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UNIVERSITY OF CALIFORNIA
Santa Barbara

Becoming Academically Literate: An Interactional
Ethnographic Study of Opportunities for Learning in a
Bilingual Elementary Classroom

A Dissertation submitted in partial satisfaction
of the requirements for the degree of

Doctor of Philosophy

in   .

Education

by

Sabrina Tuyay

Part One
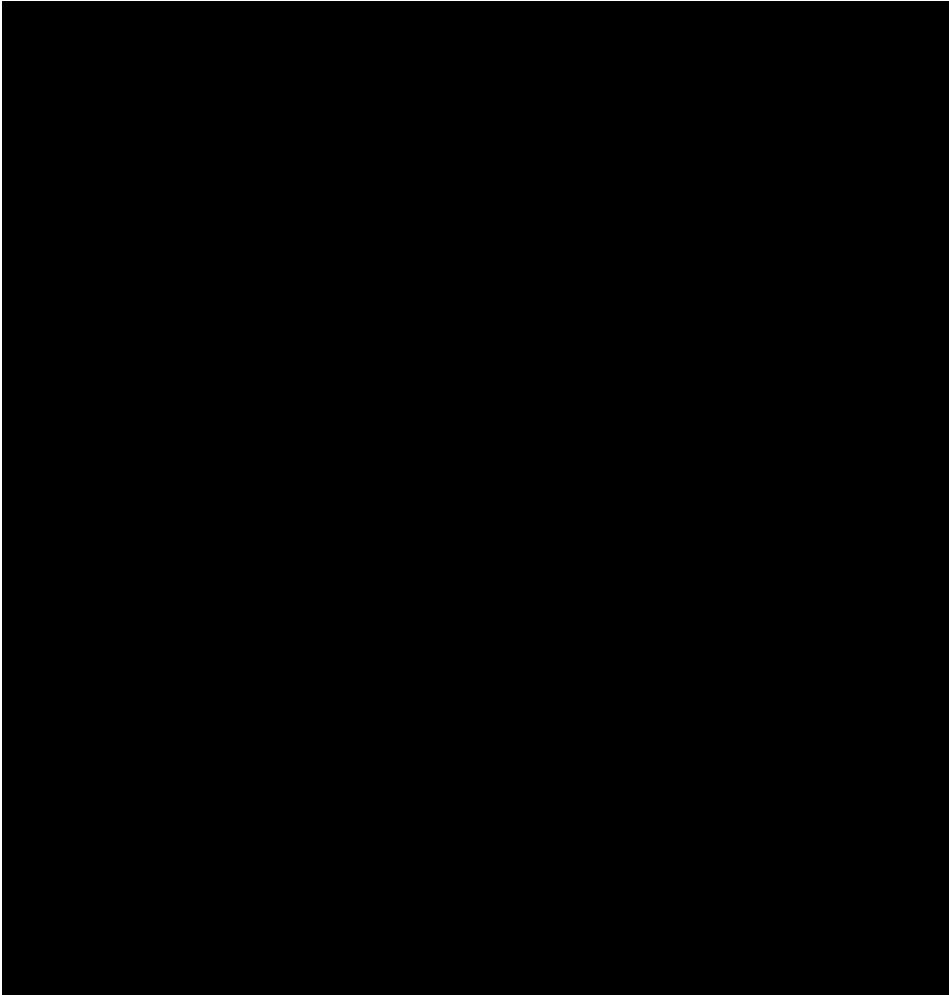
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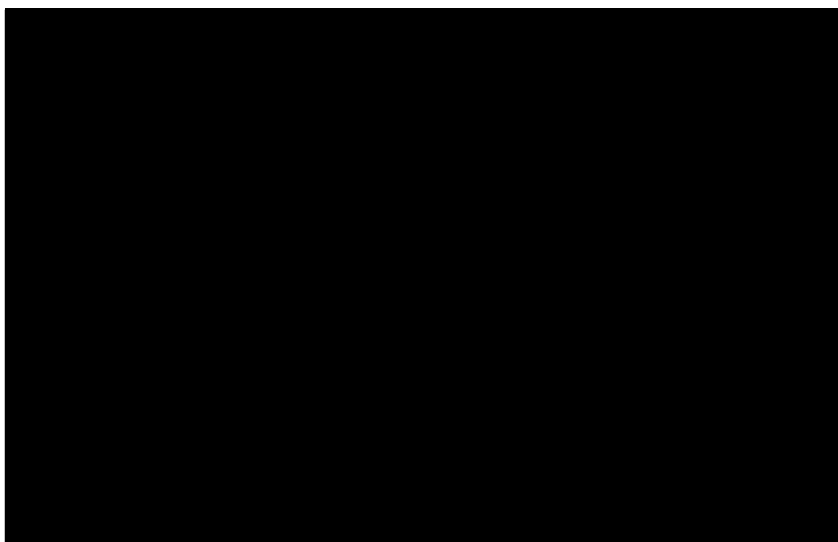The dissertation of Sabrina Tuyay
is approved

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DEDICATION

For my grandmother and grandfather, Mae and Jay Edmonds,
who taught me the value of education.

and

For my mother, Judith A. Edmonds,
who taught me to always consider the possibilities.

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experiences in that program forever changed my thinking about teaching and learning. It was during those years in the reading clinic that I became a teacher and a learner. Thank you also for convincing me that I needed to allow you and Louise to come into my third grade bilingual classroom to do an ethnographic study and for suggesting that a Ph.D. was a possibility. Most of all, thank you for your patience, your wisdom, and your ongoing support. Your insightful questions and feedback have allowed me to find my own academic voice. You have taught me to believe in myself and to trust that I can become both a teacher-educator and a researcher.

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To all of my colleagues in the teacher education program at UCSB, thank you for the extraordinary opportunities you have provided me for learning about teacher education. You have listened and watched patiently while I tried to make my own sense out of my new role. The "quality of thought" that you devote to your work is an inspiration. To Jon Snyder, thank you for showing me that it is possible to be passionate about one's work even in the face of

reminded me that a Ph.D. did not define me. From you, I have learned to not take myself so seriously.

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Finally, and most importantly, thank you to my husband, Herb Tuyay and my daughter, Malaya. This journey would not have been possible without both of you. Your unconditional love has kept me going, especially during those times when I thought giving up was the only answer. You supported me in accomplishing this deeply personal goal, yet reminded me to keep it in perspective. From you I have learned how to discover joy in the simple and mundane; how to see the good in humanity; how to create a masterpiece with crayons and scotch tape; how to dance to the sounds of silence; how to say no; how to ask why; how to cherish imperfection; how to celebrate the sunrise; and most of all, how to be present in each and every moment. You have shown me the true meaning of this Ph.D.

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1995	Tuyay, S., Floriani, A., Yeager, B., Dixon, C., & Green, J. (1995). Constructing an Integrated, Inquiry-Oriented Approach in Classrooms: A Cross Case Analysis of Social, Literate, and Academic Practices. *Journal of Classroom Interaction, 30*(2), 1-15.
1995	Tuyay, S., Jennings, L., & Dixon, C. (1995). Classroom Discourse and Opportunities to Learn: An Ethnographic Study of Knowledge Construction In a Bilingual Third Grade Classroom. *Discourse Processes, 10*(1), 75-110.

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ABSTRACT

This interactional ethnographic study addresses a major gap in the educational research literature—the development of academic literacies with linguistically diverse elementary students. It examines how students in a third-grade bilingual classroom are provided with opportunities for learning academic content and becoming academically literate.

This year-long study builds upon previous work done from an academic literacies perspective by using both ethnography and discourse analysis to investigate how literate practices and opportunities for learning were socially constructed by the teacher and students in this classroom. An exploration of the significant aspects of this classroom culture, as seen from the students' perspectives, (i.e., working together, being bilingual, and learning differently) demonstrates how each of these became cultural resources that the students drew upon and utilized for gaining academic literacies. Through detailed ethnographic and sociolinguistic analyses of particular literate practices (identifying and constructing patterns and making predictions and using evidence) and how these were introduced and developed across the school year, what counted as academic literacies in this classroom became visible. Examination of the social construction of intertextual ties demonstrated how students

learned to use these literate practices both within and across academic content areas and how they understood both the situated and general nature of their use.

Findings from this study have implications for theory as well as classroom practice and professional development. Findings suggest that an expansion of an academic literacies approach is needed to make visible the opportunities for acquiring academic literacies and learning academic content that are constructed and available to students, as well as to better understand how access to academic literacies is provided or denied. They also suggest that professional educators need to think about their classroom practice and implementation of content area curricula with linguistically diverse students in new ways. By making visible how the teacher in this classroom provided students with the academic support that they needed to become academically literate, this study presents a positive case of what is possible in bilingual classrooms.

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CHAPTER ONE

INTRODUCTION

In today's society, literacy is seen as key not only to success in school, but to effective participation in the workforce, the community and society (Braunger & Lewis, 1997). Failure to achieve "acceptable" levels of literacy is the single most important contributor to low academic achievement (Applebee, Langer, Jenkins, Mullis, and Foertshe, 1990; Reyes & McCollum, 1992). However, as Pearson and Stephens (1994) demonstrate in their historical review of research on literacy, literacy can no longer be viewed as an independent isolated event [or level]. Instead, they suggest that literacy events are shaped by the contexts in which they are constructed. In other words, it is no longer possible to speak of literacy as a generic process located solely in the heads of individuals or a process that is the same for all people (Baker & Luke, 1991; Bloome, 1985; Cook-Gumperz, 1986; Street, 1984). Nor is it a state of being at which one arrives (Santa Barbara Classroom Discourse Group, 1992). Rather, literacies are socially constructed and situationally specific (Green & Meyer, 1991; Heap, 1991).

If literacy can no longer be viewed as generic (in other words, is not the same in all settings or for all subjects or types of literature), it follows that one needs to become literate in each of the academic content areas or disciplines in order to be "successful." For culturally

and linguistically diverse students, failure to become academically literate has been well documented by national assessment data, dropout and graduation data, and patterns of placement in remedial and special education programs (Gutierrez, 1990). However, as will be shown in Chapter 2, little attention has been paid in the literature to the development of academic literacies with linguistically diverse students and with elementary students.

One purpose of this dissertation is to generate grounded theoretical constructs that can be used in future work to understand the ways academic literacies are socially constructed and situationally defined. The study is an interactional ethnography of a bilingual classroom and how the teacher and students in this classroom constructed a particular culture. By focusing on how this culture used language to shape literate practices, and what counted as being academically literate, this study examines the practices of the members of this classroom and how these practices provided opportunities for acquiring academic literacies and learning academic content. It is intended that this study will contribute to the discussion in the current research literature, and extend it in ways that will be useful to the educational community.

Educational Problem and Its Significance

Given the increasing ethnically and linguistically diverse student population in this country[1] and given their continued

academic underachievement, providing equal educational

opportunities and access to the curriculum has become both a state

and national issue (Macías & García Ramos, 1995). Reform efforts

attempting to address equality of educational opportunity have

included integrated schools, affirmative action, and high standards for

all students (Pearson, 1996). While standards movements continue to

promote communicative practices and becoming "literate" in each of

the disciplines (i.e., math, science, social science) as central aspects

of reform (Hicks, 1995), the practical application in schools often takes

the form of predetermined curriculum and standardized testing

(Cummins, 1986; Pearson, 1996). Most recently, equal access to the

curriculum has been addressed through opportunity to learn

standards, which are intended to ensure that all students are being

exposed to the learning opportunities necessary to prepare them for

high academic (content) standards (Porter, 1993). An underlying

assumption of these standards and previous reform efforts is that

equity is achieved through exposure to the same curriculum with the

same instruction (Pearson, 1996).

However, if we are to successfully prepare all of our students for

the future (i.e., to develop literacies required of 21st century

"knowledge workers"[2] (Drucker, 1994, as cited in Green & Dixon,

1996), we must move beyond the traditional guiding principle of

"sameness" in achieving equity (Pearson, 1996). A "one size fits all"

approach does not meet the needs of linguistically and culturally diverse students (Cummins, 1986; Ohanian, 1999). We must begin to further understand the complexity of linguistically diverse classrooms, to consider what constitutes teaching and learning in such settings, and to understand how academic literacies are socially constructed and situationally defined, as it is here that students begin to learn how to negotiate academic discourses.

Marshall (1992) argues that many of the recent reform efforts in education have overlooked the role of the learner and have not reconceptualized learning as a process that occurs when the members of a classroom interact over time. She contends that in order for educational reform to succeed, we must begin to redefine learning and to rethink how students learn. This dissertation furthers that argument. Not only do we need to rethink how students learn, we need to understand how to provide them with the academic support in order for them to be successful. While academic literacy has long been a focus of the "academy" (e.g., colleges, universities), this dissertation argues that it also needs to become a focus in elementary school. As will be discussed further in Chapter 2, linguistically diverse students have a history of failure in American schools. While there are various explanations and reasons for this "failure," I contend that part of the issue is that younger students (particularly linguistically diverse students) have not been provided access to academic literacies. That

is, they have not been provided opportunities for learning how to use literate practices in both general and situated ways across academic content. By investigating how knowledge is socially constructed, and what it means to be literate in science, social studies, and math (for example), educators may be able to further understand how to provide meaningful opportunities for linguistically diverse students to successfully acquire such literacies.

This study offers a reconceptualization of learning (as called for by Marshall, 1992), and addresses Hick's (1995) call for educational researchers need to focus more on "situationally specific ways in which teachers and children in particular classroom settings . . . draw upon diverse discourses as they engage in the construction of disciplinary knowledge" (p. 21). It examines how academic literacies are socially constructed and situationally specific. In particular, it explores the relationships between literate practices and opportunities for learning academic content in a third-grade bilingual classroom, and how these students are provided with multiple and diverse paths to becoming academically literate.

The theoretical orientation brought to this study provides a set of underlying assumptions or premises that guide my view of academic literacies (Strike, 1974). As Zaharlick and Green (1991) and Green, Dixon, and Zaharlick (in press) argue, the theoretical "lens" of the researcher influences what can be seen, and the methods

used for conducting their investigation (e.g., the questions explored, the data collected, the types of tools used, the analysis procedures). For this reason, it is important to understand the conceptual framework that shapes the theoretical lens utilized in this study. The relationship between this theoretical orientation and the methodological decisions made in this study will be discussed in Chapter 3.

Conceptual Approach to the Study of Academic Literacies

The conceptual approach for this study is drawn from two bodies of work: the social construction of literacy, (Barton, 1994; Bloome, 1989; Cook-Gumperz, 1986; Fairclough, 1993; Gee, 1990; Green & Harker, 1982; Heap, 1991; Lea & Street, 1998; Santa Barbara Classroom Discourse Group, 1992; Street, 1984, 1993, 1995; Wells & Chang-Wells, 1992); and interactional ethnography in education (Castanheira, Crawford, Dixon, & Green, 1998; Green & Dixon, 1993).

To conceptualize literacy as socially constructed is to understand that literacy is both a product of, and a cultural tool for a social group (Castanheira et al., 1998). From this perspective, literacy is situationally defined through literate practices constructed by and made available to members in and through their everyday actions and interactions (Barton, 1994; Bloome, 1989; Gee, 1996; Green & Harker, 1982; Heap, 1991; Street, 1993, 1995). Thus, learning to be literate

can be viewed as an ongoing process in which members of a group

construct particular understandings and situated perspectives of

reading and writing along with the discourse practices and processes

through which reading and writing are talked or acted into being

(Green & Dixon, 1993). Further, literate practices develop as the

collective (e.g., classroom, reading group) develops and serve the

goals and purposes of both the collective and the individual within the

collective (Souza-Lima, 1995). Members of a group are afforded

and/or denied access to particular opportunities for constructing and

acquiring the repertoire of literate practices needed to participate in

socially and culturally appropriate ways (Kantor, Green, Bradley, &

Lin, 1992; Rex, Green, & Dixon, 1997; Tuyay, Jennings, & Dixon,

1995). Therefore, what constitutes an individual's repertoire within as

well as across collectives depends on which opportunities she or he

has had access to and which opportunities he or she takes up (Alton-

Lee & Nuthall, 1992; Floriani, 1993; Heras, 1993; Ivanic, 1994;

Prentiss, 1995).

This view of literacy as literate practices constructed by

particular groups, requires a methodological approach that makes

visible how this occurs. I purposefully chose to use an Interactional

Ethnographic approach to guide the theoretical and methodological

decisions (e.g., what data to collect, points of view to use in data

collection, etc.) in carrying out this study. This framework is comprised

of mutually informing theories grounded in cultural anthropology
(Geertz, 1983; Spradley, 1980) and interactional sociolinguistics
(Gumperz, 1986; 1992). Using an ethnographic perspective provides
a macro-level view of classroom life and a way to describe the
classroom culture through the identification of patterned practices.
Interactional sociolinguistic analyses of classroom discourse provide a
micro-level focus to see how these practices were socially constructed
in and through moment-to-moment interactions of members. This
approach allows me to investigate how academic literacies are
socially constructed and it provides coherence between the theoretical
orientation and methodological considerations, thereby enhancing the
expressive potential (i.e., what can be said) (Strike, 1974) of this
research.

Underlying this approach and guiding this investigation, are a
series of premises about classroom life derived from work of the Santa
Barbara Classroom Discourse Group. These premises serve to
ground this dissertation in the theoretical framework that supports it,
and form the basis for the methodological decisions presented in
Chapter 3.

- A classroom acts as a culture in which members construct
  common knowledge and patterned ways of engaging with
  each other through moment-to-moment interactions (Collins &
  Green, 1992; Edwards & Mercer, 1987; Green & Harker, 1982;
  Green & Meyer, 1991).

• Through interactions, patterns of life are constructed over time, which become ordinary and thus often invisible to members (Green & Harker, 1982; Heath, 1982; Santa Barbara Classroom Discourse Group, 1992).

• Discourse processes and practices (oral, aural, visual and written) are cultural tools that members of a group use to construct knowledge (Bloome & Egan-Robertson, 1993; Gumperz, 1982; Hicks, 1995).

