not complete part of the math assignments to stay in during recess for extra help. She called the entry task assignments students complete each day their ‘tickets to recess’ and collected them as students walked out to the playground for recess at the end of each lesson. As Mrs. Hutchins collected them, if she noticed someone was struggling on the task or had not completed it accurately, she had them stay in class to receive help. In the two weeks of my observations, she had at least one or two students stay in each recess with her for extra help, including CLD students. It appeared that students had internalized the expectation that their work needed to be complete and accurate, because no one disagreed with her when she asked them to stay in to work. The school principal described Mrs. Hutchins as a ‘whatever it takes’ (*Interview, 12.5.08*) teacher who supports the learning of all students. When asked about her philosophy of teaching, Mrs. Hutchins replied:

*Mrs. Hutchins:* My philosophy is that you expect as much as they can handle. And you have to assess that, yes. You’ve got to get an idea of where they are at the beginning of the year. But my expectations are the same for them (CLD students) as they are any other student in my class... It’s not always written on paper. I mean sometimes they’re performing in an oral presentation. Sometimes they’re performing in a situation where they have to do something with a partner. (*Interview, 1.16.09*)
In my observations, Mrs. Hutchins carried a clipboard during student work times, recording both anecdotal information and using a checklist, on which she recorded which students could compute the area of a figure, explain area to a third-grader, explain teaching area to Mr. Gunn, etc. She used these notes at both the entry task time (before her math lesson) and at recess (after her math lesson) to meet with students individually to reinforce concepts that she identified as insecure for particular students. This practice enabled her to support students to meet standard while keeping students on pace together with the whole group instruction. Mrs. Hutchins articulated this practice as 'breaking down (each) task' (Interview, 1.16.09) as a way to support students by thinking through each separate component of a lesson or a concept that students need to learn. She claimed this allowed her to identify and target instruction where students might need support in specific areas. In an interview, as Mrs. Hutchins broke down the area unit she would be teaching, she was very specific about the content and language students would need to master to be successful with the concept:

Mrs. Hutchins: So, **length and width**. Most fourth-graders don’t know the difference. Then of course they have to know the **multiplication skills**. And so when you are talking about **multiples, doubles**, because they are going to do a problem where they have to actually solve the problem and double it...The most important vocabulary will just be the **working vocabulary** of it, how you put something on **grid paper**. What does grid paper actually mean? And you
transfer something, which is a mathematical problem, into a visual for yourself – and just understanding what a visual is. (Interview, 12.8.09)

Breaking down the task of finding the area of an object into its component skills enabled Mrs. Hutchins to identify in which components her students may need help.

In a post-lesson interview, Mrs. Hutchins described the understanding her students had the previous day during the introduction to area as specific components of the task:

Mrs. Hutchins: I saw that …most of them understood arrays. It’s when we got to talking about area and finding area. They know how to count squares, but when it came to actually making the leap from an array to area, I lost some of them, five or six. (Interview, 12.9.08).

In addition to breaking down tasks, Mrs. Hutchins also integrated art with math, used physical activity, and created real-world contexts for CLD students to engage in the lessons observed. Mrs. Hutchins’ culminating activity for her unit on area involved students generating various rectangular shapes meeting specific criteria to be included in a Mondrian-inspired art piece, which she claimed was the ‘initiative for this (unit) and the motivator’ (Interview, 12.8.08).

When I asked the CLD students about their favorite subject in school in interviews, two of the students, Leticia and Daniella, both mentioned art as one of their
favorite subjects. Daniella found her artistic ability to be a source of pride, which she connected to math:

*Daniella:* I really like art because I can express my feelings in art. I really like it. Everybody thinks I am really good, and when they give me comments (compliments), it makes me feel better. I like math too. *(Interview, 1.12.09)*

Leticia shared how art helps her understand math, claiming that the visual representation (pictures) helped her understand the mathematical concepts:

*Leticia:* Art is my favorite subject because I always did art and my brother is an artist. So, he’s teaching me how to do it. I like when we get to do our own designs (for the Mondrian math activity). It teaches me because I don’t really know math that much, it help me. And the pictures help me more. *(Interview, 1.16.09).*

It is difficult to determine how the integration of art into Mrs. Hutchins’ math instruction may have supported CLD students’ math understanding, or whether this integration may have created the perception of math as being easier because it included artistic representation. Either way, both of these CLD students spoke of being more engaged and successful with math in their interviews as a result of the integration of art and math. Mrs. Hutchins described the integration of an art-based performance
assessment with culturally and linguistically diverse students as an opportunity for language development:

*Mrs. Hutchins:* The art tends to be the best way that I have found in putting the ELL kids at an advantage, because they have some way to transfer that without always having it on their math journal, or always associating it with something that has to do with numbers. It’s putting it into an art form, where they are using that language over and over. ‘OK, what’s the area of this section of your piece?’ And having them talk about it. *(Interview, 12.8.08).*

Another way Mrs. Hutchins supported CLD student engagement with content was through her use of physical activity and movement during her math instruction. In each math lesson I observed, Mrs. Hutchins had students stand up and move around the room at least once. In one lesson, students moved around the room during instruction to demonstrate where the area is versus the perimeter of the classroom *(Lesson, 12.8.08).* In another lesson students did a gallery walk and physically walked around the room, looking at each other’s math journals *(Lesson, 12.9.08).* In a lesson about probability in which she collected data about how many siblings each student has, Mrs. Hutchins had students stand up if they had one, two, three, four, or five siblings *(Lesson, 1.14.09).* The opportunity for physical activity helped break up lessons for students and may have provided CLD students an opportunity to physically
demonstrate their understanding, as an alternative to other modes (e.g., numbers, writing, manipulatives).

In addition to integrating the arts and physical activity as a means of engaging students within the content, Mrs. Hutchins also used real-world applications to help students make meaningful connections with new math concepts. Throughout the unit on area, students calculated the area of the school's computer lab (Lesson, 12.8.08), wrote a letter to the school's fifth-grade teacher about how to teach area (Lesson, 12.9.08), and created their own Mondrian-inspired art piece using rectangles for which they had calculated the area and perimeter (Lesson, 12.11.08). During the unit on probability, each student had a different set of data to gather from students and staff at Pinecrest (Lesson, 1.14.09). Each student organized and collected his or her own survey data, on subjects ranging from favorite school subjects, time spent watching television, and favorite colors. Throughout the math lessons observed, Mrs. Hutchins structured activities to have real-world applications that students accessed through first-hand experience.

Summary

Mrs. Hutchins facilitated CLD student participation in her class through the use of student-led explanations, as the example in this chapter has illustrated. Mrs. Hutchins established a class environment of high expectations, where she monitored students' progress toward meeting her goals, and provided extra time and support when
needed. Mrs. Hutchins made the math language expectations explicit for students through her assignment when students explained area and her use of math journals as glossaries, which may also have supported CLD students with the academic language to participate in student-led explanations. Mrs. Hutchins used standards as the basis of her planning and instruction, while providing students with time and support in meeting these standards, in addition to providing students with real-world connections for math concepts. These instructional practices may also have contributed to the competencies that Mrs. Hutchins' students demonstrated in their participation in student-led explanations.

Chapter 5 will now follow with a synthesis of the findings from both Mrs. Schaeffer's case and Mrs. Hutchins' case, to examine the similarities and differences in how these teachers facilitate CLD student participation. In addition, Chapter 5 will look at both cases to address my secondary research question: In what ways are teachers enabled to facilitate participation of CLD students?
CHAPTER 5: CROSS-CASE ANALYSIS

Chapters 3 and 4 of this dissertation provided analysis of how Mrs. Schaeffer and Mrs. Hutchins facilitate participation with their culturally and linguistically diverse learners during math instruction. Chapter 5 will proceed with a discussion of the similarities and differences between the two teachers in their facilitation of CLD participation. This chapter will then refer to my sociocultural perspectives (see Figure 2 above) to help me address my secondary research question: In what ways are teachers enabled to facilitate participation of CLD students? Chapter 6 will continue by discussing the contributions of this study, in addition to the implications of this research on teacher preparation for mainstream teachers working with CLD learners.

Throughout this dissertation I have looked at how teachers employ exemplary practices to answer my research question: In what ways do teachers facilitate the participation of CLD students? While both teachers included in this study employed nontraditional participation structures, these two case studies illustrate that exemplary practices and CLD student participation can be enacted in different ways depending on various contextual factors. I refer back to my sociocultural perspectives on classroom interactions (Figure 2) to help me look at my secondary research question to explore how factors within the institutional setting, as well as those specific to the particular teacher and students, can shape classroom interactions. In particular, I will explore how teacher networks and structures within the institutional setting can enable teachers to facilitate participation of CLD learners as demonstrated in the cases of Mrs.
Schaeffer at Salmon Falls and Mrs. Hutchins at Pinecrest Schools. I will also explore how teacher factors, including knowledge base and experiences, attitudes, and beliefs, can shape interactions, as well as the cultural and linguistic resources and prior learning students bring to the classroom.

Exemplary Practices Facilitating CLD Student Participation

Cazden (2001) identifies traditional classroom discourse as following an initiation-response-evaluation (IRE) structure, in which teachers initiate and evaluate student responses. In nontraditional structures, the communication is not teacher-centered. In nontraditional lessons, the teacher places more of an emphasis on using classroom interaction, not merely as an opportunity to check and evaluate understanding, but also to facilitate students’ development of understanding through clarifying ideas and extending each other’s thinking, as well as participating in the academic discourse.

A key similarity across Mrs. Schaeffer’s classroom and Mrs. Hutchins’ classroom was each teacher’s use of nontraditional participation structures with an emphasis on positioning students as experts. Mrs. Schaeffer positioned her students as experts through her implementation of instructional conversations, student-to-student interactions focused on a specific instructional objective (Goldenberg, 1991), while Mrs. Hutchins used student-led explanations to position her students as knowers and take her ‘out of the picture’ (Interview, 1.16.09). Use of these nontraditional
participation structures in the examples provided shifted control from the teacher to students.

By positioning students as experts, each teacher placed high instructional expectations on her CLD students and provided them the opportunities to meet these expectations as participants within the classroom Discourse. In Mrs. Schaeffer’s room, this took the form of instructional conversations, in which students engage in content-related dialogue. In one example, students were called upon to convince each other whether given shapes were ‘fair shares’ (*Lesson, 3.19.07*). Instead of providing students the answer, Mrs. Schaeffer engaged her students in a discussion in which they were called upon to convince each other. This positioned students as experts, with Mrs. Schaeffer serving to facilitate the conversation, not evaluate it.