• Living in particular classroom leads to particular ways of communicating and acting which in turn, lead to particular ways of being, ways of doing, and ways of knowing (Fernie, Davies, Kantor, & McMurray, 1993; Green & Dixon, 1993; Lemke, 1990).

• Through discourse processes and practices, members construct local definitions of what counts as academic content (Kelly & Crawford, 1996) and shape particular opportunities for learning (Tuyay, Jennings, & Dixon, 1995).

• The actions of members shape the events of everyday life along with roles and relationships, norms and expectations, and rights and obligations that define membership (Green & Dixon, 1993; Green & Meyer, 1991).

• The class has a history that cannot be ignored. This history becomes visible by considering:

  - the referential system that members construct to conduct the everyday events and processes of classroom life—the language of the classroom (Lin, 1993);

  - the patterns of interaction within and across events and time—the cycles of activity (Green & Meyer, 1991);

  - the occurrence and recurrence of events and themes— the intertextuality (Bloome & Egan-Robertson, 1993); and ,

- the occurrence and recurrence of contexts or ways of interacting with texts-the <u>intercontextuality</u> (Floriani, 1993)

• It is understood that members of the local group are also members of other groups. As such, they bring cultural knowledge to the local group, including experiences, beliefs, values, expectations, and practices (Green & Harker, 1982; Mehan, 1979; Santa Barbara Classroom Discourse Group, 1992).

This approach and these premises served to inform the questions that guide this study. They also informed decisions about how to collect data and for what purposes to analyze it (Collins & Green, 1992).

Guiding Research Questions

The goal of this study was to examine what counted as being academically literate in this third grade bilingual classroom, and how this was situationally constructed and defined over the school year. With this goal in mind, this study addressed the following questions:

• **What does it mean to be a member of this classroom culture?**

- How is this classroom different from others as seen from the members' perspective?

- How are these aspects of classroom life (as identified by the students) introduced and established during the first 3 weeks of school?

- How do these aspects of classroom life form the basis for what counted as academic literacies?

• **What counts as academic literacies?**

  - What counts as academic literacies from a national perspective?

  - What counts as academic literacies from the classroom perspective?

  - How are the two views similar and different?

• **What are the relationships between literate practices and opportunities for acquiring academic literacies and learning academic content within a planned cycle of activity?**

  - How do these literate practices support/constrain access to academic content?

  - How do students take up (or not take up) these opportunities for learning and becoming academically literate?

• **How are literate practices that are not the focus of a particular cycle of activity introduced and developed?**

  - What are the relationships between these literate practices and opportunities for acquiring academic literacies and learning academic content?

  - How do the students take up (or not) these opportunities for learning?

These questions form part of the Ethnographic Research Cycle which consists of an iterative cycle of asking questions, collecting data, making ethnographic records, and analyzing data (Spradley, 1980). The interactive responsive nature of ethnographic research (Zaharlick & Green, 1991) is reflected in the logic of inquiry (Birdwhistell, 1977)

utilized by the researcher. The logic of inquiry used for this study is further described in Chapter 3. It shows how each phase of analysis served to inform the next. It also demonstrates the deliberate movement between levels of analyses, moving from a macro presentation of life in this particular classroom to a micro view of how opportunities for learning and becoming academically literate were socially constructed in and through the interactions of classroom members.

Overview of the Dissertation

This study investigates the social construction of literate practices in a bilingual third-grade classroom and how these practices support and/or constrain opportunities for acquiring academic literacies and learning academic content. Through this investigation, the issues of academic underachievement of linguistically diverse students are addressed by examining how access to academic literacies can be provided through engagement in particular literate practices. Additionally, this study explores the ways students in this classroom took-up the opportunities for learning provided for becoming academically literate.

The dissertation is organized into seven chapters. Chapter 1 introduces the purpose of the study and the theoretical framework guiding it. Chapter 2 includes a conceptual review of related research

literature. It discusses reasons for the academic underachievement of linguistically diverse students and examines how academic literacies have been traditionally defined and researched. It argues for the need to investigate academic literacies as socially constructed and situationally defined by members of a culture. Chapter 3 describes the methodological approach taken in this work. In Chapters 4, 5, and 6 analyses of the data are presented. Chapter 4 examines what it meant to be a member of this classroom culture from the students' perspectives and how particular aspects of classroom life were introduced during the first 3 weeks of school. Chapter 5 investigates what counts as academic literacies from perspectives of the National Content Standards and the classroom which is the focus of this study. It also explores the literate practices of **identifying and constructing patterns** and how these were introduced and developed in math and writing. Chapter 6 examines the literate practices of **making predictions and using evidence** and how students were provided opportunities for learning how to use these practices across content areas (e.g., language arts, science, and social studies). Finally, Chapter 7 summarizes the analyses and proposes educational implications and directions for future research.

This study contributes to the limited body of research that exists on academic literacies and linguistically diverse students. It also begins to answer Hick's call for more research (1995) that investigates

how what counts as academic knowledge is situationally constituted and socially constructed by teachers and students in and through classroom discourse. By further understanding how students and teachers engage in the co-construction of disciplinary knowledge, it is my hope that we will then be able to provide all students with multiple and meaningful opportunities for becoming academically literate.

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[1] By the end of this century, language minority students will comprise almost 42% of the total United States public school enrollment (Waggoner, 1994).

[2] Drucker defines knowledge workers as though who "have a good deal of formal education and the ability to acquire and to apply theoretical and analytical knowledge. They [have] a different approach to work and a different mind-set. Above all, they require a habit of continuous learning" (p. 62).

CHAPTER TWO
REVIEW OF THE LITERATURE

Overview

In this chapter, I present a conceptual review of the literature in three parts. Because this study focuses on the social construction of literate practices and opportunities for acquiring academic literacies and learning academic content in a bilingual classroom, it was necessary to consider research related to the acquisition of academic content as well as academic literacy in relationship to linguistically diverse students. When considering this focus, much of the literature dealt mainly with the academic underachievement of linguistic minorities in this country. Therefore, that literature is reviewed in part one of this chapter. This first part is divided into three sections, each addressing a particular explanation (i.e., inadequate English proficiency, grouping and instructional practices, different patterns of language use) for the academic underachievement of linguistically diverse students.

The second part of this chapter conceptualizes academic literacies. It focuses specifically on the literature that addresses academic literacies and linguistically diverse students. However, because of the limited research in this particular area, the review also considers other work that has been done (e.g., acquisition of academic content, literacy development and ESL[1] students,

biliteracy). The second part of this chapter is comprised of three sections. The first section addresses the acquisition of academic content, while the next two focus on particular aspects of literacy development as it relates to linguistically diverse students (i.e., literacy development and ESL students, biliteracy).

In the third part of this chapter, a theoretical framework for the study of the social construction of academic literacies is presented. It conceptualizes classrooms as cultures and provides an overview of key constructs and conceptual understandings that frame this study.

The review of the literature in this chapter is designed to be conceptual and analytical. It is not intended to be a comprehensive review of each of these bodies of literature. Rather, it is intended provide a view of what typically counts as academic literacies in relationship to linguistically diverse students and to provide an alternative lens through which to view and study how academic literacies are socially constructed in classrooms.

Part One: Explanations for the Academic Underachievement of Linguistically Diverse Students

The research reviewed in this section considers the explanations and theories that have been offered to explain the underachievement of linguistically and culturally diverse students. In the following sections, three of these are explored in greater depth:

Inadequate English proficiency, grouping and instructional practices,
and different patterns of language use between the home and the
school. While there are certainly other plausible factors that can be
identified (e.g., economic status, societal issues, etc.), I have chosen to
highlight those over which teachers have some degree of control,
since I hope to be able to encourage changes in practice with this
study.

Inadequate English Proficiency

The lack of English proficiency is considered the primary
reason for academic failure among language minority students
(Cummins, 1989). Because they are not yet fluent in English, students
are often seen as "deficient" or "defective." In the 1960s, knowledge of
standard English was viewed as essential for logical thinking and
educational progress. It was often assumed that children's low scores
on IQ tests were caused by their "deficiency" in standard English. This
view can be captured by such statements as the "language of
culturally deprived children . . . is not merely an underdeveloped
version of standard English, but is a basically non-logical mode of
expressive behavior" (Berieter, Engelmann, Osborn, & Reiford, 1966,
p. 113). A more recent example of this deficit view comes from Lloyd
Dunn (1987). He argues that "Latin pupils on the U.S. mainland, as a
group, are inadequate bilinguals. They simply don't understand either

English or Spanish well enough to function in school" (p. 49). He suggests that this is because these students "do not have the scholastic aptitude or linguistic ability to master two languages well, or to handle switching from one to the other, at school, as the language of instruction" (p. 71). While these deficit theories have been challenged and critiqued extensively (Cazden, John, & Hymes, 1972; Cummins, 1989; Díaz, Moll, & Mehan, 1986; Kamin 1974) and are now largely viewed as inadequate, the view of English proficiency as **the** key to academic success still pervades educational practice. This is not to suggest that English proficiency is unimportant, rather to propose that it is not the sole cause of the academic underachievement of linguistically diverse students.

The popular assumption is that language minority students need to be immersed in English as quickly as possible if they are to succeed in school (Reyes, 1992; Wong-Fillmore, 1991). However, research conducted over the past 20 years suggests that bilingual students attain higher achievement levels when they are allowed to develop literacy skills in their primary language before transferring to English literacy (Collier 1989; Cummins, 1979; Hakuta, 1986; Krashen & Biber, 1988; Reyes, 1987; Skutnab-Kangas, 1981). Cummins (1981, 1989) also maintains that students who learn academic concepts in their primary language can more readily transfer those concepts to a second language. Ramirez, Yuen, and Ramey (1991)

showed that limited English proficient (LEP) students, when provided with more than 40% of their instruction in L1, continued to successfully increase their content area achievements while acquiring English. Students who were quickly transitioned into English only classrooms tended to grow slower in their understanding of academic concepts than the norming population.

Some research suggests that language minority students frequently develop conversational skills in the school language, but their academic skills are below grade level norms as determined by standardized tests (Collier, 1995; Cummins, 1979, 1981; Hakuta, Butler, & Witt, 2000; Skutnabb-Kangas & Toukomaa, 1976). This early work led Cummins (1979, 1981) to suggest that there existed two dimensions of language proficiency, which he termed Basic Interpersonal skills (BICS) and Cognitive Academic Language Proficiency (CALP). He defined BICS as those skills necessary for face-to-face conversation and everyday survival and CALP as those skills needed to be academically successful in school. This distinction between BICS and CALP was highly criticized by Edelsky (1991); Edelsky, Hudelson, Flores, Barkin, Altwerger, & Jibert (1983); Rivera (1984); and Troike (1984). These researchers argued that such a distinction was based on misconceptions of language and an oversimplification of the complex and multifaceted nature of language and language competence. Because Cummins portrayed reading

and writing as "skills" and doing well on "skill based" activities as what constituted CALP, these researchers proposed that this presented a limited view of literacy and what constitutes academic knowledge. Further, they suggested that bilingual students' language competencies are influenced by a number of factors (e.g., environment, motivation, etc.) which are constantly interacting and evolving; they are not simple dichotomies.

In response to this criticism, Cummins (1986, 1989) incorporated this distinction into a two-dimensional model that integrates language proficiency with context and level of cognitive difficulty. He proposed that in face-to-face conversations, one is able to use contextual cues (e.g., gestures and intonation) provided by the other speaker(s) and situational cues for meaning. For this reason, Cummins identified these skills as not very cognitively demanding. He found that it generally took 2 years to master native-like basic communication skills. On the other hand, CALP involves language that is context-reduced and highly demanding cognitively. He suggested that context-reduced communication relies on linguistic cues alone and involves abstract thinking. Cummins found that when language minority students work academically only in English (their second language), it took them from 5 to 7 years to achieve age-grade norms in context-reduced aspects of English proficiency. Additionally, skills in context-reduced language developed in the first language

automatically transfer to the second language. Recently (1994), Cummins has utilized the terms conversational language and academic language. However, the basic definitions still remain intact.

It is important to note that there is continued debate about this model; however, it is still widely used in the field of Bilingual Education. Cummins' (1986, 1989, 1994) work forms the basis of much of the theory and its application in classrooms. This, of course, raises issues about what counts as language proficiency.

This collection of research challenges the common practice of immersing students in English so that they will succeed academically. It also raises questions about what constitutes English proficiency. However, while this work allows us to begin to see the complexity of issues surrounding language proficiency and its potential relationship to academic achievement, how these terms are defined and "measured" is problematic. For the most part, the above work (with the exception of that done by Edelsky et al., 1983) does not consider the complexity of how language is used in daily interactions between teachers and students in classrooms, nor does it address how these discursive practices are related to discipline-specific literacy demands. Academic achievement, in the above studies, is being able to meet "the norm" on standardized tests, which is a limited view. These studies do not address how academic knowledge is co-constructed in classrooms and how it varies within and across disciplines.

Grouping and Instructional Practices

The effects of teachers' expectations on students' performance in the classroom are well documented in the literature (Irvine, 1990; Marshall & Weinstein, 1988; Rist, 1970; Rosenthal & Jacobson, 1968; Rosenthal, 1973). These teacher expectations are often translated into instructional practices such as tracking and ability grouping, which are common in many classrooms/schools. Both of these practices have repeatedly been shown to be detrimental to students from cultural and linguistic minority backgrounds (Collins, 1986; Oakes, 1986). Not understanding cultural and/or linguistic differences, teachers may underestimate the academic potential of these students (Irvine, 1990; Moll, 1986). Students in "low-ability" groups receive different kinds of instruction than do those in the "high" groups. For example, they are called on less often in class, given less time to respond, given less feedback and more criticism, praised less frequently, and lose more time in interruptions and management of routines (Collins, 1986; McDermott, 1977; Oakes, 1986). In addition, the curriculum for these students typically focuses upon "basic skills" (Anyon, 1981; Oakes, 1986). Eder (1982) found that students in "low" groups were socialized to different communication styles than those in "high" groups, resulting in their being viewed as "less competent." Once students are placed in a "low" ability group in elementary school (often as early as kindergarten or first grade), they seldom change

groups or advance in instructional level (Rist, 1970). This raises questions about the kinds of opportunities for learning and access that students are provided to academic literacies and academic content.

In a "best evidence synthesis" of the research on ability grouping, Slavin (1987) analyzed all studies of ability grouping in grades one through six that used achievement data from standardized achievement tests, occurred for at least one semester, and included at least three control and three experimental teachers. Four grouping plans were examined: ability-grouped class assignment, regrouping for reading and/or mathematics, the Joplin Plan and within-class ability grouping. In the ability-grouped class assignment, students are assigned to one self-contained class on the basis of achievement or ability. Regrouping for reading and/or mathematics occurs when students are assigned to heterogeneous classes for most of the day, but are "regrouped" by achievement or ability for one or more subjects. The Joplin Plan is a particular form of regrouping for reading where students are placed in heterogeneous classes for most of the day, but are regrouped across grade lines for reading. Finally, within class ability grouping involves students being placed in groups according to their "level." The most common form of this kind of grouping is reading groups, where teachers assign students to one of a small number of groups on the basis of reading level.

There were several trends that emerged from this review.
Evidence supported (i.e., there were positive achievement effects) the
use of within-class ability grouping in math in the upper grades and
the Joplin Plan in reading. There was no support for assigning
students to self-contained classes based upon achievement or ability,
the evidence for the regrouping of students for reading and math was
unclear, and there was no adequate evidence regarding the use of
reading groups. From this evidence, Slavin (1987) concluded that for
practical purposes, educators should "use those methods that have
been found to be effective (within-class ability grouping in upper-
elementary mathematics, Joplin Plan in reading), and avoid those that
have not been found to be effective" (p. 321). He further suggested
that ability grouping may be more important in subjects in which skills
are organized in a hierarchical fashion, which he considers to be
reading and mathematics.

As Elfrieda Hiebert (1987) argues, one needs to view Slavin's
(1987) conclusions with caution, especially since we know very little
about what was happening in the classrooms from which the evidence
came. It is also important to recognize that there were several
problematic assumptions underlying this review. First, it is assumed
that grouping practices directly affect student outcomes. Although
Slavin acknowledged this to be an issue, the studies selected for
review were based upon this direct relationship. What was not

considered was all of the other potential influences (i.e., context, role of teacher). Another assumption had to do with reading being viewed as sequential sets of skills that are arranged hierarchically, which is contradictory to much of the more recent research in reading (Baker & Luke, 1991; Ruddell, Ruddell, & Singer, 1994; Street, 1995). Therefore, application of his recommendations needs to be carefully considered.

Collectively, this research demonstrates that high and low academic tracks or ability groups usually constitute different instructional contexts. Given the sorting and tracking practices that occur in most schools, both explicit and implicit, and given that linguistically and culturally diverse students are over-represented in the "low" groups (Oakes, 1986), a large percentage of these students are separated early on from opportunities for acquiring academic discourse and academic literacies.

Different Patterns of Language Use

In contrast to the work reviewed in the previous two sections, other research in anthropology, education, psychology, sociology, and sociolinguistics has challenged the deficit perspective and examined the broader social and cultural contexts of learning and their relationships to the schooling of linguistically diverse students (Cummins, 1986, 1989; Díaz et al., 1986). This work suggests that

academic difficulties experienced by minority students may be the result of differences in cultural practices related to how language is used in the home and school (Au, 1980; Au & Mason, 1981, 1983; Cazden, 1988; Gilmore & Glatthorn, 1982; Heath, 1983; Michaels, 1981; Moll, 1986; Philips, 1972). Three examples, which are representative of this body of work, will illustrate this point.