Mrs. Hutchins employed student-led explanations in each lesson observed, providing students, including CLD learners, the opportunity to lead class discussions as experts. Mrs. Hutchins positioned students as experts regularly as they engaged in student explanations at the front of the class. Mrs. Hutchins called upon students in each of the lessons observed to demonstrate or explain a variety of skills, including calculating the area of a rectangle using cubes and revising a dice game to make it fair. Mrs. Hutchins talked about taking herself ‘out of the picture’ (*Interview, 1.16.09*), in order for students to own the knowledge themselves. As Mrs. Hutchins claimed, she ‘need(s) to remove (her)self entirely and give them (the students) some ownership’ (*Interview, 1.16.09*). In the each classroom, the teacher positioned the students as
experts and shifted her role in the interaction to more of a facilitator and less of an evaluator. Through the practice of positioning CLD learners and other students as experts, each teacher held students to high expectations and encouraged active student participation.

From the perspective of academic language development in the two classrooms, both teachers followed a routine of identifying the vocabulary demands of a unit, providing instruction in specific academic language, and in the case of Mrs. Hutchins, assessing students' use of this academic language within math instruction. Looking at instructional practice, the most significant similarity across both classrooms was each teacher's emphasis on rigorous instructional objectives based on standards for all students, including culturally and linguistically diverse learners. While both teachers also provided differentiation and meaningful connections and engagement of students, they placed a similar emphasis on implementing high instructional standards as the focus for math planning and instruction. I will now describe the similarities and differences between Mrs. Schaeffer and Mrs. Hutchins in their enactment of exemplary practices in academic language development and instructional practices and how these may have shaped their facilitation of CLD learner participation.

As research suggests, teachers of culturally and linguistically diverse learners need to make 'the linguistic … foundations (within a content-area discourse) visible and explicit' (de Jong & Harper, 2005). Both teachers featured in this study established regular instructional routines around making linguistic expectations explicit
and supporting students' acquisition of academic language. Both teachers also paid attention to the vocabulary and language structures needed to communicate within the academic register in reading, writing, listening, and speaking. The instructional routines for incorporating academic language development employed by Mrs. Schaeffer and Mrs. Hutchins involved three steps, identification of key vocabulary, instructional activities that made the language of math explicit, and the regular monitoring of students’ language acquisition, with adjustments to instruction as needed. I will now discuss how both teachers employed instructional routines to support the academic vocabulary development of their culturally and linguistically diverse learners.

In order for a classroom teacher to support academic language development of culturally and linguistically diverse learners, she first needs to identify the language demands students will face as they encounter new content to be covered. As they planned the units of instruction included in this study, both Mrs. Schaeffer and Mrs. Hutchins paid particular attention to the vocabulary students would need to know in order to be successful with the content. Mrs. Schaeffer began her *Fair Shares* unit (Tierney & Berle-Carman, 1995) by adding an activity in which students explore the meaning of ‘fair’ and ‘share’ in her first lesson. She planned each subsequent lesson to include both a content objective and language objective, to support the language development of her culturally and linguistically diverse learners. Similarly, Mrs. Hutchins identified the vocabulary and language that students would find difficult in
her area unit, and planned her use of math journals as student-made glossaries for students to reference.

Once Mrs. Schaeffer and Mrs. Hutchins identified the key vocabulary and mathematical language students would need, each teacher implemented an instructional routine to support students' acquisition of the new language throughout the unit. Mrs. Schaeffer used her math word wall to introduce and reinforce mathematical language. In addition, Mrs. Schaeffer started each of her lessons by explicitly stating the content and language objective for each lesson, which Mrs. Hutchins did not do. This practice enabled Mrs. Schaeffer to focus her instruction on both the content learning and language development of her students throughout the unit. The development of language objectives is believed to help students develop the academic language of the classroom and create awareness in the classroom teacher of how language development and content learning can complement each other in the classroom.

Mrs. Hutchins used math journals and student explanations to give students practice with the new vocabulary and language required within the unit. Mrs. Hutchins had students use math language in student-led explanations in each of the math lessons observed, providing her culturally and linguistically diverse learners equitable opportunities to hear and use this new content-area language regularly. While both teachers included in this study paid attention to the language use of their culturally and linguistically diverse learners, Mrs. Hutchins was particularly intentional in the assessment of her students' language use during class discussions and in their math
journals. She monitored students' language use through anecdotal records and checklists. She also monitored the language use in students' math journals and made adjustments to her instruction to provide students' more opportunities to acquire and use new vocabulary as needed. For example, when Mrs. Hutchins had students explain area to a third-grader in their math journals, she did not feel she elicited the academic language she was targeting, so the next day she had students write to the fifth-grade teacher, in order to elevate the linguistic and cognitive demand of the task. While Mrs. Schaeffer paid close attention to students’ language use during her math instruction, her assessment practices focused on the content objectives she articulated, not specifically the language objectives. This chapter will now discuss each teacher’s implementation of best instructional practice with their culturally and linguistically diverse learners, particularly through their focus on state math standards.

Cognitive challenge and rigor for all students are essential for culturally and linguistically diverse learners to reach high standards (Bunch, et al., 2001; Lucas, et al., 1990). Research also indicates that teachers need to provide meaningful connections to students’ previous experiences in order for students to feel valued and engaged within the classroom (Jiménez, 2000). A striking similarity between the instruction of Mrs. Schaeffer and Mrs. Hutchins was their emphasis on rigorous instructional standards for all students. Both Mrs. Schaeffer and Mrs. Hutchins paid particular attention to the state math standards as the core of their instructional planning and implementation. Both teachers started their planning with an idea of the standards they intended to teach
as the focus, not merely the next pages in the math book. Mrs. Schaeffer, who teaches in a district with common unit assessments, started with the district assessments to plan her fractions and geometry units, and used these assessments to help her cull out the standards she would be teaching. She then evaluated her materials and adapted them to meet her students’ needs and to address the assessed standards.

The district in which Mrs. Hutchins teaches does not use common district math assessments. Instead, Mrs. Hutchins started her planning with the state standards for area and probability. She then looked at the district curriculum for alignment. She supplemented this curriculum to address the standards and meet the needs of her learners. In interviews, Mrs. Hutchins discussed sharing the text of the standards explicitly with students, and using the standards as the framework for designing her lessons. Throughout her unit, Mrs. Schaeffer also shared expectations explicitly with students by stating of the content objectives for each lesson. Each teacher started her planning process with a clear sense of what all students needed to learn during the course of the unit, then she designed the instruction to match these objectives and support students in meeting them.

While each teacher provided CLD students with cognitive challenge and rigor by planning and implementing math instruction based on grade-level standards, they also provided students with differentiation to support their learning, by providing more time as needed, as well as regularly monitoring student progress. Both teachers took substantially more time to implement their math units than prescribed by curriculum
guides. Mrs. Schaeffer taught a four-day lesson (as suggested by her district) in seven sessions, building in more time for students to talk about the concepts and connect to the content through real-world examples. Mrs. Hutchins built in instructional time in each day of observations to differentiate her support of students through her use of the entry task and recess times for individual instruction. Another key to providing differentiation was each teacher's use of formative assessments. Both teachers regularly monitored who was 'on board' or understanding a concept and made adjustments as needed.

Factors Enabling Teachers to Facilitate CLD Participation

While Mrs. Schaeffer and Mrs. Hutchins demonstrated some similarities in how they facilitated CLD student participation, there were some key differences as well. In particular, there were differences in the institutional setting, teacher background, and student backgrounds that comprise the sociocultural contexts within which these classroom interactions took place. This chapter will now proceed by employing my sociocultural perspective to look at the context in which teachers operate to explore the factors that address my secondary research question: In what ways are teachers enabled to facilitate participation of CLD students?

Institutional Setting

Research that looks into the social contexts in which teachers are situated explores how teachers operate within 'cultures' (Kleinsasser & Savignon, 1992) and
social organizations (Rosenholtz, 1989). Analysis into the school cultures of Salmon Falls and Pinecrest in terms of collaboration may shed light on how teachers are enabled to facilitate CLD student participation. A central theme emerging from interviews with Mrs. Hutchins, as well as with the school principal and ELL teacher, was that of school-wide collaboration and functioning teacher networks at Pinecrest. The school principal cited the need to support Pinecrest’s diverse population as the motivation for ongoing collaboration among staff:

*Principal:* Our demographic is one of those sort of in your face demographics, where you **don’t really get to coast along and do some of the traditionally difficult to overcome things like teachers working in isolation in their classrooms.** I mean folks here have been, there’s a **long-standing practice of being very collaborative** about instruction. And that ranges the full gambit of **co-planning happening at every grade level.** In a lot of circumstances, in many circumstances, **co-teaching, sharing students…** *(Interview, 12.5.08)*

In several interviews, Mrs. Hutchins used the term ‘we’ when talking about her planning. When I asked her if this referred to her grade level partner, she elaborated:

*Mrs. Hutchins:* Yes (in reference to her grade level partner). We don’t do it exactly the same, and we don’t do it exactly the same time, because our groups are very different. But we **do plan our units together. We share ideas constantly.** It’s very **nice to have somebody** that, well our **whole building**
They all work together like that. We have to in order to get it done.

(Interview, 12.10.08)

In interviews, Mrs. Hutchins claimed that ‘we need to do a really good job of using those terms every single day’ (Interview, 1.16.09) and discussed how she involved her colleagues in supporting her CLD students’ academic language acquisition:

Mrs. Hutchins: It can’t just be when you’re doing a unit on addition, or you know, whatever it is. It has to be used down the hall, it has to be used, you know, every place in the school... The music teacher and I and the librarian, we’ve done this for a long time, it was very informal, talking in the hall. If you tell them you are working on symmetry, then there’s dance in music. Mr. Peabody does symmetrical lines, I mean all of those things they can build on too. But the vocabulary, if they hear it in other places besides their own classroom, that’s the benefit. (Interview, 1.16.09)

According to interviews with the ELL teacher, Mrs. Hutchins regularly communicated the academic language her culturally and linguistically diverse learners needed with her for pre-teaching and re-teaching. Claudio, a culturally and linguistically diverse learner in the ELL program at the time of this study, described it as helpful when he learned vocabulary with the ELL teacher and could bring back this knowledge to Mrs. Hutchins’ class:
*Claudio:* The **words that I don’t understand make it hard** (probability). The **words that I already know make it easy**. Some of the words she (Mrs. Hutchins) uses, we do in power hour, in reading block (with the ELL teacher).

**We have some words from Mrs. Hutchins with Mrs. Simons** (ELL teacher). If we don’t know it, she (the ELL teacher) tells us and we can remember it.