The first example is Philips' (1972) study of American Indian children on the Warm Springs Reservation. She examined the reasons that these students were reluctant to participate in classroom instruction. Her findings revealed that the children were less likely to talk during whole class or teacher directed small group lessons, where students were asked to speak in front of their peers. When working independently, students occasionally volunteered to speak with the teacher. However, when working in small peer groups, the American Indian students spoke freely with their peers. To further understand the participation patterns of these students in school, Philips studied how learning occurred in the Warm Springs community. She found that children in the community were used to working by themselves with little direction from adults. Children learned from other children within a system of sibling caretakers. When learning from adults, they were expected to do so through observation rather than receiving verbal instruction from them. Philips findings suggested that students were more likely to participate in small peer group projects in school

because this interactional pattern was consistent with what they knew from their community culture. However, because teacher directed lessons dominated much of the school day, American Indian children were effectively silenced.

The second example of differences in the patterns of language use between the home and school is from Heath (1983). In <u>Ways with Words</u>, she presented an ethnographic study with an analysis of language, literacy and associated values in a "mainstream" community of Black and White families and of two non-mainstream communities, Roadville and Trackton, White and Black working-class communities from the Piedmont area of the Carolinas. One focus of this study was the use of questions in the home and in the school, as Heath was interested in understanding why the children from Trackton were having difficulties with the questions asked of them in class. Both the teachers and the parents were also concerned with this. Heath found that in Trackton, adults did not view children as conversational partners until they were old enough to communicate effectively. When addressing children, the adults tended to use directives rather than questions. When questions were asked, they were either "real questions" to which the adult was seeking information that s/he did not have, or analogical questions, calling for nonspecific comparisons (of one item, person, or event to another).

In the classroom, the Trackton children faced very different communicative environments. Questions dominated teacher-student interactions, and there were few directives used. The questions that teachers asked most often required the students to display their knowledge (e.g., what is this color?) of a particular topic being discussed. From the students' perspective, they found it difficult to understand why the teachers would ask questions to which they already knew the answers. This aspect of Heath's (1983) study showed that the communicative demands placed on the children in the classrooms often clashed with the rules for language use in their communities, thus making them seem academically incompetent.

A final example demonstrates how the conventional classroom recitation (initiation-response-evaluation) script creates difficulties for Native Hawaiian students (Au, 1980; Au & Jordan, 1981; Au & Kawakami, 1985; Au & Mason, 1981; Boggs, 1985; D'Amato, 1987; Jordan, 1985; Tharp & Gallimore,1985). In their work with the Kamehameha Early Education Project (KEEP), these researchers have shown that while observations of Hawaiian children in their homes showed them to be capable learners, they appeared to be unresponsive at school. They found that the rules for participation in a recurrent speech event (talk story) in the community were different from those in the classroom. During talk story, children present rambling narratives about personal experiences often embellished

with humor and teasing. A main characteristic of talk story is joint performance by two or more individuals. Those who are the leaders, get others involved in the conversation. They do not hold the floor for themselves. This joint construction and turn taking was very different from the one-speaker-at-a-time rule common in conventional classroom recitation. Thus, Hawaiian children were being perceived as having academic difficulties because they did not know how to participate in their classroom interactions.

This body of research suggests that to succeed academically in school, students not only need content knowledge, they also need to understand the culturally appropriate ways of participating in instructional conversations and displaying academic knowledge in order to be seen as literate. While this work has contributed significantly to our understandings, there is still more to be done.

One of the criticisms of this body of work is that it stops short. It identifies cultural differences, which are often viewed as "deficits," but does not explore how such differences are "tied to inequities in social structures nor how the actions and interactions between teachers and students may contribute to successes and failures of ethnically and linguistically diverse students" (Ernst-Slavitt, 1997, p. 29). It also does not examine how what counts as academic knowledge in classrooms is socially constructed and situationally defined through the moment-to-moment interactions of teachers and students (Brilliant-Mills, 1993;

Floriani, 1993; Green & Dixon, 1993; Hicks, 1995). In order to accomplish this goal, a particular kind of research is needed.

Part Two: Conceptualizing Academic Literacy

How academic literacy is defined and conceptualized depends upon the kind (i.e., approach) of research being conducted, the level(s) of the students/class being studied, and the setting. Work in this area has usually been done at the college or university level and frames academic literacy as "a specialized form of reading, writing, and thinking done in the 'academy'" (Zamel, 1993 as cited in Zamel and Spack, 1998, p. 187). When looking specifically at writing, Lea and Street (1998) suggest that educational research can be considered from three different perspectives or models: study skills, academic socialization, and academic literacies. The study skills approach views literacy as a set of discrete skills which, once students have mastered, are transferable across disciplines. The focus of this work is how to fix the student, which privileges a deficit view. From an academic socialization perspective, the emphasis is acculturating students into academic discourse. This view assumes that the "academy is a relatively homogeneous culture, whose norms and practices simply have to be learnt to provide access to the whole institution" (p. 159).

However, some current work in this area argues that it is no longer possible to assume one type of literacy or one culture in the academy (Lea & Street, 1998; Rex et al., 1998; Zamel & Spack, 1998). Rather, these scholars argue for an academic literacies approach. Such a view considers literacies as social and cultural practices shaped by the interactions of members of a group. From this perspective, literacy is not viewed as an individual possession (Gee, 1990), nor a state of grace at which one arrives (Santa Barbara Classroom Discourse Group, 1992). Rather, it is seen as the social accomplishment of a group (Baker & Luke, 1991; Bloome, 1986; Gee, 1990; Street, 1984, 1995) in a particular setting. As members of a classroom interact, they construct situated ways of being literate, and through these literate practices, they define what counts as literacy. Literate actions and practices are not givens, but are interactionally shaped and constructed across events of classroom life (Santa Barbara Classroom Discourse Group, 1992). From this perspective, literacy is continually being defined and redefined in the social life of a group (Santa Barbara Classroom Discourse Group, 1992). Therefore, it is not appropriate to speak of a single definition of literacy, but rather to consider the multiplicity of literacies that students face as they become members of a classroom.

> What counts as literacy in any group is visible in the actions members take, what they orient to, what they hold each other accountable for, what they accept or reject as preferred

responses of others, and how they engage with text. (Santa Barbara Classroom Discourse Group, 1992, p. 120)

Academic literacies, from this perspective, is more than learning how to read and write and applying those skills to specific content areas such as science and social studies which Street (1984) calls the autonomous approach to literacy.[2] It is understanding both the general and situated nature of the co-constructed literate practices and how to utilize them within and across disciplines in appropriate ways. It is also understanding how to use the same practice in particular ways for particular purposes in particular content areas (Brilliant-Mills, 1993). Given this, academic literacies will be investigated in this study from an ideological perspective (or approach) which views the meanings of literacies as dependent upon the social context is which they are constructed (Street, 1984).

In the literature, the terms academic literacy and content area literacy are often used interchangeably. Content area literacy has been defined as "the ability to use reading and writing for the acquisition of new content in a given discipline" (McKenna & Robinson, 1990). Because this study is concerned with more than reading and writing, and considers how a teacher and her students, through their literate and discursive practices, co-construct patterned ways of interacting with academic content, I have chosen to use the term academic literacies.

Academic Literacies and Linguistically Diverse Students

There is little debate among educators about the need to ensure access to academic literacy for linguistically diverse students. However, there is a paucity of research that addresses this topic. In an ERIC search conducted in March 1999, the topic of academic literacy had 823 citations. When limited to academic literacy and elementary, the number of citations decreased to 300. When searching for academic literacy and bilingual, the number of citations was much fewer, 39. I also searched using academic literacy and English as a Second Language (ESL), limited English proficient, linguistically diverse students, second language learners, and English language learners. Each of these resulted in zero citations. Upon perusing the 39 citations, I discovered that 11 of these were bilingual program or project reports; 5 were resource materials or educational strategies; 5 dealt with computer literacy; 12 addressed the literacy development of bilingual students (Spanish speakers); 2 addressed the literacy development of speakers of other languages (Swedish and Yugoslavian); and 3 dealt with miscellaneous topics (Primary Learning Record, Functional literacy in a community college, and evaluation in moderate to small school districts). There was only one study that addressed academic literacy specifically. When looking at this article, it was clear that although the search terms included

academic literacy, the content dealt with the development of policy in science education.

What I found by doing this was that much of the research falls under the broader categories of the acquisition of academic content and literacy development, by language minority and ESL students. Because of this, in this review, I have chosen to include work that has been done in relationship to these categories (language minority and ESL). While the focus of this study is bilingual students, I have had to consider a wider range of literature since much of the research has focused specifically on ESL students.

Acquisition of Academic Content

In relationship to the acquisition of academic content, much of the work reiterates that ESL students have not attained the same level of "success" (e.g., achievement level) as native speakers of English, and its goal is to determine why. Key factors examined are language of instruction and time. For much of the last decade (1987-1995), Thomas & Collier (1995) have been analyzing the length of time needed to be academically successful in a second language and the variables that influence language minority students' academic achievement. They have collected and analyzed data from approximately 42,000 language minority students per school year (for 8-12 years). The data includes student background variables,

achievement data as measured by standardized tests, performance

assessment measures, grade point average, and high school courses

in which enrolled. In a recent summary of their study progress Collier

(1995) concluded that it takes English Language Learners 4-10 years

to reach the 50th percentile on content area standardized tests

(including performance-assessment) in their second language. For

students who were schooled in the U.S. from kindergarten, the

program where students were the most successful, as measured by

standardized tests across content areas, was the two-way bilingual

program. These students were able to maintain grade level skills in

their first language throughout their schooling and to reach the 40th

percentile in their second language after 4-5 years of schooling in

both languages. It is important to recognize that they were also able to

sustain these gains in secondary school. Characteristics of the

two- way bilingual programs they studied included: Schooling of all

students (language majority and language minority) in two languages

until sixth grade, perceptions of staff and parents that the program was

a "gifted and talented" program (as opposed to compensatory), parent

involvement, and continuous staff development. Students who took

the longest to reach the 50th percentile on content area standardized

tests were those who arrived at a young age with little or no academic

instruction in their first language and who received no bilingual

instruction (7-10 years). Additional findings of this work indicate that

students achieved significantly better in programs that taught language through academic content in math, science, social studies, and literature, and which included problem solving and highly interactive activities. ESL (English as a Second Language) pullout in the early grades was the least successful program model for students' long-term academic success. To successfully acquire academic content, this research suggests that students need to receive support in their primary language while acquiring English. They also need more than just basic communication skills; they need to learn the academic languages of the content areas.

The work of Saville-Troike (1984) further supports the notion that students need more than fluency in conversational English in order to learn content area material. Her research found that students' scores on the Comprehensive Test of Basic skills (an achievement test covering the areas of reading, language, social studies, science, and math) did not correlate with their scores on English proficiency tests (The Northwest Syntax Screening Test, The Functional Language Survey, and the Bilingual Syntax Measure). She concluded from her study that what ESL (English as a Second Language) students needed to be successful in content courses was what she termed academic competence. While she provided instructional recommendations for how to provide for this through ESL lessons, she did not specifically define this term.

Building upon this notion of academic competence, Adamson

(1993) conducted a study of 34 ESL students. Twenty-four of the

students were in grades 7-12 and 10 of them were in college. He

used case studies to examine how ESL students accomplish

academic tasks in content courses. Based upon his findings, he

concluded that "academic competence amounts to possessing a

critical mass of understanding and appropriate strategies" (p. 114).

For him, understanding consists of having both knowledge of specific

content areas and knowledge of the "scripts for school." Strategies

included "study skills" such as reading, dictionary use, note-taking,

use of research tools, organization, and studying for texts. He also

included ways of "completing assignments without a high proficiency

in English" as academic strategies. He suggests that by using such

strategies, students were better able to understand material that they

did not understand well at first and to complete assignments. His

research led him to suggest five principles for preparing ESL students

for mainstream courses (p. 114):

1. Academic strategies should be explicitly taught on an
   individualized basis.

2. Students can best learn strategies in a language through
   content.

3. Teaching should be interactive in ways that are compatible
   with students' learning styles and prior scripts for school.

4. Teaching should be experiential.

5. The content subject should be one that the students will need to know when they are mainstreamed.

While some of these principles may be useful to teachers, what is apparent is that they are based on the assumption that teaching causes learning. This raises questions about the nature of learning. What is implied here is that learning means being able to successfully do the assignments, especially ones that they will be given when they are "mainstreamed." This does not consider the constructed and situational nature of literate practices and assumes that there is a "singular culture" into which the students will be mainstreamed, much like the assumption underlying the academic socialization approach (Lea & Street, 1998).

The consistent themes in this work suggest that language minority students need time to develop academic skills and that these skills are comprised of more than English proficiency. The length of time needed depends upon students' skills in their primary language, which makes an argument for primary language instruction. What is often overlooked, however, is that in many of these studies academic success is defined as being able to achieve on standardized tests, or to complete assignments, or to assimilate into the "mainstream" classes, which assumes a particular view of learning. Such views privilege a discrete skills based model of teaching and learning (i.e., study skills model) or academic socialization perspective and fail to consider how academic knowledge is constituted in the literate

practices constructed through the interactions of teachers and students in classrooms (academic literacies approach) (Lea & Street, 1998).

Literacy Development and ESL Students

Research on reading and learning to read in more than one language has largely been an extension or an application of previous work in first language reading (Grabe, 1991; Weber, 1991). For example, given the popularity of the audiolingual method in the 1960s, second language reading instruction focused on pronunciation, grammar, and vocabulary (Silberstein, 1987).

As the view of reading changed and evolved, there were attempts to reinterpret Goodman's psycholinguistic model specifically for second language learners (Clarke & Silberstein, 1977; Coady, 1979). Clark and Silberstein (1977) highlighted instructional implications that could be considered from a psycholinguistic model of reading. Because reading was viewed as an active comprehension process, they recommended that students be taught strategies to make them efficient readers (e.g., using context, making inferences, skimming). Coady (1979) reinterpreted Goodman's model into one specifically focused on second language learners. He proposed that the reading process was comprised of three components: process strategies, background knowledge, and conceptual abilities. He

suggested that beginning readers focus on process strategies (e.g., word identification) while more proficient readers were better able to utilize background knowledge and more abstract conceptual abilities (e.g., using text information for predicting and confirming). Additionally, several researchers have utilized miscue analysis (Goodman & Burke, 1968) with various bilingual populations in order to understand more about the reading process (Barrera, 1983; Goodman & Goodman, 1978; Hudelson-López, 1975). Through an analysis of readers' oral responses, it is possible to determine how the various language systems are used (graphophonic, syntactic, and semantic).

One of the general goals of ESL reading theory and instruction has been to understand what fluent English (L1) readers do and then to utilize this information to teach ESL students (Grabe, 1991). Cognitive and educational psychology have also strongly influenced both the theories and instruction in ESL reading. There have been attempts to understand the complexity of reading by breaking it into component skills and knowledge areas that include: automatic word identification, vocabulary knowledge, formal discourse structure knowledge (how texts are organized), background knowledge (content schemata), synthesis and evaluation skills, and metacognitive skills (Grabe, 1991).

The development of automaticity, particularly in word identification, has been recognized by cognitive psychologists as critical to fluent reading. It is also now being studied in relationship to second language reading. In a study with both adults and children, McLaughlin (1987) focused on the extent to which learners of varying English proficiency levels achieved automaticity (i.e., when the reader is unaware of and not consciously controlling the process) in their reading skills. The study with children was done with both monolingual and bilingual (Spanish/English) fifth and sixth graders and sought to understand how poor bilingual readers differed from poor monolingual readers. The participants were organized into four groups based upon teacher judgement and CTBS scores: monolingual good readers, monolingual poor readers, bilingual good readers, and bilingual poor readers. They were given five passages of increasing difficulty for which there were three responses: the correct answer, a syntactically correct response that was lexically inappropriate, and a lexically correct response that was syntactically inappropriate. Not surprisingly, the findings indicated that good readers performed significantly better than poor readers. However, it was found that poor monolingual and bilingual readers made different types of mistakes. For the poor monolingual readers, lexical and syntactical errors occurred with equal frequency. Poor bilingual readers, though, made significantly more syntactic errors. It is

suggested that this may have happened because the native speakers had well developed and automatic syntactic knowledge and were less likely to make syntactic errors.

In this study, as well as in others like it, reading is narrowly defined as possessing a particular set of skills. Determination of "good" and "poor" readers through the use of standardized tests fails to consider what students are able to do in various classroom contexts as they interact with one another, the teacher and academic content. Such an autonomous view (Street, 1984) does not consider the situated nature of "what counts as reading" (Heap, 1991), or literacy.

In addition to the research studies presented above, much of the literature on literacy development and ESL students is replete with ideas and suggestions for developing instructional programs and creating lessons (Calderón, 1994; Freeman & Freeman, 1992; Hudelson, 1994; Pérez & Torres-Guzmán, 1996; Rigg & Allen, 1989; Sprangenberg-Urbschat & Pritchard, 1994; Tinajero & Silva, 1994). While there are citations included in each of these resources, none are research studies in and of themselves.

While it is evident that there has been much work in the areas of acquisition of academic content and literacy development of ESL students, what is missing is research that integrates the two or considers them as linked. It is also clear that literacy is often defined as the decontextualized ability to read and write, and that acquiring

academic content means being able to achieve on standardized tests. Such definitions, in my opinion, offer a limited view and fail to consider how knowledge, literacy, and academic content are socially constructed and interrelated or what Street (1984) calls an ideological view.

For the remainder of this selective review, I have chosen to include research that considers sociocultural dimensions of literacy. I recognize that the studies here come from various theoretical positions, but they have one thing in common. They do not view literacy as comprised of discrete skills. I have also elected to include studies that were done in grade levels (elementary, K-6) with language groups (Spanish, English) similar to this study. Additionally, I selected those studies that were most often cited in the research literature. To help guide this portion of the review, I have organized the studies into the following two sections: Relationships between first and second language (English) literacy, and biliteracy.