**When Mrs. Hutchins asks a question, I can raise my hand and know it.**

*Interview, 1.15.09*

This collaboration may have supported her implementation of exemplary practices and facilitation of the participation of CLD students. Mrs. Hutchins cited the collaborative involvement on a school-wide arts integration team last school year as the reason she integrating art within her content-area instruction. According to interviews with Mrs. Hutchins and the ELL teacher, Mrs. Hutchins also worked regularly with the ELL teacher to share content terminology her ELL students would need so the ELL teacher could pre-teach and reinforce those concepts to help develop academic language with her CLD students. In her instruction, Mrs. Hutchins cited collaboration with her colleagues as key to enabling her to differentiate for students with a range of abilities.

The culture of collaboration and teacher networks was not evident in data collected at Salmon Falls with Mrs. Schaeffer. While her school implemented an ESL facilitator model, which is defined based on collaboration between the ESL teacher/coach and classroom teachers, this collaboration was not evident in
observations and interviews collected with Mrs. Schaeffer and her colleagues. The ESL teacher/coach claimed that since Mrs. Schaeffer was working on her ESL endorsement and had background in the area, she did not feel it was necessary for them to work closely together.

The school context and institutional structures at Pinecrest established an expectation of challenge with differentiation for all students. The school had an established structure called the Assistance Team, or A-Team, designed to support all learners to meet standards. Pinecrest’s A-Team consisted of the principal, a primary teacher, an intermediate teacher, the reading specialist, ELL teacher, and special education representatives. The school principal described the purpose of the A-Team:

*Principal:* It’s essentially our internal *intervention process* starting point, where a teacher in a classroom sees a kid who is just based on the data – formal, informal – noticing that a child is just not where they need to be *relative to standards* for that grade level... We basically just sit down, gather information...and then *generate the to-do list, action steps.* Usually *multiple staff members are working with a kiddo* that comes to the table. And (we are) getting grounded about *what we are doing, what we could try next.*

*(Interview, 12.5.08)*

The A-Team at Pinecrest was not a Student Study Team (SST), which can be a structure schools use to discuss students whom they may be considering for special
education referral. The A-Team was an intervention, or assistance, team designed to support classroom teachers with ideas from their colleagues about how to help all students succeed. Staff at Pinecrest developed the A-Team structure, so they have defined and refined the process over time. This was not a district mandate. While other schools in the district had modeled A-Teams after the Pinecrest model, there was no district initiative regulating its use. The A-Team was a structure that teachers at Pinecrest embraced as a support to help them meet the needs of all their students as a team of educators collaborating regularly around instruction for all learners. It is within this school environment that Mrs. Hutchins maintained high standards for her fourth-graders in the lessons I observed.

At the time of this study, Pinecrest as a school partnered with a local university's College of Education, participating within a network of districts engaged in reflective inquiry around closing the achievement gap and delivering culturally responsive teaching. As part of their involvement with this network, teachers at Pinecrest participated in ongoing professional development with university faculty around these issues. This partnership with the university created a school environment of reflection and inquiry into meeting the needs of diverse learners.

The institutional settings at Salmon Falls and Pinecrest provided different sociocultural contexts within which Mrs. Schaeffer and Mrs. Hutchins taught. Mrs. Hutchins had teacher networks focused on collaboration, as well as the school structure of the Assistance Team, on which to draw to support her facilitation of CLD learner
participation. Interviews with staff at Salmon Falls, including Mrs. Schaeffer, indicated that Mrs. Schaeffer did not access these kinds of institutional resources, which may have created further opportunities to support facilitation of CLD student participation.

Teacher Factors

Freeman and Johnson (1998) remind us that ‘prior knowledge is a powerful factor in teacher learning in its own right’ (p. 401), and that the experiences and knowledge teachers bring to the classroom can play significant roles in shaping their instructional practice. Research explores the knowledge base and backgrounds of mainstream teachers of CLD learners (de Jong & Harper, 2005; Fradd & Lee, 1998; Freeman & Johnson, 1998; Johnson, 2006; Lucas, et al., 2008), looking at how these factors can shape teachers’ practice. For example, research has indicated that mainstream teachers who have an understanding of the language demands of the content they teach and cultural resources students bring (de Jong & Harper, 2005; Lucas, et al., 2008) as part of their knowledge base, may be better equipped to support the needs of diverse learners in the content-area classroom. This suggested knowledge base for mainstream teachers of diverse learners includes the linguistic demands of their specific content areas, as well as cultural factors that may impact how students interact with new concepts.

At the time of this study, Mrs. Schaeffer was in pursuit of her Master’s degree in English as a Second Language and her ESL endorsement, therefore in the process of
developing a knowledge base around ESL methodology and bilingual/bicultural children. Use of the SIOP framework was central in Mrs. Schaeffer’s university coursework around instruction for English language learners, and her use of language objectives in her math instruction may be one indication of her application of this knowledge base she was developing (Echevarria, et al., 2004). Mrs. Hutchins, on the other hand, did not have the opportunities to develop this knowledge base. She did address the vocabulary demands that her CLD students faced through her use of math journals and student explanations, perhaps drawing upon her years of experience as a classroom teacher with diverse learners. But Mrs. Hutchins did not have the knowledge base of ESL content-area methodology that Mrs. Schaeffer had, upon which to draw.

**Student Factors**

CLD learners in Mrs. Schaeffer’s and Mrs. Hutchins’ classes each brought different cultural and linguistic resources to the classroom. According to interviews, students in both classes, including Amadi in Mrs. Schaeffer’s class and Adan and Leticia in Mrs. Hutchins’ class, were in the process of developing some degree of literacy in their native languages. In his student interview, Amadi shared that his family works with him at home in his native language, Arabic, as well as teaching him math in Arabic. Both Adan and Leticia reported in interviews that they are studying literacy in their native Spanish through their church. These students all bring with them a certain level of literacy and academic proficiency in their native language that
may support their successful participation in the classroom discourse in English. Both teachers created school-based experiences for culturally and linguistically diverse students to access (e.g., calculating the area of the computer lab or sharing brownies), but neither created opportunities for CLD students to make specific connections their cultural or linguistic funds of knowledge during lessons observed. While teachers may not have created explicit opportunities for these students to draw upon their cultural and linguistic funds of knowledge, the fact that these students had varying degrees of native language literacy may have enabled them to participate successfully within the classroom discourse.

Summary

Chapter 5 has explored how both Mrs. Schaeffer and Mrs. Hutchins employed components of exemplary practices and facilitated CLD learner participation, with similarities in their use of nontraditional participation structures; routines for identifying the linguistic demands of the content and addressing these demands in their instruction; their use of content standards as the basis for planning and differentiating instruction and formative assessment with culturally and linguistically diverse learners. In this chapter I have explored how the contexts within which teachers teach and the experiences they and their students bring all can shape teachers’ facilitation of CLD learner participation in the classroom. Chapter 6 will now proceed to conclude this study with discussion of how the understanding of exemplary practices and the
facilitation of CLD participation through these two cases can inform teacher preparation and further research in the area of education for culturally and linguistically diverse learners.
CHAPTER 6: CONCLUSIONS ON THE PARTICIPATION OF CLD STUDENTS

I have employed a sociocultural perspective (Gee, 1989, 1996; Gibbons, 2003, 2003, 2006; Moschkovich, 1999, 2002, 2007; Zuengler & Miller, 2006) with this study of exemplary practices in mainstream classrooms, which has enabled me to look beyond the linguistic demands of acquiring a discourse, to examine the social implications of culturally and linguistically diverse students participating within the classroom Discourse. It is through this perspective that I have explored how teachers facilitate CLD learners' participation in mainstream classrooms. By looking at participation of culturally and linguistically diverse learners within the math classroom as well as acquisition of mathematical terminology, teachers can provide CLD learners a more equitable experience in the classroom and within the classroom Discourse than we would by looking merely at language acquisition alone. A goal for this study has been to synthesize the bodies of literature around academic language development, best instructional practice, and equity to provide detailed descriptions of what exemplary practices and CLD learner participation look like enacted in real classrooms.

A key finding of this study was that both Mrs. Schaeffer and Mrs. Hutchins employed nontraditional participation structures in their math instruction. These nontraditional participation structures functioned to both hold students to high standards around mathematics discourse, and to facilitate active CLD student participation. Mrs. Schaeffer used instructional conversation as a discourse pattern to engage students in authentic, goal-oriented student-to-student dialogue. Mrs. Hutchins
used student-led explanations for the same purpose in her classroom. Together these examples demonstrated the power of nontraditional participation structures, in which students actively participate, as key to providing culturally and linguistically diverse learners access to the classroom Discourse.

This chapter will begin by discussing my re-conceptualization of academic language through this sociocultural lens and the implications of this consideration of acquisition and participation with academic language for teachers working with CLD learners. I will then discuss how considerations of school context and a focus on teacher knowledge base can inform both teacher preparation and research in the field of education for culturally and linguistically diverse learners.

Complicating BICS and CALP

One goal of this dissertation has been to complicate our traditional notion of BICS and CALP through my sociocultural framework, which views language as a resource for participation in the classroom discourse. Our traditional notions around the dimensions of a language include conversational fluency, or Basic Interpersonal Communication Skills, and academic language, or Cognitive Academic Language Proficiency. These dimensions have been viewed as different lexicons students need to acquire, with differing levels of cognitive demand and contextual cues (Cummins, 1980, 1981). This dissertation complicates these views by exploring exemplary practices and CLD student participation within mainstream classrooms, which
highlight, not only the linguistic demands, but also the social demands of participating within the content-area classroom Discourse.

The two classrooms in this study demonstrated situations where teachers facilitated students with both the acquisition of academic language and participation in the classroom Discourse through nontraditional participation structures where students were called upon to use academic language to engage in content-focused dialogues. In the instructional conversation in Mrs. Schaeffer’s class, Dolores and Amadi convinced other students that the two sets of shapes indeed represented the same size (see Chapter 3). This dialogue offered them the opportunity to defend and explain their mathematical thinking using appropriate academic language. Mrs. Hutchins’ student-led explanations (see Chapter 4) also afforded her students opportunities to use academic language and participate in the classroom Discourse. These examples of nontraditional participation structures enabled the culturally and linguistically diverse students in this study to engage as participants in mathematical discourse as well as demonstrating their competencies in using the academic language.

Using a sociocultural lens to look at classroom Discourse allows us to view academic language development alongside equitable access for culturally and linguistically diverse learners, in addition to the instructional decisions teachers make when teaching CLD learners content, complicating our traditional notion of academic language proficiency as something to be merely acquired. This perspective calls for researchers and educators to take on an agenda that examines not only teacher practice
around CLD students’ language use in the classroom, but also calls upon us to consider their equitable participation within the classroom Discourse community. This chapter will continue with a discussion of implications for both teacher preparation and research in the area of classroom instruction for culturally and linguistically diverse learners.