Relationships Between First and Second Language (English) Literacy

One of the principle arguments for bilingual education is based on the assumption that learning to read is a "single achievement" transferable across languages (Cummins, 1981; Mace-Matluck, Hoover, & Calfee, 1989; Weber, 1991). Because most of the bilingual programs in the United States are transitional (Crawford, 1995; Moll &

Dworin, 1996), research has examined the issues related to how literacy development in the second language (English) is related to literacy in the first language. For example, Edelsky (1986) analyzed the writing development of first, second, and third graders in a "whole-language program." She found that students applied their knowledge of their primary language (Spanish) to their English writing. They showed similar syntactic and pragmatic styles across languages, yet kept the languages apart for orthographic purposes.

Other researchers have also examined this relationship. Goldman, Reyes, and Varnhagen (1984) analyzed the relationship between comprehension of fables in the first and second language and how it changed as fluency in the second language increased. They found that when students were allowed to retell fables read in their second language and answer questions about them in their first, their comprehension was as high as when they had read the fables in their first language. They also found performance levels in the first language to be positively correlated with performance in the second.

Jimenez, García, and Pearson (1996) found that "successful" bilingual readers utilize strategies such as making inferences, integrating background knowledge and asking questions in ways similar to successful monolingual English readers. They also showed that successful bilingual readers were able to apply their knowledge of Spanish literacy to their work in English. This was different from what

they learned from less successful bilingual readers, who viewed their two languages as separate and considered their non-English language to be "detrimental."

Moll, Diaz, Estrada, and Lopes (1992) have examined the relationship between first and second-language literacy by studying the organization of classroom interactions. In this particular study, reading lessons in a bilingual elementary school were analyzed. In this school, the same bilingual students participated in reading lessons in separate Spanish and English language classrooms, allowing for comparisons to be made. By focusing on the moment-by-moment interactions of the students and teachers, these authors discovered that the organization of reading instruction created different learning conditions and contexts for the students. In general, even the students from the "high" Spanish reading group were placed in low levels of English reading. For example, students reading at the third-grade level in Spanish were placed at the first-grade level or lower in English. The rationale for such decisions (as suggested by the teachers) was the students' weak oral English development. During this study, the researchers' observations suggested that the students were capable of comprehending more English than they were able to express.

On the basis of this, a second study (Moll & Diaz, 1985) was conducted in two fourth-grade classrooms, one with a Language Arts

curriculum in Spanish, and the other in English. The focus of this study was a group of three girls who had all been placed in the "low" English reading group although they came from three different Spanish reading groups (high, middle, and low). After observing a "typical" English reading lesson, the researchers implemented a series of interventions based upon their theoretical framework, Vygotsky's sociohistorical approach. Their modifications included a focus on comprehension (as opposed to decoding) where the story was read aloud to the students in English and then discussed with a series of scaffolding questions. They also permitted students to use Spanish to discuss the story in subsequent lessons, to further build their vocabulary and reading comprehension. These researchers discovered that when their teaching interventions were "repackaged" and "applied in a theoretically different way," the students were able to successfully participate in a reading lesson in English at the fourth-grade level as opposed to first grade (the level of instruction of their low reading group). This raised additional questions about the relationships between first and second language reading comprehension.

What becomes evident from this work is that the nature of the orienting theory(ies), the methodology(ies) utilized, and the definition(s) of literacy all influence what is made visible and what can be understood about the relationships between first and second

language literacy. It also demonstrates how the social practices of a group or class can lead to the appearance of a lack of competence, and raises questions about the influence of instruction on what students choose to display in reading.

Biliteracy

Biliteracy, or the development of literacy in two languages, has received little attention in the United States research literature. This section focuses specifically on some of the work that has been done in this area.

Given the complexity of biliteracy development, Hornberger (1989, 1994) proposed a framework for understanding research on this topic. In her review of the research, she considered the fields of bilingualism and literacy and then identified the areas of overlap, which she determined to be biliteracy. Her framework consists of nine interrelated continua, which characterize the contexts for biliteracy, the development of individual biliteracy, and the media of biliteracy. In each of these, she utilizes pertinent research studies to build her argument. For example, in her discussion of the contexts of biliteracy, she identifies work in the fields of language and literacy that consider context as a significant factor. Her review demonstrates that "there is an implicit, and at times explicit, understanding in the literatures that any particular context of biliteracy is defined by the intersection of at

least three continua—the micro-macro continuum (i.e., the levels of social interaction and the levels of linguistic analysis); the oral-literate continuum (i.e., how language is used); and the monolingual-bilingual continuum" (pp. 109-110). She further suggests that one needs to consider all of these contextual continua in order to get a complete view of an instance of biliteracy.

She utilizes a similar process for her review of the literature for biliterate development within the individual and media of biliteracy. For individual biliterate development, which she defines as becoming communicatively competent, she identifies three continua that influence this: reception-production, oral language-written language, and L1-L2 transfer. Finally, she argues that it is "through the media of two languages that a biliterate individual communicates in any particular context" (p. 124). The continua that define the relationships between the media, or the languages, are: Simultaneous (early)-successive (late) exposure, similar-dissimilar structures, and convergent-divergent scripts.

In the research literature on bilingualism, Hornberger (1989, 1994) found that there was a distinction made between early and late acquisition. Early bilinguals become bilingual in infancy, while late bilinguals do so in adolescence. If a child acquires two languages by the age of three, s/he is doing so simultaneously, while after the age of three it is successively. She found that there were differences

attributed to the two kinds of bilinguals in the research. Additionally, the other two continua suggest that consideration needs to be given to the structures of the languages being studied as well as their orthographic systems.

What Hornberger's (1989, 1994) review offers is a glimpse of the complexity of the issues that need to be considered when researching students who are developing biliteracy. It also implies (though it is not stated explicitly by the author) that perhaps there is no singular definition of biliteracy. Gutierrez (1993) reiterates the notion that becoming bilingual and biliterate is a complex and "highly variant" process that cannot be captured by "simple" labels and definitions. In a year-long ethnographic study of the social contexts of literacy learning in three early childhood classrooms, she examined how teachers' beliefs about literacy learning shaped the instructional contexts.[3] Generally, the teachers had several assumptions about how young children acquire literacy and about the nature of early literacy instruction. She found that these assumptions, which were based upon Piaget's theories of development, limited the kinds of opportunities the students were provided for learning literacy. For example, because the teachers believed that writing was a developmentally inappropriate task, "they did not provide literacy tasks that encouraged the use and development of various kinds of writing skills" (p. 9). Consequently, these beliefs and assumptions precluded

the implementation of a biliteracy program. Prado-Olmos' study (1995) supported this finding. She demonstrated that program implementation (in this case Bilingual Cooperative Integrated Reading and Composition-BCIRC) was influenced by both the "teacher's belief system" and how "the teacher was trained" (p. 59). Together these studies suggest that researchers need to further explore the situated nature of what counts as biliteracy in particular classroom contexts.

Goodman, Goodman, and Flores (1979) were among the first researchers to consider the development of biliteracy in students and how this may affect classroom instruction. Building upon previous work (Goodman & Goodman, 1978) which examined four different populations of bilingual children reading in English (Spanish, Arabic, Hawaiian-Samoan, and Navajo), they found no linguistic incompetents. All of the students in the study were able to read better in English than their test scores predicted. They were able to understand more about what they were reading in English than they were able to produce as evidenced by their retellings in their primary languages. These researchers suggest that dialect differences and mispronunciations of words may have superficial effects on making meaning from texts, which contradicts the assumption of many teachers who believe that what a child says is an indication of what s/he can understand. They propose that bilingual learners may not need to be "totally proficient" in both receptive and productive English

in order to learn to read English. Given their findings, these researchers then put forth a comprehension centered curriculum for the development of biliteracy, which includes a biliterate school environment, integrated, thematic content, and lessons/activities that focus on the construction of knowledge in two languages.

In their study of the development of a bilingual whole language community, Whitmore and Crowell (1994) utilize the suggestions provided by Goodman et al. (1979) and further develop them. Their work explores and details how students in this classroom are provided with multiple opportunities for becoming biliterate. Based upon research conducted between 1989 and 1992, they identify four "critical events" in their data: The process of negotiating the curriculum for the year, creation of a Middle Ages theme cycle, understanding war through children's literature, and the friendship between two students. They analyze each of these events in relationship to what they claim to be the four "most salient" issues: High level of intellectual expectations, symmetric power and trust relationships, authentic language and literacy events, and additive bilingualism and biliteracy. For each issue, several themes emerge. Intellectual expectations are "unexpectedly intellectual, rigorous, and interesting given the children's social-class backgrounds" (p. 59). The teacher involved students in the construction of the curriculum and grounded the academic work in the students' personal questions. Students were

expected to assume responsibility for their own learning. The relationships between the teachers and students were found to be more symmetrical; students' voices were viewed not as "mere reflections of their worlds, but as constitutive forces that both mediate and shape reality" (p. 65). The students were engaged in authentic learning experiences from the beginning. They read, write, and used language for real purposes, often their own. In relationship to the issue of bilingualism and biliteracy, the findings showed that students chose the language in which to work. The teacher encouraged the students to make language choices based upon "who they are talking to, what materials they are using, the message they have to communicate and the context in which they find themselves" (p. 126). All students were encouraged to develop their second language.

Underlying all of their work is the "perspective" that a whole language classroom community invents itself. The authors utilize Ken Goodman's theory of invention and convention in addition to the work of Vygotsky and Moll in their efforts to create a "theory of learning." While they make some important contributions in this regard, it must be noted that their theoretical framework is limited. By adhering solely to a limited range of social constructivist and whole language literature and research, they have excluded much of the work on classrooms as cultures and social construction of literacy (Collins & Green, 1992; Edwards & Mercer, 1987; Green & Harker, 1982; Green & Meyer,

1991; Santa Barbara Classroom Discourse Group, 1992). Such research would further inform their framework and make visible how the students were introduced to and utilized various literate practices across content areas.

Moll and Dworin (1996), building on the previous work considered here, have examined the biliteracy development of students in elementary schools. Utilizing a sociocultural approach, they suggest that biliteracy be studied in relationship to the broader social and institutional context, the social organization of classroom lessons/activities, and how literacy is used as a tool for communication and thinking. For this particular study, they focus on two students and the "mediational potential of biliteracy, especially in facilitating multiple and flexible ways of promoting and supporting the academic development of students" (p. 223). Through an analysis of writing samples, they demonstrate in their first case study, how a first grade student develops as a reader and writer who successfully and simultaneously utilizes two literate systems. They also suggest that this occurs because of particular social conditions (e.g., a biliterate family) and a teacher who worked to create an "additive" bilingual classroom where students were provided opportunities to speak, read, and write in both languages and where Spanish was treated as an "unmarked" language. Given their findings, they conclude that "the

potential for widespread and proficient biliteracy clearly exists" (p. 225).

In their second case study, they show how a third-grade girl is able to utilize her biliteracy as an academic resource. They analyze her participation in a theme study cycle and consider the opportunities she is provided to read and write in both languages as part of her ongoing research. In their analysis they identify the literate practices that this student (as well as others) developed. These included asking questions, obtaining information from multiple resources, translating when necessary, summarizing, and communicating information through writing. They suggest that it is through such practices that students in this classroom were able to utilize their bilingualism deliberately to further their academic learning. They conclude that the essential element in classrooms is that biliteracy is an "integral and legitimate" part of the culture and that students be provided with opportunities to speak, read, and write for academic purposes in both languages.

The research studies in this section suggest that literacy development amongst linguistically diverse students in highly complex. To fully understand such development, it is necessary to consider a myriad of factors. Perhaps most importantly, these studies highlight the significance of classroom contexts, how they are constructed in and through face-to-face interactions, and how these

classroom contexts shape the construction of literate practices. They also demonstrate a need to further understand how students utilize such practices as academic resources and cultural tools to further their academic learning. This study addresses this need.

Part Three: Conceptualizing Classrooms as Cultures

To accomplish this goal and address these shortcomings, I am adopting a particular view of life in classrooms. The framework that guides this inquiry considers academic literacies as socially constructed and therefore suggests that literacy is both a product of and a cultural tool for a social group (Castanheira et al., 1998; Durán & Szymanski, 1995). From this perspective, "members of a classroom form a social group in which a common culture is constructed" (Green & Meyer, 1991, p. 141).

Upon entering a classroom, a teacher and students begin to interact and thus commence the process of constructing an identity as a particular class. They establish rights and obligations, norms and expectations, and roles and relationships. As such, a classroom is a social setting in which a social group called a class is constructed (Green, Kantor, & Rogers, 1991). As members of this class construct the events of daily life, they develop both common knowledge (Edwards & Mercer, 1987) and patterned ways of perceiving, believing, acting, interacting, interpreting, and evaluating,

(Goodenough, 1981). Spradley (1980) suggests that these patterned ways of being in a social group form the "culture" of that group. Because different patterns are constructed by different social groups, culture cannot be seen as a predictable or given entity. Rather, it is dynamic and unfolding. It is learned, defined and revised in the context of people interacting and doing (Green et al., 1991; Spradley, 1980). By viewing culture in this way, the patterns and practices of everyday classroom life can be identified.

Over time, in order for teacher and students to understand each other, they develop a system of communication and a shared conception of the work they are doing together. This becomes their joint frame of reference (Edwards & Mercer, 1987), and is utilized by members to interpret daily life: the meanings of words and phrases, the system of communication (e.g., turn-taking, requests for help, etc.), and the content of lessons and events (Collins & Green, 1992). These co-constructed communicative and referential systems become a language of the classroom (Lin, 1993).

A Holistic View

In order to begin to understand the complexity of a classroom culture, and to interpret daily life as members do, a holistic view is required. Such a view suggests that life in classrooms is continuous and interlinked; it is not comprised of and cannot be understood as

discrete bits. Some events reoccur (Language Arts time, math time),

some overlap or are closely related (Writer's Workshop, Writing a story

in Science), and others may be separate, one time occurrences still

related to other events (e.g., an invited speaker, a class party). While

each of these events may be analyzed in depth, a holistic view

requires that such an investigation will not stop at the level of the

individual event. Rather,

> the information obtained from this analysis will be used as the
> basis for the exploration of other aspects of the culture. In this
> way, a 'piece of the culture' can be examined in depth to
> identify larger cultural issues and elements. (Zaharlick & Green,
> 1991, p. 280)

From this perspective, it is not possible to understand the parts

(individual events) without considering them in relationship to the

whole (Collins & Green, 1992). Analysis of part-whole relationships

allows for a more comprehensive view of classroom life—being able

to interpret one event helps with the interpretation of both past and

future events (Collins & Green, 1992; Green & Meyer, 1991). To make

these part-whole relationships visible in this study, analysis will

include the identification of cycles of activity and intertextual ties.

Cycles of Activity

By considering how classroom events are constructed over time

through talk and action (Edwards & Mercer, 1987), and the

relationships among/between them, the continuous and

interconnected nature of classroom experiences becomes visible (Green & Meyer, 1991). Through the identification of cycles of activity, a beginning exploration of the interrelationships among events is possible. Cycles of activity are a "series of actions about a single topic for a specific purpose. To be a part of a cycle of activity, events must be tied together by a common task or serve a common purpose" (Green & Meyer, 1991, p. 150). For the timeline of cycles of activity in this classroom and a discussion about them, please see Figure 4.7 and Chapter 4. For an example of a cycle of activity map, please see Table 5.6.

The "Looking for Patterns" cycle of activity began during the second week of school and lasted for 20 days. On the first day, students were introduced to the concepts of patterns through a story (A House Is a House For Me) during read aloud time and during mathematics. They explored different kinds of patterns on this day (e.g., snap-clap, people, tiles) and were encouraged to articulate each of the patterns that they identified. As the cycle of activity progressed, students explored a variety of patterns of increasing complexity. They were provided multiple opportunities to both identify patterns and to record them. On Day 6, a new read aloud was introduced (The Napping House). The students discussed the potential patterns in the story (the parts that repeated) and then worked in groups to create their own version of the story. This was done again with another

pattern story entitled <u>Fortunately</u> a week later. While this cycle of activity ended on Day 20 with the sharing of student made books, the practice of identifying patterns was one that continued throughout the school year. Students were asked to identify patterns throughout mathematics in their explorations of addition, subtraction, multiplication, and division. They also created other pattern books incorporating what they learned from this cycle of activity. In this cycle of activity, the events were bound together by the practice of identifying patterns. This purpose was different from some of the other cycles of activity throughout the year (e.g., The Solar System Cycle, The Santa Barbara Cycle, The Rainforest Cycle) in that the focus was specifically upon introducing and practicing an academic practice. The **"Looking for Patterns"** cycle of activity will be discussed in greater length in Chapter 4.

Intertextuality

Another way to examine the links between classroom events is through the construct of intertextuality. Bloome (1989) suggests that:

> Whenever people engage in a language event, whether it is a conversation, the reading of a book, diary writing, etc., they are engaged in intertextuality. Various conversational and written texts are being juxtaposed. Intertextuality can occur at many levels and in many ways.
>
> Juxtaposing texts, at whatever level, is not in itself sufficient for intertextuality. Intertextuality is a social construction. The juxtaposition must be interactionally recognized, acknowledged, and have social significance. In

classrooms, teachers and students are continuously
constructing intertextual relationships. This set of intertextual
relationships they construct can be viewed as constituting a
cultural ideology, a system for assigning meaning and
significance to what is said and done for socially defining
participants. (pp. 1-2)

This definition of intertextuality proposes that the classroom events

constructed by teacher and students in and through their actions and

interactions can be considered texts to be interpreted. Given this view,

a definition of text that is consistent with this perspective is necessary.

Fairclough's work (1993) provides such a definition. In his

argument about critical discourse analysis, he suggests that "each

discursive event has three dimensions or facets: it is a spoken or

written language text, it is an instance of discourse practice involving

the production and interpretation of text and it is a social practice" (p.

136). Therefore, this definition proposes that text can be oral and/or

written and that people in interaction can become texts for one another

(Erickson & Shultz, 1981; McDermott, 1976). By utilizing and adapting

this definition, it is possible to examine how members of a classroom

culture construct social and academic texts in and through their

actions and interactions and how situated definitions of texts are

constructed within and across events (Floriani, 1993).