The field of research in best instructional practice for culturally and linguistically diverse learners in the content-areas is growing (Dalton, 1998; Doherty, et al., 2003; Echevarria, et al., 2004; Tharp et al., 2000), particularly in the area of math instruction (Barwell, et al., 2005; Civil, 2007; Gutiérrez, 2002; Khisty, 1992; Moschkovich, 1999, 2002, 2007). Instructional models for delivering content to culturally and linguistically diverse learners, such as the SIOP model (Echevarria, et al., 2004) and the CREDE standards (Dalton, 1998; Doherty, et al., 2003; Tharp et al., 2000), both offer look-fors and rubrics for evaluating classroom instruction. While these look-fors can be helpful in planning instruction for culturally and diverse learners, this dissertation builds on this research by exploring how exemplary practices can be employed to support the participation of culturally and linguistically diverse learners in the mainstream classroom.

Institutional Support and Preparation for Teachers of CLD Students

This study bears out the need for research in the area of how schools as social contexts support teachers to engage in exemplary practices with CLD learners, in
particular in looking at the collaborative school environment of Pinecrest Elementary. As Freeman and Johnson (1998) claim, ‘schools are powerful places that create and sustain meanings and values’ (p. 409). With this study we saw how Mrs. Hutchins was enabled to access teacher networks within her school setting to support her CLD learners’ vocabulary and concept development, which may have in turn facilitated their participation within the classroom Discourse. In addition to active teacher networks supporting collaboration, Pinecrest also had the structure of the Assistance team, which supported teachers in maintaining high expectations for diverse learners. Mrs. Schaeffer did not appear to have access to these kinds of supports from the data collected, which may have impacted her ability to facilitate CLD learner participation in her classroom. Further research in how diverse schools create settings, which may support teachers with CLD learners, is indicated to explore the ways in which different school cultures, networks, and structures may shape teacher practices with CLD learners.

From a sociocultural perspective, Johnson (2006) claims that teacher learning is situated and social, just like student learning. She argues that if we want to see shifts in how teachers support CLD learners we need to ‘redraw the boundaries of professional development’ (p. 243) to support teachers with developing this new knowledge base in addition to the ‘just good teaching’ knowledge base teachers already have in addition to supporting teachers to engage in exemplary practices with CLD learners (de Jong & Harper, 2005). We need to consider the teacher as a learner when we look at the
implications of this study on teacher preparation. With this section, I will now address the literature around the teacher as learner, or teacher knowledge base (Fradd & Lee, 1998; Freeman & Johnson, 1998; Johnson, 2006) and how this field may also shed light on factors that support teachers in the facilitation of CLD student participation.

According to Freeman and Johnson (1998), when we consider the teacher as a learner engaging in new instructional practices, we need to consider 'the experience, knowledge and beliefs of the teacher as a participant' (p. 413). Researchers have explored how experience and background impact teachers of CLD students, finding that when teachers share a common background with their culturally and linguistically diverse learners they have an advantage in meeting the needs of CLD students and accessing their students' funds of knowledge (Monzó & Rueda, 2003). Sharing a common background with her students provides a teacher an entry point to understanding the cultural and linguistic resources a student may bring to the classroom. In the present study, while neither teacher shared the status of being a CLD learner with her students, Mrs. Schaeffer came from a working-class background with parents who did not have post-secondary education. According to interviews, she felt this shaped how she approached teaching students of similar backgrounds and her interest in wanting to provide them with opportunities for attainment in school.

According to Fradd and Lee, (1998) the definition of teacher knowledge base denotes 'the repertoire of knowledge, skills, and dispositions that teachers require to effectively carry out classroom practices' (p. 761-2). From this perspective, the
understanding of exemplary practices alone may not be enough to support teachers in engaging in practices that facilitate CLD learner participation. The knowledge base mainstream teachers bring to the classroom regarding CLD learners may also need to be developed, incorporating the cultural and linguistic demands of the content (de Jong & Harper, 2005; Lucas, et al., 2008) to support teachers in facilitating CLD learners within the classroom Discourse.

Fradd and Lee (1998) claim that within this frame of knowledge, skills, and dispositions for working with culturally and linguistically diverse learners, are two larger categories, which they call ‘knowledge of pedagogy’ and ‘knowledge of students, schools, and communities’ (p. 768). De Jong and Harper (2005), in their work regarding the preparation of mainstream teachers for working with CLD students, speak to two specific domains that teachers need to understand in addition to general pedagogy, the language domain and the cultural domain. Within these domains, de Jong and Harper (2005) speak to the linguistic and cultural factors of learning a second language that impact students in the mainstream classroom. They use the term ‘just good teaching’ (JGT) (p. 102) to refer to the generic pedagogical knowledge base that mainstream teachers bring, and point to the need for teachers to develop expertise beyond JGT that looks at linguistic and cultural factors. Because Mrs. Schaeffer was completing her ESL endorsement at the time of this study, she was exposed to this linguistic and cultural knowledge base, which de Jong and Harper (2005) argue mainstream teachers need. Mrs. Schaeffer applied language objectives to her content-
area lessons, which was a component that she developed through her coursework in ESL methodology. While both teachers employed practices that facilitated CLD learner participation, the development of a knowledge base around the pedagogy and students and communities may further enable mainstream teachers to facilitate participation and support their CLD learners within the classroom Discourse.