By considering text construction in this way, as a dynamic

process that shapes and is shaped by the actions of members, it is

possible to see how texts are interactionally and situationally defined

within a particular context. Context, then, for the purposes of this study, will be defined using the work of Erickson and Shultz (1981) which builds on McDermott (1976) and Mehan (1979). They suggest that:

> Contexts can be thought of as not simply given in the physical setting . . . nor in the combinations of persons. . . . Rather, contexts are constituted by what people are doing and where and when they are doing it. . . . Ultimately, social contexts consist of mutually shared and ratified definitions of situation and in the social actions persons take on the basis of these definitions. . . . (Erickson & Shultz, 1977, p. 148)

Contexts, like texts, are being shaped by and are shaping the interactions of participants in classroom events. Because this study views literacy from an ideological view (Street, 1984), it is important to understand the contexts in which literacies are being constructed. It is also necessary to consider these contexts when identifying the opportunities for learning and acquiring academic literacies that are made available to the students in order to understand how such opportunities are socially and situationally constructed.

Opportunities for Learning

By considering the intertextual nature of classroom events, it is possible to see how a classroom teacher introduces literate practices and academic content that shape particular opportunities for learning. It is also possible to see how students contribute to this shaping. From this perspective, opportunities for learning "are

interactional phenomena that extend beyond the unidirectional presentation of information" (Tuyay, Jennings, & Dixon, 1995, p. 76). Rather, they are co-constructed by members as they interact with each other and with academic content (Tuyay, 1999) in particular contexts. However, merely constructing an opportunity does not ensure that learning has occurred. Students have agency in choosing to take up, or not, such opportunities. As Jennings (1996) found, "an opportunity for one student may not be an opportunity for another, or may be taken up differently" (p. 47). In this study both the opportunities for learning and how the students take them up (or not) are considered.

In considering the above, I am suggesting a particular framework for researching classrooms as cultures. By utilizing this framework and exploring each of these concepts, I intend to make visible both the culture of the third-grade classroom being studied and how the students and teacher socially constructed particular opportunities for learning to be academically literate.

Chapter Summary

This chapter presented a conceptual review of the literature. In the first part, various explanations for the academic underachievement of linguistically diverse students were discussed. For each of the reasons presented (i.e., inadequate English proficiency, grouping and instructional practices, and different patterns of language use) the

gaps in the research literature were highlighted. These gaps suggest a need for research that focuses on how language is used in the daily interactions between students and teachers and how discursive practices are related to discipline specific literacy demands.

Part two focused on academic literacies and how they have been traditionally defined and researched in relationship to the "academy" (e.g., university or college). It also illuminated the paucity of research that has been done with linguistically diverse students, and considered related work (e.g., acquisition of academic content, literacy development and ESL students, and biliteracy). It argued for the need to reconceptualize academic literacies as social and cultural practices shaped by the interactions of a group and to understand how such practices are socially constructed and situationally defined.

To research academic literacies from this perspective requires a view of classrooms as cultures. The third part of this chapter explained this view. It presented key concepts that will be used in this investigation to make visible the culture of the third-grade classroom in this study.

Drawing on the conceptual understandings in this chapter, and the theoretical framework outlined in Chapter 1, this study aims to add to the body of research on academic literacies and to begin to fill the void of research related to linguistically diverse students. To accomplish this goal requires the use of a methodological approach

that is consistent with the theoretical framework and conceptualization of academic literacies. Such an approach, Interactional Ethnography, will be discussed in Chapter 3.

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[1] ESL stands for English as a Second Language. In this case, the studies reviewed for this particular section focused on the literacy development of students who are learning to read in English, which was their second language.

[2] Street (1984) describes this approach as claiming that literacy can be defined independent of the social context.

[3] Cochran-Smith's (1984) study also investigated young children's knowledge of print and how they came to know it. She also found that the adults in this study acted on their assumptions about how young children learn to make sense of written texts rather than what the students were actually doing. While this study is related to that of Gutierrez (1993) in this way, it was not included in this review because it did not address linguistically diverse students specifically.

CHAPTER THREE

METHODOLOGY

Overview

The previous chapter presented a conceptual review of the literature relevant to this study. It discussed reasons for the academic underachievement of linguistically diverse students and examined how academic literacies have been researched and typically defined. It argued for the need to reconceptualize learning (Marshall, 1992) by considering classrooms as cultures. It also argued for the need to investigate how academic literacies as socially constructed and situationally defined by members of that culture.

This chapter is organized into three parts. In the first part, the relationship of theory and method in research is presented to provide a rationale for the methodology selected for this study. The second part describes the methodological frame (i.e., Interactional Ethnography) and the theories that comprise this frame. Finally, the third part of the chapter focuses on the methodological tools that allowed me to address the questions guiding this study. It provides an overview of the study, a description of the research context, the data collected, approaches to data analysis utilized, and examples of data representation.

Part One: The Relationship of Theory and Method in Research

To reconceptualize learning as called for by Marshall (1992) and to begin to understand how academic literacies are socially constructed and situationally defined in classrooms required the theoretical underpinnings of the methods selected for this study be carefully considered. This was important because the theoretical assumptions of the researcher influence the research being conducted (e.g., questions explored, data collected, types of tools used); what can be seen and understood is determined by the theory (ies) selected (Green et al., in press; Zaharlick & Green, 1991). In this way, a theory can be considered a lens through which the researcher "sees." What is available to be known can be enhanced or restricted by the type of lens (i.e., theory) used and its expressive potential (Strike, 1974).

Given the significance of theory-method relationships in research (Birdwhistell, 1977; Heath, 1982), it is important for any researcher to make informed decisions about the methodological approach to be used for the research being conducted. In making this decision, one needs to consider whether a particular approach is appropriate given the questions being asked and the theories guiding the research.

With these understandings, I deliberately elected to use interactional ethnography as the orienting framework for this study.

This orienting framework is comprised of mutually informing theories (Souza-Lima, 1995) grounded in cultural anthropology (Geertz, 1983; Spradley, 1980) and interactional sociolinguistics (Gumperz, 1986, 1992). Each of these will be discussed in the following section.

Part Two: Using Interactional Ethnography as a Methodological Frame

As previously discussed, the research approach guiding data collection and analysis in this study was interactional ethnography. Because this framework is comprised of both ethnography (from a cultural anthropological perspective) and interactional sociolinguistics, these will be discussed in the sections that follow.

A Situated Definition of Ethnography

The definition(s) of ethnography utilized in this study was drawn from Green and Bloome (1997). Building upon Street (1993) and Ellen (1984), they suggest that because of the evolution of what counts as ethnography and ethnographic research in the past three decades, a single point of view or definition of ethnography may not be possible. Instead, they drew a distinction among three approaches to ethnography: doing ethnography, adopting an ethnographic perspective, and using ethnographic tools. They defined doing ethnography as associated with broad, in-depth, and long-term studies of a social or cultural group that involves framing,

conceptualizing, conducting, interpreting, writing and reporting, and meets the criteria for doing ethnography as framed within a discipline or field. Adopting an ethnographic perspective means taking a more focused approach to study particular aspects of the everyday life of a social or cultural group which is guided by cultural theories. Finally, using ethnographic tools refers to the methods and/or techniques often associated with fieldwork, which may or may not be guided by theories of culture.

These three distinctions proposed by Green and Bloome (1997) describe the ways ethnography was used as a methodological approach in this study. In this study, all three approaches were utilized. Doing ethnography provided a macro-view of classroom life and a better understanding of how a classroom culture was constructed. By using a cultural anthropological lens (Geertz, 1983; Spradley, 1980), my goal was to identify the cultural actions, cultural knowledge, and cultural artifacts (Spradley, 1980) that members of this classroom used to produce, predict, interpret, and to participate in their everyday life (Heath, 1982). By observing and asking who can do (say) what, with (to) whom, when, where, about what, under what conditions, for what purpose, with what outcome, the insider's (emic) perspective on classroom life and the "meaning of actions and events" (Spradley, 1980, p. 5) became visible.

Spradley (1980) suggests that the ethnographer observes the actions of a group, but also goes beyond that to inquire about the meanings of such actions. He explains that such meanings are particular to a group and are established through the group members' interactions with one another and then are used for interpretive purposes and to guide their participation. Drawing on Frake (1977), he proposes that:

> Culture is not simply a cognitive map that people acquire, in whole or in part, more or less accurately, and then learn to read. People are not just map readers; they are map-makers. People are cast out into imperfectly charted, continually revised sketch maps. Culture does not provide a cognitive map, but rather a set of principles for map making and navigation. Different cultures are like different schools of navigation designed to cope with different terrains and seas. (Frake, 1977; pp. 6-7 as cited in Spradley, 1980, p. 9)

This metaphor suggests that people in a group read and interpret the actions and interactions of others and use this knowledge to act in ways that mark them as a member. This cultural perspective forms the basis for identifying and examining the literate actions and practices and for identifying the principles of practice (Tuyay, Floriani, Yeager, Dixon, & Green, 1995) associated with life in this third-grade bilingual classroom.

Interactional Sociolinguistics

The second body of work contributing to this orienting framework (i.e., interactional ethnography) is comprised of theories

drawn from interactional sociolinguistics, as informed by ethnography of communication (Gumperz & Hymes, 1972). The interactional sociolinguistic perspective provided a more micro-level view of classroom life. Grounded in ethnography of communication, this approach was utilized to examine both language in the classroom (those language resources brought to the classroom) and language of the classroom (the co-constructed communicative and referential systems) (Green & Dixon, 1993; Lin, 1993). As members interact over time, they construct criteria for appropriate language use and social action that reflects their cultural knowledge. This cultural knowledge is held by the group and not by an individual (Green & Meyer, 1991). Through an analysis of these languages (i.e., languages of and in the classroom), it was possible to explore how literate practices and opportunities for learning academic content are co-constructed in and through moment-by-moment, face-to-face interactions of members of a group. It was also possible to examine how what counts as academic literacies was situationally defined in and through the interactions and practices of students and teachers (Brilliant-Mills, 1993; Floriani, 1993; Lemke, 1990).

Gumperz (1986) argues that an interactional sociolinguistic approach is valuable because "it focuses on the interplay of linguistic, contextual and social presuppositions which interact to create the conditions for classroom learning. Analysis focuses on key

instructional activities that ethnographic observations have shown

may be crucial to the educational process" (p. 65). Furthermore, he

suggests that by utilizing this approach and analyzing how knowledge

is socially constructed,

> we can expose some of the hitherto unnoticed complexities
> involved in learning. We can see that schooling (and I will
> argue opportunities for learning to be academically literate) is
> not just a matter of exposure to classroom instruction. It is
> significantly affected by how information is made available
> through the curriculum . . . and how knowledge and access to it
> are both socially defined and interactively constrained. (p. 68)

Therefore, to understand how a student is provided access to

academic literacies, how literate practices are established, and how

opportunities for learning are constructed within and across academic

disciplines (i.e., math, science, social science), an ethnographer

needs to focus on the language(s) being used to construct them.

Summary of Part Two

This orienting framework (interactional ethnography) forms the

basis for examining classrooms as cultures constructed by members

in and through their discursive processes and practices (Collins &

Green, 1992; Green & Harker, 1982; Green & Wallat, 1981). By

combining mutually informing perspectives, the expressive potential

(what can be said from this research) (Strike, 1974) is enhanced.

Through analyzing the construction of events, the discourse processes

and practices required for appropriate participation and the moment

by moment life in this third-grade bilingual classroom, I investigated how academic literacies are socially constructed.

Part Three: A Methodological Description - The Who, What, Where, and How

The Research Context

The study was conducted during the 1992-93 academic year in a third-grade bilingual classroom. At the time of data collection, I was the teacher in this classroom. I was also a Ph.D. student and a member of the Santa Barbara Classroom Discourse Group, so my participation in the study during that year was as teacher-researcher. There were two university researchers in the classroom (Carol Dixon and Louise Jennings) as well. They each kept their own ethnographic fieldnotes (which were used as a method of triangulation) in addition to the notes and journals that I kept. All of us were responsible for collecting the videotape data. While each of us was interested in the study of the relationships between literate practices and opportunities for learning (Tuyay, Jennings, & Dixon, 1995), we each had different questions we wanted to pursue as well. Together, we determined the shape of the research to accommodate and meet all of our interests.

Setting

The third-grade classroom studied was located in a public elementary school of approximately 530 students in Southern California. The school's student population was largely "Hispanic,"[1] as indicated in Table 3.1. This table further describes the demographics of the school for the academic year of this study. What is not visible in this table, nor reflected in any of the public documents about this school, is the fact that this school draws its students from two very different locations. While both of these are within the school boundaries, and considered part of its local neighborhood, they represent a sharp contrast in ethnicity and socioeconomic status. The folk terms used at the school site for these two areas were "up the hill" and "down the hill." The students from "up the hill" were largely European-American. Real Estate information indicates that homes in this neighborhood typically sell for over $500,000. The students from "down the hill" were largely "Hispanic." The homes in this area are largely multiple family dwellings and are rental units.

This school was identified as a "mastery learning" school. As explained in an information packet for parents (see excerpt in Appendix A), this meant that the focus of instruction in each grade level was on specific objectives. When the students mastered these discrete objectives, they were allowed to advance to the next step in the "learning sequence." It was expected that these objectives would

Table 3.1: <u>Demographic Information</u>

SCHOOL SITE	CLASSROOM
Total Students: 534	Total Students: 27 Female: 15 Male: 12

<u>Ethnicity</u>	<u>Percentage</u>	<u>Ethnicity</u>	<u>Percentage</u>
American Indian/Alaskan	1%		
Asian	1%		
Black	7%		
Hispanic	71%	Hispanic	81%
White	20%	White	19%

be posted daily in each of the classrooms so that both the students and the teachers knew the focus for each day.

Given the large percentage of students who spoke English as a new language, this school was also designated a "bilingual" school. According to district and school policy, the district offered a transitional bilingual program, which meant that students were provided instruction in their primary language (Spanish) until they were ready to transition into instruction in the English language. While there were different variations of this program model offered throughout the school district (e.g., early exit, late exit), this school provided an early exit program transitioning students as early as second grade. Although this school claimed to provide bilingual education, the implicit policy was to offer instruction in Spanish only for reading/language arts. This was accomplished by grade-level teaming for language arts instruction. At each grade level, the teachers taught language arts at the same time. Those students who spoke Spanish were sent to the designated bilingual teacher for that grade level, while the bilingual teacher sent the English-speaking students to other classrooms. During the year of this study, this meant that Mrs. T sent 12 students to "English reading."[2] She received 23 "Spanish readers" from the other two third-grade classrooms, which meant that she taught reading to 38 students. After reading/language

arts, the students returned to their homerooms, where instruction in English was encouraged and expected.

The third-grade team during the year of data collection was comprised of three teachers. They met monthly to review student progress and to plan which mastery learning objective to address during the next month. While it was it was expected that all three of the classrooms teach the "same" mastery learning objectives at the "same" time, there was flexibility in the choice of curricula used to do so.

Participants

Students. This third-grade class had between 25 and 29 students. For the majority of the school year, however, there were 27 students: 15 girls and 12 boys. Of these students, 16 were identified by the school as "Spanish readers" and 11 as "English readers." Three of the students were identified (through the district referral and testing process) as "Special Education" students and received additional instructional support outside of the classroom. Throughout this document, pseudonyms are used for the students' names. This was done to protect their anonymity.

Teacher. I was the teacher in this classroom. I am a European-American female and my first language is English. I hold a California Multiple Subject Teaching Credential, a Bilingual Certificate

of Competence in Spanish, a Reading Specialist Credential, and an M.A. in Education. This (1992-93) was my sixth year of teaching in a bilingual classroom. Mrs. T is the name used to represent the teacher throughout this document. (Mrs. A is the name used to represent the student teacher who was in this classroom during the time of data collection.) The choice to represent myself as Mrs. T was intentional. Given my current role as researcher in this study, I elected to refer to my role as the teacher in the third person for the purposes of clarity. By doing so, I was forced to stay in the role of researcher while analyzing the data and writing this ethnographic report.

Research Design

Purpose of the Study and Review of Guiding Questions

This dissertation is an interactional ethnography of a bilingual elementary teacher and her students as they worked together to construct a particular classroom culture. By considering how the members of this classroom used language to shape what counts as academic literacies, it was possible examine the relationships between literate practices and opportunities for learning academic content. The central focus of this study was on the social construction of academic literacies, with a goal of generating grounded theoretical constructs that can be applied to future work to understand how access to academic literacies can be provided for linguistically diverse

students in elementary schools. To accomplish this goal, the following

questions were used to guide data collection and analyses:

- **What does it mean to be a member of this classroom culture?**

    - How is this classroom different from others as seen from the members' perspective?

    - How are these aspects of classroom life (as identified by the students) introduced and established during the first 3 weeks of school?

    - How do these aspects of classroom life form the basis for what counted as academic literacies?

- **What counts as academic literacies?**

    - What counts as academic literacies from a national perspective?

    - What counts as academic literacies from the classroom perspective?

    - How are the two views similar and different?

- **What are the relationships between literate practices and opportunities for acquiring academic literacies and learning academic content within a planned cycle of activity?**

    - How do these literate practices support/constrain access to academic content?

    - How do students take up (or not take up) these opportunities for learning and becoming academically literate?

• **How are literate practices that are not the focus of a particular cycle of activity introduced and developed?**

- What are the relationships between these literate practices and opportunities for acquiring academic literacies and learning academic content?

- How do the students take up (or not) these opportunities for learning?

Data Collection - Types and Procedures

As previously discussed, the original data collection was undertaken during the 1992-93 school year by a team, consisting of a teacher-researcher (myself) and two university-based researchers. Data collection consisted of two major phases, a descriptive phase and a focused phase (Spradley, 1980). The descriptive phase began on the first day of school and continued for 6 hours per day for the first 3 weeks of school. The purpose of this phase was to document how members constructed and named the patterns of practice of everyday life in this classroom (Lin, 1993). After initial analysis, a more focused phase involving data collection of specific cycles of activity and events within the classroom was undertaken.

A majority of the data collected was in the form of videotape records. This type of data allows for repeated and multiple analyses and interpretations as well as opportunities for triangulation (Corsaro, 1985; Hammersley & Atkinson, 1992). One camera was used in the

videotaping of classroom activity. The placement of the camera was decided by the research team after discussing the activities that would be taking place during the day. Often, the camera placement began in one of the back corners of the room (either by the door or the classroom library, see Figure 4.2) in order to capture the collective activity of the group. As the activity shifted to small groups, the camera would be moved to focus on a particular table group. A flat table, remote microphone was used when recording the actions of a small group working together. This enabled me to better record the interactions of members of a group as they worked together.

Table 3.2 shows the timeline of data collection. During the school year, videotape data was collected on 55 visits to the classroom, resulting in a total of 170 hours of videotaped data. Of these 55 classroom visits, 12 of these were full-day tapings (i.e., from the beginning of school until after the students had gone) and the rest were partial-day tapings.

The data set also includes fieldnotes taken by the university researchers during each visit to the classroom. These notes were used for triangulation purposes in this study, since I did not record them. In addition to the fieldnotes, the teacher's plan book and daily journal and notes were also utilized. Student artifacts were collected across the school year. These included: dialogue journals, student made books, end of the year letters to the teacher, reports, various

Table 3.2: <u>Timeline of Data Collection</u>
(Adapted from Crawford, 1998)

	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Dates	(9)	1	4	15	(4)	1	1	12	4	10
	(10)	2	6		5	5	11	13	5	16
	(11)	5	10		6	8	16	14	11	
	(14)	6	12		15	9		22		
	(15)	7	23			17		28		
	(16)	13				23				
	(17)	15				24				
	(18)	20								
	(21)	23								
	(22)	30								
	(23)									
	24									
	25									
	28									
	29									
Total Days	15	10	5	1	4	7	3	5	3	2	55
Total Hours	87	19	11	2	14	9	4	19	6	3	170

<u>Note.</u> Parentheses around date indicate full day. No parentheses indicate partial day.

assignments, and student produced parent newsletters. These artifacts and how they were used for the analytic purposes will be described in Chapters 4, 5, and 6.

In addition to the data collected from the classroom, one additional data source was used in this study. A text analysis (Bazerman, 1988) of the National Content Standards for Math (National Council of Teachers of Mathematics, 2000), Science (National Research Council, 1996), and Social Studies (National Council for the Social Studies, 1994) was conducted to answer the question of what counted as academic literacies from a national perspective. This analysis is presented in Chapter 5.

Data Analysis Procedures: A Logic of Inquiry

As discussed in Part Two of this chapter, I have elected to use an Interactional Ethnographic approach as the methodological framing of this study. By combining ethnography (Green & Bloome, 1997) and interactional sociolinguistics (Gumperz, 1982, 1986, 1992), it is possible to examine how events are interactionally constructed. Through analyses of the data set previously described, the range of literate practices in this classroom and how these practices shape opportunities for acquiring academic literacies and learning academic content will be investigated. To accomplish this, I utilized a series of data representation steps and an iterative analysis process

characterized by Spradley (1980) as the Ethnographic Research Cycle. The nature of this process is interactive-responsive (Zaharlick & Green, 1991), with each step of the analysis guided by subsequent questions, which are generated through interacting with the data and the findings from those interactions (Castanheira et al., 1998). Throughout this process, I continually asked questions of the data, created data representations, and analyzed and interpreted these representations. Each of these steps led to new questions, which lead to new data representations and analyses. Figure 3.1 illustrates this logic of inquiry. In this figure, the overlapping boxes represent the iterative nature of this analysis process, with each set of analyses guiding the next.

Spradley (1980) proposes that this process gradually changes from descriptive to focused to selective as the analysis proceeds. Adapting this process allowed me to begin the analysis with a broad and descriptive examination of what it meant to be a member of this classroom community and how these aspects of classroom life were introduced during the first 3 weeks of school. During the focused phases of the analysis, the literate practices that were interactionally constructed by the members of this classroom culture were examined and compared to those literate practices called for in the National Content Standards. They also allowed me to explore how particular literate practices were related to opportunities for learning academic

Overarching Question: What does it mean to be a member of this classroom culture?

Posing questions: How is this classroom different from others as seen from the students' perspectives?

> *Representing data*: Student generated books about their classroom.

> Analyzing events: Identifying the important aspects of classroom life through domain analyses of students' texts.

Posing questions: How were these aspects of classroom life introduced and established during the first three weeks of school?

> *Representing data*: Constructing running records of chains of activity for the first three weeks of school. Create event maps for each day.

> Analyzing events: Examine running records and event Maps to identify how these aspects were introduced and to verify students' claims.

Posing questions:

Representing data:

> Analyzing events:

Figure 3.1. Logic of Inquiry: Analytic Process (A Partial Representation)

content and how the students took up (or did not take up) these opportunities for becoming academically literate.

Constructing Data

Throughout this process of inquiry, various types and levels of analyses were conducted. Structuration maps were constructed for a variety of purposes and formed the basis of data representation and analysis. They were constructed by observing how time was spent, with whom, on what, for what purposes, when, where, under what conditions, and with what outcomes (Green & Harker, 1982; Green & Wallat, 1979; Santa Barbara Classroom Discourse Group, 1992; Spradley, 1980). In this study, three types of structuration maps were constructed, each allowing for a different view of the data.

Indexing system. The first type of structuration map, an indexing system, was created to represent the corpus of videotaped data (see Table 3.3 for a sample). This map is general in nature and provides a broad view of the whole videotape data set. It includes the dates of taping, how these dates corresponded to the actual school days, a cataloguing system for the videotapes and a broad view of the contents of each tape. Such maps are useful for locating data, cross-referencing between types of data (e.g., artifacts, fieldnotes, and videotapes), and a systematic sampling of key events (Gumperz, 1986) for analysis.

Table 3.3: Sample Structuration Map - Videotape Index (Partial)

Date	Taping Day	School Day	Hi-8 Tapes	VHS Tape #	Time	Description
9-9-92-W	1	1	1 of 3	1	8:15-9:50	Introductions, Name Games, Rules for recess, Recess
			2 of 3	1	10:10-11:35	Re-Entry, Scavenger Hunt & Review, Simon Says, What do you think third grade will be like?, Letters from previous class, Sts. read letters aloud
			3 of 3	1	11:35-2:30	Continue sharing letters, Class library explained, Lunch, SSR, Read Aloud-The Teacher From the Black Lagoon, Interest Inventory, HW instructions-Class rights, Outside for popsicles & free play
9-10-92-TH	2	2	1 of 3	2	8:15-9:50	HW & Consequences, Sts. read letter from T, Sts. write in dialogue journals, Class Rights-2 groups, Draw a class right, Recess
			2 of 3	2	10:30-1:00	Re-entry, Computer Lab Intro., SSR, Read Aloud (Spanish)
			3 of 3	2	1:05-2:10	Read Aloud cont., Las Reglas para mostrar cariño (rules for caring), Finish drawing, Thursday folders, prepare to go home, outside

Running data records. Running data records (Castanheira et al., 1998), more detailed structuration maps, were created for each day of the first 3 weeks of school. These were constructed by watching the videotapes and marking changes in activity as indicated by topic shifts and members' actions. These running data records, which are analogous to detailed fieldnotes, provided a general view of the daily goings-on in the classroom. They include a description of the activities of each day along with some of the actions and discourse (see Table 3.4 for an example). Three purposes were served by this kind of mapping: Creating a written record of when particular chains of activity occurred, identifying phases of activity, and allowing me to return to the same moments in time on the videotape to examine a particular event or phase of activity once identified (Castanheira et al., 1998; Crawford, 1999).

Event maps. The running records that were constructed were then used to create event maps. There was no one definition or method used for constructing these event maps. Rather, they were created based upon the questions I was asking of the data at particular levels of analysis. By analyzing phases of activity as constructed by the members of this classroom and how these phases were tied together, I was able to identify the events and sub-events of everyday life for each day during the first 3 weeks of school. Because of my theoretical interest in examining the construction of literate

Table 3.4: Sample Running Record

Day One: September 9, 1992

8:35:10	**Introduction of Teachers**
	My name is Mrs. Tuyay
	You can call me Mrs. T.
	That's fine
	(whispering)
	And we're really really lucky
	This year
	Because we have two teachers
8:36:04	Mrs. Alexander introduces herself
	Just got married
	Kept her name and added her husband's
8:37:08	From Santa Barbara
	Born here
	Went to school here
	Graduated from SB High School
8:38:12	y ella tambien habla español
	Carmen: ah eso se me olividó
	Tambien hablo español
	Entonces tienen dos maestras que
	Pueden hablar español
	Y ingles
	Los dos idiomas
	You're really lucky
	You've got two teachers
	Who both speak Spanish and English
	And we'll both be here to help you all the time
8:38:33	**Introduction of Researchers**
	We have other visitors
	From UCSB
	(T Talks about researchers from UCSB
	And that she goes to school after work)
	And they'll be filming in our class

8:39:12	Carmen explains her schedule
	She goes to UCSB too
	She is also a student

8:39:45	I still can't believe how quiet you are
	You can talk in this class (Norms and
	Expectations)
	When it's appropriate
	That's no problem

8:40:07	**Introduction of Students to Table Groups**
	<u>Discussing Names and Their Importance</u>
	For instance
	If your name is Patrick
	You might like to be called Pat
	Liliana
	Talvez prefieres Lili
	You need to decide what you want to be
	called in this class (N & E)

8:40:23	If Mrs. Alexander Hsu wants to be called
	Mrs. Alexander Hsu
	Then you call her
	Mrs. Alexander Hsu
	(T continues with own name and suggests
	they have two possibilities)

8:40:51	<u>Giving Directions</u>
	In this class (N & E)
	You'll be seated in teams
	You'll be seated in tables
	What I want you to do
	Is I want you to talk in your tables
	I want you to introduce yourself to
	everybody
	At your table
	So
	Not only do you have to say your name
	You have to say something you like

8:41:20   (T models with her own name)

8:41:48   Okay
                 en español o ingles
                 tu nombre
                 y algo que te gusta

8:41:54   Students begin to introduce themselves to
                 table group members
                 Teachers move to table to facilitate

actions and practices, this was included in the event maps. Also included were interactional spaces and the languages (English and Spanish) available, as these were determined to be significant from the descriptive phase of analysis (see Table 3.5). As this example shows, an event map extends the data provided in a running record. Through these event maps, I was able select key events (Gumperz, 1986) for further analysis and to examine how particular literate practices were introduced and patterns of practice established in this classroom.

Timelines. Timelines were another level and type of structuration map constructed from the running records and event maps. The information provided on the timelines represents what the members constructed as events, showing how they structured time and activity within the classroom or their groups (Erickson & Shultz, 1981; Green & Meyer, 1991). The use of timelines allowed me to look across the year at activities and events that were constructed and to systematically sample those events involving the introduction and use of the literate practices that were the focus of this study (i.e., identifying and constructing patterns, making predictions and using evidence) (see Figure 3.2 for an example). Timelines were also used to allow me to see how particular groups of students structured time and activity during their small group work.

Table 3.5: <u>Sample Event Map</u>

Day 1 (9/9/92)

Time	Event	Sub-Events	Actions	Languages Available
8:22:35	Welcoming		-finding seats -asking questions -talking with others -getting familiar with classroom -reading contents of welcome bags	English & Spanish
8:35:10	Intro-ductions	Teachers Students to table groups Students to whole class	-listening to two languages -making choices (name, language of introduction) -introducing self -sharing information	English & Spanish
9:17:48	Name Game	Explaining the activity Doing "Name Game" Discussing activity	-Listening to directions -sharing ideas -generating lists of information -working together -sharing ideas, opinions -reporting to the class	English & Spanish

<u>Note.</u> This is only a partial representation of the event map for Day 1. For the complete event map, please see Appendix B.

Timeline of School Year		Looking for Patterns Cycle of Activity
September		Week One (9/14-9/18)
October		
November		Week Two (9/21-9/25)
December		
January		Week Three (9/28-10/2)
February		
March		Week Four (10/5-10/9)
April		
May		Week Five (10/12-10/14)
June		
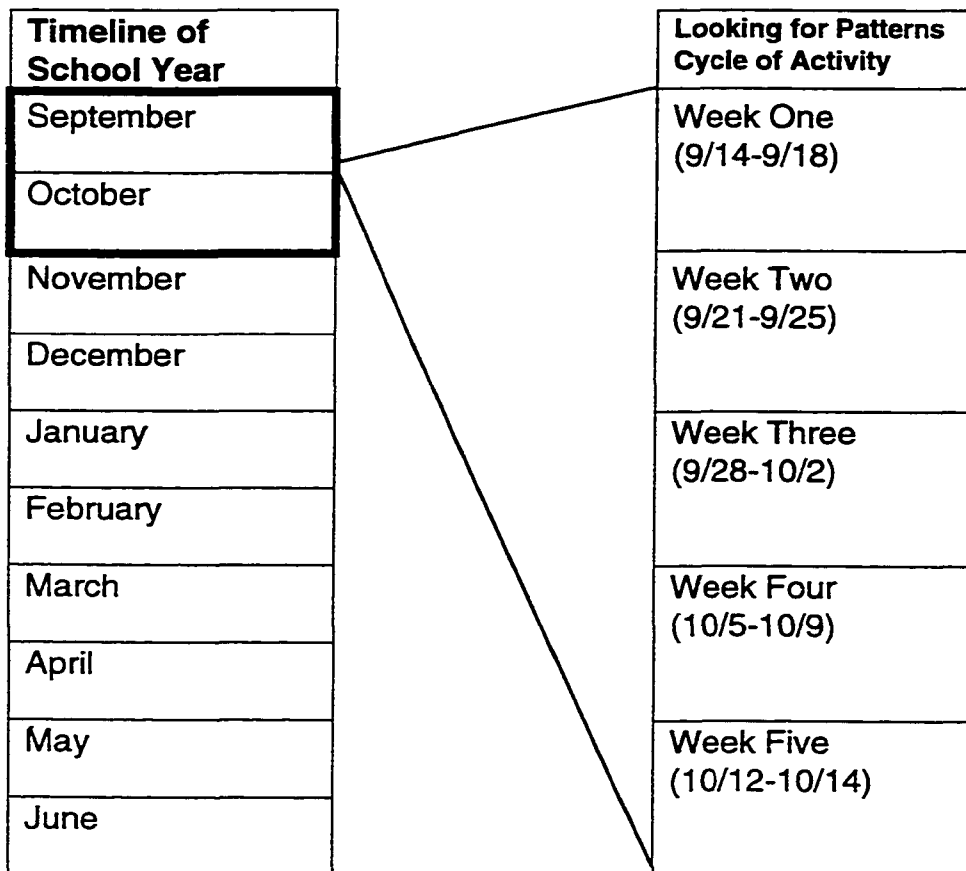
Figure 3.2. Sample Timeline

Cycles of activity. Using the running record, event maps

and timelines, I created maps of the cycles of activity that occurred

across the year in this classroom. As discussed in Chapter 2, cycles of

activity are "comprised of a set of events, interactionally bound and

centered around a specific theme. A cycle of activity denotes a set of

intertextually-tied activities initiated, enacted, and bound interactively

by the participants with common thematic content" (Kelly, 1999). For

an example of a cycle of activity map, see Table 3.6. From these

maps, through forward and backward mapping (Tuyay et al., 1995), I

traced the literate practices across cycles of activity across the school

year.

These structuration maps provided a view of the ebb and flow of

classroom activity, as well as the part-whole/whole-part relationships.

They allowed me to select which literate practices to further examine

for this study. Additionally, I was able to use these maps to begin to

identify possible intertextual ties within and between events.

Domain Analysis

Given the orienting framework for this study, that a classroom

culture is constructed in and through members' actions and

interactions within and between events, I was interested in knowing

what these actions, interactions, and events meant to the members of

this classroom. By using adaptations of Spradley's (1980) domain

Table 3.6: Santa Barbara Cycle of Activity

Monday	Tuesday	Wednesday	Thursday	Friday
Day 1-11/9 Team Names-SB streets Making logos	**Day 2-11/10** KWL: What do you already know about SB? What do you want to learn?	Holiday	**Day 3-11/12** Researching info. about SB.	**Day 4-11/13** What we learned about SB.
Day 5-11/16 SB landmarks Definition of land mark Brainstorm possible landmarks	**Day 6-11/16** SB landmarks Finding information about landmarks When built Where located 1 interesting fact	**Day 7-11/18** SB landmarks Make pictures of landmarks Share with class Locate on classroom wall map	Early Dismissal	Families
Day 8-11/23 SB landmarks Read aloud: The Important Book Discuss patterns Begin working on own pattern stories about landmarks	**Day 9-11/24** SB landmarks Continue Important Books	**Day 10-11/25** Share patterns stories with the class	Thanksgiving	Holiday
Day 11-11/30 Tea Party: Info. about maps Roundtable: What do you remember about maps?	**Day 12-12/1** Map Skills Modified DRTA with compass Intro. Compass rose and directions (N, S, E, W) PE: Simon Says on playground	**Day 13-12/2** Map Skills Longitude/Lat. Grids Hidden Treasure HW: Make a map of your room	**Day 14-12/3** Hidden Treasure Activity: Working with grids, hide a treasure Write directions for finding it Switch and solve another group's	**Day 15-12/4** Making a compass rose Magnets/poles
Day 16-12/7 Introduction to Santa Barbara Maps	**Day 16-12/8** Map Skills Matching Activity Map terms Review grids Use SB maps to locate own street, school street	**Day 17-12/9** Map skills Make pictures of own houses and other significant locations Locate and place on classroom wall map	Teacher Inservice Day	Families

analysis I examined these meanings. This analytical method was

utilized to identify the semantic relationship between the actions,

artifacts and discourse of cultural participants (Crawford, 1999).