**Implications for Further Research**

This study has offered two examples of exemplary practices and the facilitation of CLD learner participation enacted within third-grade and fourth-grade mainstream classrooms. This research has explored how school contexts can impact and shape teachers' facilitation of participation in the classroom Discourse for diverse learners, and demonstrated that teacher networks and school structures may support teachers in their ability to facilitate the participation of culturally and linguistically diverse learners.

Research into teacher knowledge base also indicates that understanding the practices of 'just good teaching' may not be enough to support culturally and linguistically diverse learners to be successful participants in the classroom Discourse. Mainstream teachers may also need to develop a knowledge base around the linguistic and cultural factors that are specific to the experiences of CLD students in the classroom. In order to support teachers to develop this knowledge base, teacher educators need to 'redraw' (Johnson, 2006) the lines of traditional professional
development, and look to how we can support classroom teachers as participants themselves engaging in the work of facilitating CLD learners' participation in mainstream classrooms.
REFERENCES


## APPENDIX: CREDE RUBRIC

### A Rubric for Observing Classroom Enactments of CREDE's Standards for Effective Pedagogy

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Joint productive activity</strong></td>
<td>The teacher designs, enacts, and collaborates in joint productive activities that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
<tr>
<td><strong>Language and literacy development</strong></td>
<td>The teacher designs, enacts, and collaborates in language development activities that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
<tr>
<td><strong>Contextualization</strong></td>
<td>The teacher designs, enacts, and collaborates in contextualized activities that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
<tr>
<td><strong>Challenging activities</strong></td>
<td>The teacher designs, enacts, and collaborates in challenging activities that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
<tr>
<td><strong>Instructional conversation</strong></td>
<td>The teacher designs, enacts, and assists in instructional conversations that demonstrate skillful integration of multiple standards simultaneously.</td>
</tr>
</tbody>
</table>

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3 *Note. From CREDE, 2002. The CREDE rubric has five levels, a) not observed, b) emerging, c) developing, d) enacting, and e) integrating. Only integrating is shown here because this was the level used to determine teacher eligibility for this study.*
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Seattle, Washington
ESL Facilitator, Grades Four through Six (2000-2001)

East Vantaa International School
Helsinki, Finland

Bryant Elementary School
San Francisco, California
First and Second Grade Teacher (1994-1995)
Publications


Conference Presentations

*Language and Content, SIOP and Beyond: Lessons from Exemplary Teachers.*
Washington Association of Bilingual Education (WABE) Conference (2009)

*More Than Just Good Teaching: An Exemplary Teacher Developing Academic Discourse with Culturally and Linguistically Diverse Learners.*

*Paper: More Than Just Good Teaching: Exemplary Mainstream Teachers of English Language Learners.*
Teachers of English to Speakers of Other Languages (TESOL) Conference (2007)

*Workshop for K-12 Teachers: ELL Program Development.*
Washington Association for Educators of Speakers of Other Languages (WAESOL) State Conference (2006)

*Using the ELD Standards to Differentiate a SIOP Reading Lesson: Literature Logs for All Students.*

*Using the ELD Standards to Differentiate a SIOP Reading Lesson: Literature Logs for All Students.*

*ELD Standards Panel.*
Washington Association for Educators of Speakers of Other Languages (WAESOL) State Conference (2004)

*The SIOP Model in Action: Strategies for Sheltered Instruction.*

*The SIOP Model in Action: Strategies for Sheltered Instruction.*
Washington State English Language Development Standards.

Diversity in the Classroom.

Adaptations Are Essential: Adapting Reading Instruction for English Language Learners.

Adaptations Are Essential: Adapting Reading Instruction for English Language Learners.

Adaptations Are Essential: Adapting Reading Instruction for English Language Learners.
Washington Association for Educators of Speakers of Other Languages (WAESOL) (2000)

K–6 Instructional Strategies for English Language Learners.
Washington Association for Educators of Speakers of Other Languages (WAESOL) (1999)

Current Research

More Than Just Good Teaching - Case study and discourse analysis within upper elementary mainstream classrooms that employ exemplary practices in developing academic language with English language learners.

Certificates


Continuing Teacher Certificate, State of Washington

- K - 8  Elementary Education
• K-12 English as a Second Language

• 4-12 Anthropology

Cross-cultural Language and Academic Development Certificate, State of California

Service

State of Washington, Office of Superintendent of Public Instruction. Bilingual Advisory Committee - Vice-Chair
2004-present

State of Washington, Office of Superintendent of Public Instruction. ESL Endorsement Committee.
2006-2007

2006-2007

May 2006

May 2006

Teacher Education Program - University of Washington. Expert Panelist – ESL
March 2006

June 2005

State of Washington, Office of Superintendent of Public Instruction. K-12 Language Test Selection Committee
May 2005

May 2005
Tukwila School District. ELL Program Review Committee. February 2005


State of Washington, Office of Superintendent of Public Instruction. K-12 English Language Development Standards Committee June 2003 - Present

East Vantaa International School – Helsinki, Finland. Adapting Instruction for English Learners. August 2001

Washington Alliance for Better Schools. Adaptations are Essential: Adapting Reading Instruction for English Language Learners. February 2000-March 2005


Memberships

American Educational Research Association (AERA)

Association for Supervision and Curriculum Development (ASCD)

International Reading Association (IRA)

Teachers of English to Speakers of Other Languages (TESOL)

Washington Association of Bilingual Education (WABE)

Washington Association for the Education of Speakers of Other Languages (WAESOL)