Spradley (1980) identifies these possible relationships as:

Strict inclusion	X is a kind of Y
Spatial	X is a place in Y
Cause-effect	X is a part of Y
Rationale	X is a reason for doing Y
Location-for action	X is a place for doing Y
Function	X is used for doing Y
Means-end	X is a way to do Y
Sequence	X is a step (stage) in Y
Attribution	X is a characteristic of Y

An example of this type of analysis is presented in Figure 3.3. This

figure shows a portion of the analysis that was done by examining

students' end of the year class books to identify the important aspects

of this classroom from their perspective. The complete analysis is

presented in Chapter 4. Doing domain analyses was useful in

answering "what counts" questions, such as: What counts as being a

member of this classroom?, what counts as being academically

literate? among others.

Discourse Analysis

Throughout this study, the discursive practices of this classroom

culture were a focus. I used a discourse analytic approach similar to

that described by Green and Wallat (1981) to examine how literate

practices and opportunities for learning academic content get talked

We cooperate

Everybody helps

We are friends

We Work
Together

We respect each other

Important
Characteristics
Of this Class

We are all
Different

We don't all talk the same
languages

We don't all wear the same
clothes

We are Bilingual/
Somos Bilingües

We Learn Differently
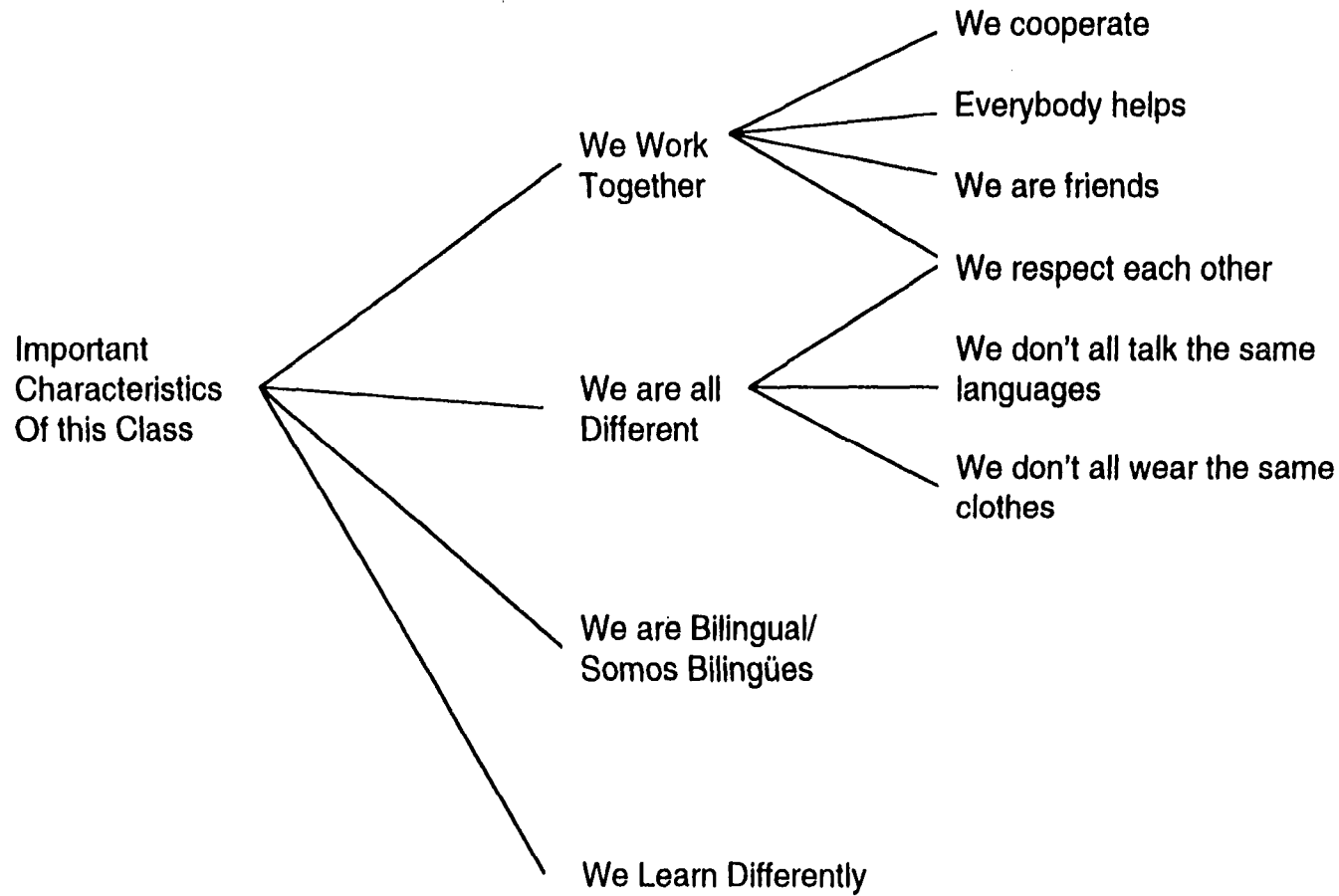
Figure 3.3. Sample Domain Analysis

Note. This only a partial representation of this domain analysis. For complete results, see Figure 4.1.

into being. Using the methods discussed previously in this section, I selected key events for transcription (Gumperz, 1986). These transcripts served as analytic tools (Corsaro, 1985).

As with the construction of structuration maps, this transcription process was theoretically driven (Ochs, 1979). It was based upon the concept of message units (Green, 1977; Green & Harker, 1982; Green & Wallat, 1981), which represented the smallest level of analysis (Bloome & Egan-Robertson, 1993; Green & Dixon, 1993; Green & Wallat, 1981; Kelly & Crawford, 1996). Message units were identified by considering the contextualization cues (Gumperz & Herasimchuk, 1972): pitch, stress, intonation, pause, juncture, how messages were heard in all of the busts, hesitations, repetitions, and nonverbal elements (e.g., body movements, gestures, proxemics, and eye gaze) (Tuyay, Jennings, & Dixon, 1995). As such, transcripts were made from videotapes so nonverbal cues could be utilized in the identification of message units. Given that this process was both interpretive and representational (Green, Franquiz, & Dixon, 1997), issues such as how to represent the complexity of interaction so that it can be analyzed accordingly were continually considered.

Various methods of transcript representation and levels of analysis were utilized in analyzing the discourse for this study. Table 3.7 shows a type of transcript representation frequently used. In this table, the speakers are identified in one column. Whenever a speaker

Table 3.7: <u>Transcript Representation Example</u>

Line #	Speaker	Discourse
1291 1292 1293 1294 1295 1296 1297 1298 1299 1300	Mrs. T	okay today we're going to write we're going to make our own stories about houses for things can you think of an example that may not have been in the book James
1301	James	a doghouse
1302 1303	Mrs. T	okay a doghouse is a house for a what
1304	Students	a dog
1305 1306 1307	Mrs. T	okay what else is another example Manuel
1308	Manuel	a house is a house for (inaudible)
1309 1310 1311 1312 1313 1314	Mrs. T Carmen	okay just a minute (goes to white board) why don't you guys turn around here turn around Carmen would you move that please (moves chart rack)
1315 1316	Mrs. T	okay I can see almost everybody

changed, that is indicated by the name in that column. Line numbers were assigned to each message unit, which were used for reference in the discussion of the analysis in the text. Within this document, transcripts will be represented in a variety of ways. Each decision for how to represent the transcripts was theoretically made at the time of the analysis depending upon the questions being asked and the analytic purposes. Often, transcript excerpts are provided in tables or are placed directly in the text itself to facilitate discussion of the analysis. However, in each transcript (or excerpt) an English translation is provided when Spanish is used in the talk. These translations are gist translations (intended to keep the meaning) and are represented by italicized print within parentheses following each message unit.

- During particular phases of the analysis, these transcripts were utilized for different purposes. In the focused phases, they were examined to explore the relationships between literate practices and opportunities for learning academic content. Specifically, they were utilized to make visible how particular literate practices (i.e., identifying and constructing patterns, making predictions and using evidence) were introduced and constructed, as well as how they were related to opportunities for learning academic content (e.g., math, language arts, science, social studies). The transcripts were also analyzed to

determine how these opportunities for learning were taken up (or not) by the students in this classroom.

Study Limitations

I recognize that because I was both the teacher in this classroom and am the researcher in this study, this could be potentially viewed as problematic. However, there are several points that I think are worthy of recognition. First, there is a strong relationship between the theoretical framework in this study and the methodological procedures employed. I am not claiming to be unbiased. Rather, I utilized a theoretically driven approach that allowed me to bracket my own cultural assumptions and to ground my claims in evidence and data. Second, a considerable amount of time has passed since the data was originally collected (approximately 7 years). This distance allowed me to re-enter the data set with a different perspective (that of researcher) and a different set of questions and expectations. I no longer seek to understand my practice in order to change it, which was an original goal when I was the teacher-researcher. Rather, I now want to understand the questions posed throughout this study in order to further understand how educators can support linguistically diverse students in becoming academically literate. Finally, to minimize the effects of personal interpretation, triangulation of data analysis procedures, theories, and

interpretations (Hammersley & Atkinson, 1992; Zaharlick & Green,

1991) was utilized throughout the analyses conducted in this study.

Chapter Summary

This chapter presented the methodological frame for this study

and the ways that this frame is consistent with the theoretical

underpinnings and premises of this study. It described the

methodological tools for data collection and analysis and how these

are consistent with the goals of the study. These tools provided ways

to examine how academic literacies were socially constructed in this

classroom. A graphic overview is presented here for reference. Table

3.8 shows the phases of this study. As shown in this table, for each

phase, the guiding questions, the data collected in relationship to

these questions and the analytic procedures used are highlighted.

Each of these phases will be described in Chapters 4, 5, and 6.

Table 3.8: <u>Overview of Analytic Phases</u>

Guiding Questions	Data Used	Analytic Procedures

PHASE ONE
What does it mean to be a member of this classroom culture?
-How is this classroom different from others as seen from the members' perspective?
 	
-How were these aspects of the classroom introduced and established during the first 3 weeks of school?
 	
-How do these aspects of classroom life form the basis of what counts as academic literacies?
	• Fieldnotes
	
	• First 3 weeks of videotaped records
	
	• Artifacts:
	  -Student generated books from the end of the year.
	  -Teacher plan book and journal
		• Construct an index of all videotape data
		
		• Create running records for each day of the first 3 weeks of school
		
		• Construct event maps of the first 3 weeks of school
		
		• Domain analyses of student generated books, running records and event maps

PHASE TWO		

What counts as academic literacies?
 	
-From a national perspective?
 	
-From the classroom perspective?
 	
-How are these two views similar and different?
 	
What are the relationships between literate practices and opportunities for acquiring academic literacies and learning academic content within a planned cycle of activity?
-How do these literate practices (Identifying and constructing patterns) support and/or constrain access to academic content (i.e. math and writing)?
 	
-How do students take-up (or not take-up) these opportunities for learning and becoming academically literate?
	• National Content Standards for Math, Science, and Social Studies
	
	• Running records and event maps from previous analysis of first 3 weeks of school
	
	• Videotape recordings of events specifically related to selected cycles of activity
	
	• Artifacts:
	   -Teacher plan book & journal
		• Text analysis of each of the content area standards
		   -Cross-case analysis of findings from text analysis
		   -Domain analyses of findings from cross-case analysis
		
		• Domain analysis of literate actions from first 3 weeks of school and literate practices across the school year
		
		• Map selected cycles of activity from across the school year
		
		• Create running records for class sessions from selected cycle of activity (i.e., "Looking for Patterns")
		
		• Identification and transcription of key events within selected cycle of activity
		
		• Construct timelines to see how time was spent in selected key events
		
		• Discourse analytic procedures on selected transcript segments.

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PHASE THREE
How are literate practices that are not the focus of a particular cycle of activity introduced and developed?
-What are the relationships between these literate practices and opportunities for acquiring academic literacies and learning academic content?
 	
-How are these opportunities taken-up (or not) by the students?
	• Fieldnotes
	
	• Artifacts:
	   -Teacher plan book & journal
	   -Student assignments
	
	• Maps of cycles of activity across the school year
	
	• Videotape recordings of events where these literate practices were the focus of instruction
		• Locate instances of literate practices of focus (i.e., making predictions and using evidence) across the school year through forward and backward mapping.
		
		• Construct running records and event maps from fieldnotes and videotape recordings.
		
		• Identification and transcription of selected key events
		
		• Discourse analytic procedures on selected transcript segments

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[1]"Hispanic" was the description/designation used by the school district.

[2]This was the term used by the school personnel. They distinguished between "English readers" and "Spanish readers." This distinction was based primarily upon the students' native language.

CHAPTER FOUR

CREATING A COMMUNITY OF LEARNERS

Overview

In the previous chapters, the theoretical and methodological framework guiding the following analyses was presented. This framework conceptualizes classrooms as cultures (Collins & Green, 1992) and suggests that members (teacher(s), students, and others), through their language and actions, construct common knowledge, and patterned ways of interacting (Edwards & Mercer, 1987; Green & Harker, 1982; Green & Meyer, 1991; Lin, 1993). These patterns of life (e.g., ways of interacting, communicating, and negotiating) are constructed over time (Santa Barbara Classroom Discourse Group, 1992) and lead to a common set of practices that situationally define what it means to be a student and teacher in this particular classroom culture. These patterns of practice support as well as constrain students' opportunities for learning academic content as well as their opportunities to be seen as academically literate.

The purpose of this chapter is to identify which practices were seen as important by student members of this particular bilingual classroom, how these literate practices were co-constructed, and how they shaped what counted as academic literacies. By identifying and analyzing these cultural patterns, it is possible to see how they contribute to the "construction of a common set of expectations that

serve as cultural resources for how members interact, participate and share knowledge across social and academic contexts" (Crawford, 1999, p. 128).

The analyses in this chapter are presented in two parts. Part One examines data from the first 3 weeks of school to see how this teacher and her students created a classroom learning community with particular norms and expectations, roles and relationships, and rights and responsibilities (Collins & Green, 1992; Floriani, 1997; Green, Kantor & Rogers, 1991) that defined what it meant to be a member and provided the base for academic literacy. The second part highlights literate actions and practices that were constructed during the first 3 weeks and across the school year in various academic disciplines.

The guiding questions for the first phase of this analysis were: What does it mean to be a member of this classroom culture? How was this classroom different from others as seen from the members' perspective? In order to begin to answer this question, it is necessary to understand the classroom culture that was being constructed during this time.

Part One: Becoming a Student in This Classroom
Central Premise:

Living in particular classrooms leads to particular ways of being a student or a teacher and to the construction of particular types of knowledge and opportunities for learning (Edwards & Furlong, 1978; Fernie et al., 1993; Gutierrez, 1993; Lemke, 1990; Tuyay, Jennings, & Dixon, 1995).

Traditionally, behaviorist theories have defined schooling and what happens in classrooms as a causal relationship between teaching and learning. Teachers teach and students learn (Weade, 1992). However, Fenstermacher (1986) rejects this relationship and argues that:

> The concept of studenting or pupiling is far and away the more parallel concept to that of teaching. . . . There are a range of activities connected with studenting that complement the activities of teaching. For example, teachers explain, describe, define, refer, correct and encourage. Students recite, practice, seeks assistance, review, check, locate sources and access materials. The teacher's task is to support . . . [the student's] desire to student and improve his[her] capacity to do so. Whether and how much..[the student] learns from being a student is largely a function of how he[she] students . . . We make the term "learning" do double duty, sometimes using it to refer to what the student actually acquires from instruction (achievement), and other times using it to refer the processes the student uses to acquire content (task). Because the term 'learning' functions in both a task and achievement sense, it is easy to mix the two and thus contend that the task of teaching is to produce the achievement of learning, when in fact it makes more sense to contend that <u>a central task of teaching is to enable the student to perform the tasks of learning</u>. (p. 39; emphasis in original)

He further suggests that the process of becoming a student involves much more than knowing how to learn. Fernie, Kantor, and Klein (1988) agree with this position and argue that becoming a student is a complex, active process that is "interpretive, constructive and

participatory." In order to be able to participate in the social and academic life of classrooms, children need to learn and take up a "student role" of appropriate knowledge, actions and expectations.

From this perspective, the role of student is not merely defined as an institutional position. Rather, it is an interactionally constructed way of being in relationship to others in the classroom and to ways of engaging with academic content (Fernie et al., 1993; Prentiss, 1995). Previous work has shown that this process begins within the very first days (even hours or minutes) of school (Fernie et al., 1993; Fernie, Kantor, & Klein, 1990; Green & Harker, 1982).

The analysis presented here examines the process of becoming a student in this particular classroom. It focuses on what the students considered to be the distinguishing characteristics of membership in this classroom and how these came to be. By considering the norms and expectations, roles and relationships, and rights and obligations (Collins & Green, 1992; Green et al., 1991), the social and academic requirements for being a member in this classroom are made visible.

Differentiating This Classroom From Others

Knowing that this study takes place in a bilingual third-grade classroom marks it in particular ways. However, what this "classroom" meant to the members is an empirical question to be investigated.

While our common cultural knowledge of the formal institution of schooling brings with it expectations about the organization of space, use of time, types of materials, types of events, and outcomes (Green, 1983; Hymes, 1974), it "does not predict the specific nature of life in individual classrooms" (Green et al., 1991, p. 338). To be able to interpret classroom life requires understanding how this social system is constructed through the actions and interactions of members (Gumperz, 1982, 1986), and how, over time, these become patterned. The analysis in this section makes visible how these patterns of life lead to a common set of expectations and common language (Green et al., 1991) for "doing school."

To understand what was valued in this classroom from the perspective of the students, I first examined their contributions to a class text that was written at the end of the school year (June 1993). The students were asked to use the text pattern from The Important Book (Wise Brown, 1949) to highlight what they considered to be the significant attributes/aspects of this class. By using Spradley's (1980) domain analysis, X is a characteristic of Y, four key themes emerged (see Figure 4.1). Three of these themes, working together, being bilingual, and learning differently served as the beginning point for the analyses presented in this section. (The fourth theme, we are all different, was not addressed specifically. Analysis showed that this theme overlapped with we work together and we are bilingual.)

We cooperate

Everybody helps

We Work
Together

We are friends

We respect each other

We don't all talk the same
languages

We are all
Different

We don't all wear the same
clothes

Important
Characteristics
Of this Class

We come from different places

We work in English and Spanish

We are Bilingual/
Somos bilingües

We read/write in Spanish and English

We speak English and Spanish

We do a lot of projects

Writing/Spelling

We Learn
Differently

Math

Figure 4.1. Important Book Domain Analysis

Ethnographic and sociolinguistic analyses of the first 13 days of school were conducted to make visible how the literate actions and practices constructed in this classroom created a particular environment for learning and becoming academically literate. These analyses are presented here in three sections. Each of these sections addresses an aspect of classroom life and how it was constructed during the first 3 weeks of school.

"We Work Together": Establishing Patterns of Organization and Interaction

La cosa importante de nuestra clase es que **trabajamos juntos**. Trabajamos juntos para matemáticas y escribir cuentos. Somos buenos. Pero la cosa importante de nuestra clase es que trabajamos juntos.
(The important thing about our class is that we work together. We work together for math and writing stories. We are good. But the important thing about our class is that we work together.)[1] Alejandra[2] (From Room 18's "Important Book," June 1993)

The important thing about our class is that we are all friends. We respect each other's rights. **We all work together**, even though we speak different languages. But the important thing about our class in that we are all friends.
Lesley (From Room 18's "Important Book," June 1993)

Analysis of the students' "Important Books" showed that working together was one of the central aspects of this classroom, as indicated in the opening excerpts from Alejandra and Lesley. Analysis of data from the first 13 days of school showed that from the very first moments of the first day of school, Mrs. T provided students with multiple

opportunities to work together and explicit definitions of what it meant to work together as students in Room 18. Through the physical arrangement of the classroom, the variety of organizational groupings she employed, as well as her words and actions, she signaled to the students that working together was to be a significant part of their daily lives.

Physical Arrangement of the Classroom: Organizing Spaces for Working Together

The physical arrangement of this classroom suggested that interaction among students was an important part of learning. As Figure 4. 2 (classroom map) indicates, there were no individual desks in this classroom. Rather, students sat at tables that had been put together to seat groups of six. There were five table groups, arranged purposefully so that students all faced center and each student could also see the "front" of the classroom. In the center of each group of tables was a basket that contained all of the materials for the group (e.g., scissors, crayons, glue, etc.). Examination of the ethnographic data across the year indicated that these groups were referred to in three ways: as teams, table groups, or by team name. Analysis of the teacher's notes showed that Mrs. T assigned students to teams so that the groups were heterogeneously mixed by gender, ethnicity, language(s) spoken, and academic and social strengths. Analysis of seating charts across the year showed that the students remained in

White Board (E/S) Chalkboard (see Appendix 4.2) Calendar (E/S)

Windows

Work Tables

BOOKCASE/ W. W. S/ E

Table Group

Table Group

MATHCART

Teachers' Desks

Window

White Board (E/S)

Book case (Science)
E/S

E/S

Table Group

Table Group

Table Group

Library Area

Cubbies

Read Aloud/ Peer Editing Area (E/S)

Door Coat Racks Cupboard (Art) Shelves with books in English and Spanish
E/S (see Table 4.4)
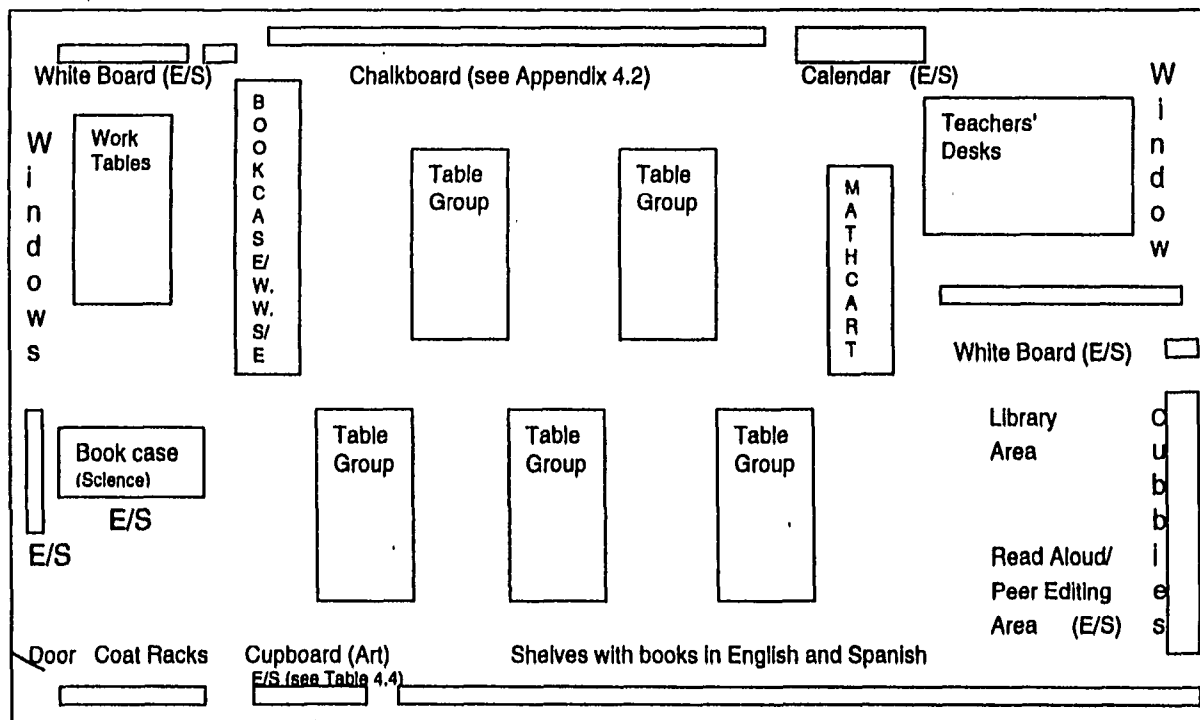
Figure 4.2. Classroom Map

Note. The labels E and S refer to English and Spanish. E/S means that there were materials in both English and Spanish at this location in the room.

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these groups for approximately 1 month before being reassigned by the teacher. Each time the groups changed, the students were provided with an opportunity to work with new partners and to choose a new team name.

In addition to the students' tables, there were other physical spaces that had been intentionally constructed in this classroom to facilitate student to student interaction. One was the floor space by the classroom library. This space was bordered on three sides by a white board, the shelves containing the students' cubbies, and the bookshelves housing the classroom library. The video data from across the school year showed that this space was utilized in several ways, all of which involved working together. It was used on a daily basis for read aloud time, when the students and teacher would gather to read stories aloud and to discuss them. Other uses of this space included: choral reading of poems and songs, mini-lessons and friend edits during Writer's Workshop, whole class and small group discussions, and silent reading. Another space was the cluster of tables by the windows. A sampling of video data across the school year indicated that this space was also used in a variety of ways which involved working with others, including: small group reading lessons, teacher edits during Writer's workshop, illustrating/bookmaking, working with parents/tutors/volunteers, and working on projects with partners. What is evident from both the arrangement of these spaces

and examination of the ways they were used, is the collaborative and interactive nature of life in this classroom.

However, while most of the spaces in this classroom were group oriented, the students did have their own personal spaces. Data indicate that two spaces in particular were considered individual and personal: cups and cubbies. On the tables, each student had a plastic cup with his/her name on it. In these cups, students kept their pencils, erasers, and any other small personal belongings. When they left the room, students often put these cups in their cubbies. Each student also had a cubby (a plastic box) with his/her name on it. The cubbies were kept in large bookshelves. Inside their cubbies, students often put their books, binders, and any other personal belongings. Videotape data from the first 3 weeks of school and from across the year shows that Mrs. T and the students respected these spaces as personal. One of the norms of this classroom was that no one (including the teachers) could go into a cubby without the owner's permission. This same norm applied to the teacher's personal space, her desk. Both of the teachers (Mrs. T and the student teacher) had desks, which were together. Students were allowed to go into the teachers' desks, but they had to have permission to do so. Data from across the year showed that the teachers used their desks before and after school. The only time they were found at their desks during the school day was during silent reading, when they were reading their

own books silently. Data also showed that students used these desks when they needed a space to work individually. These personal spaces were important because they communicated to the students that although this was a classroom where working together was a significant part of daily life, the students were still respected as individuals and could choose to work alone when they deemed it necessary.

As the map indicates, the room also contained many bookshelves/carts/cupboards that were full of materials. Each of these was organized by curricular area. For example, the bookshelf by the teacher's desk was full of math manipulatives. Another of the bookshelves contained the art supplies (paint, glue, etc.). All of the writing materials (e.g., workshop folders, journals, learning logs) were in one location as well. The bookshelves in the back of the room contained the classroom library. On the tops of these shelves, both fiction and nonfiction books related to the topic of study were displayed. These shelves also contained the class/student generated books. Data showed that the students were encouraged to utilize the available materials as resources for their work. During math time, for example, students often used manipulatives (e.g., unifix cubes, cups, bowls, cans, and beans) as part of the lesson. Analysis of data across the year showed that interacting with these types of materials was a common practice in this classroom.

The bulletin boards in this classroom were also intended to be interactive. On the front wall, was a large calendar made from squares. Analysis of the videotape date from the first week of school and across the year shows that the students worked together as a class to create this calendar each month. The process involved brainstorming important events that occurred in the month (e.g., holidays, students' birthdays, school events,), drawing pictures for each of the squares, and constructing the calendar as a class.

In the back of the room, there was a bulletin board that consumed the entire wall space above the bookshelves. In the beginning of the year, there was a map of the eastside of the city, which is where this school was located. This map served as the backdrop for the work that students would add to this bulletin board over the next several months of school. For example, during the Santa Barbara Cycle of activity (see Figure 4.9) in November and December, students made pictures of their own homes, various Santa Barbara landmarks, and other locations and added them to the map. While studying about the local Chumash Indians (February-the beginning of April), the streets were taken off and a map of where the different tribes were located was added. In the spring, the background changed to a rainforest to which the students added plants and animals during that particular cycle of activity. Constructing these bulletin boards was an ongoing process that lasted for the duration of

the unit of study, and data from across the year show that the students often stayed in during recess and after school to work on/add to them.

Summary of Physical Arrangement of the Classroom

The physical organization of this classroom provided particular messages about what it meant to be a student in this classroom. By considering the physical spaces discussed in this section, and doing a domain analysis (Spradley, 1980), three kinds of physical spaces were made visible (see Figure 4.3). As indicated in this figure, there were three kinds of physical spaces in this classroom: Curriculum spaces, interactive spaces, and personal spaces.

The curriculum spaces included the bookshelves, carts, cupboards, bulletin boards, and classroom library. In these spaces, the academic content being studied was visible (e.g., math manipulatives on math cart, Santa Barbara map on back bulletin board). The interactive spaces were physical spaces that provided for a range of interactions (these interactional spaces will be discussed in the following section) among/between the members of this classroom. They also provided for interactions with the academic content. As shown in Figure 4.3, there were overlaps between interactive spaces and curriculum spaces, which further supports the finding that working together was an important aspect of life in this classroom.

Curriculum
- Bookshelves
- Bulletin boards
- Carts (e.g. math, science)
- Classroom library
- Table groups

Interactive
- Baskets on tables
- Bookshelves
- Bulletin boards
- Classroom library
- Table Groups

Personal
- Cups
- Cubbies
- Teachers' Desks
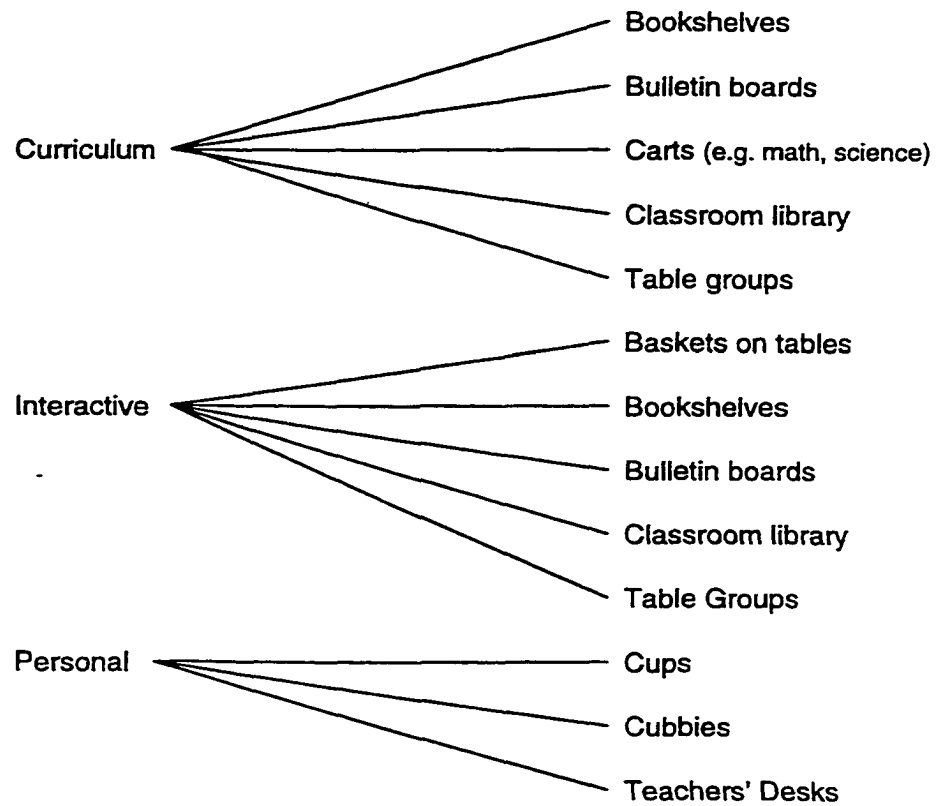
Figure 4.3. Types of Physical Spaces in Room 18

While these two physical spaces allowed for students to work together, there were also personal spaces that were established and respected. The students kept their own materials in their cups and cubbies. They were also allowed to choose to work alone at the teachers' desks at any time throughout the school year. All of these physical spaces suggest that this classroom belonged to the students as well as the teacher, and that the environment supported what the students were learning in the academic content areas.

Patterns of Organization

In the previous section, the physical arrangement of the classroom was presented as a way that students learned about working together in this classroom. In this section, organizational patterns and interactional spaces are considered.

The students in this class were expected to be able to work with one another in and through a variety of interactional spaces. Heras (1993) suggests that these spaces are "constructed by members of a group interacting in a particular place, at particular moments in time, and with particular configurations of participants (e.g., whole class, table group, pairs, individuals)" (p. 279). Analysis of the events of the first week of school shows that a variety of groupings and organizational patterns were utilized. Across these days, the following types of interactional spaces were identified (see Table 4.1):

Table 4.1: Types of Interactional Spaces

Space	Description
T-Whole Class	Teacher interacts with the whole class as a collective. Teacher initiates and directs interaction. From Sep.-Dec., T speaks English the majority of the time (~80%) in this space. From Jan.-June, T uses more Spanish in this space (~35% of the time).
St-Whole Class	Student interacts with the whole class as a collective (e.g., presenting information, sharing, reading aloud). Students use both English and Spanish in this space.
St-T-Whole Class	Student interacts with the teacher in the whole class public space (e.g. asks a question). The interaction is directed toward the teacher. The students use both English and Spanish in this space. The language the teacher uses depends upon the language of initiation by the student (e.g., if student asks question in Spanish, T replies in Spanish).
T-Table Group	Teacher interacts with students at a particular table group. The teacher uses both English and Spanish in this space.
St-Table Group	Students interact with each other at their table group. They use both English and Spanish in these interactions.
Pair-Whole Class	Students sitting next to one another interact during a whole class activity/lesson (e.g., read aloud). These interactions occur in both English and Spanish.
Pair-Table Group	Students at a table group interacting with one another (e.g., sharing pictures). The students use both English and Spanish during these interactions.

Individual-Whole Class	Students working independently on the "same" task (e.g. SSR, dialogue journals, interest inventories. The languages used are both English and Spanish.
Individual-Table Group-Whole Class	Student reports Table Group's information/ideas/findings, etc. to the whole class. The languages used are both English and Spanish.
Language Groups-Whole Class	Students are working in two groups: English and Spanish. In each of the groups, only one language is being used (either English or Spanish).
Partners-Language Groups	Students in a language group interacting with one another (e.g., sharing ideas). They are using one language, either Spanish or English.

Teacher-Whole Class, Student-Whole Class, Student-Teacher-Whole
Class, Teacher-Table Group, Teacher-Student-Table Group, Student-
Table Group, Pair-Whole Class, Pair-Table Group, Individual-Whole
Class.

Each of these organizational patterns provided a space for
particular kinds of interactions and served particular purposes. What
became visible through this analysis is that in this classroom, a single
event often included a variety of interactional spaces as well as co-
occurring spaces. In order to make visible this complexity of
organizational patterns, one event (The Name Game) from the first day
was selected for further analysis (see Figure 4.4).

The name game. The Name Game event (Table 4.2)
occurred on the first day of school and was comprised of three sub-
events: explaining the activity, doing the Name Game, and discussing
the activity. By examining the range of interactional spaces in these
sub-events and the phases of these sub-events, and how the teacher
initiated each of them, the opportunities students were provided for
interacting with each other and with academic content become visible.

Sub-event one: Explaining the activity. In the first sub-
event, Mrs. T began by establishing a whole class interactional space
as she explained to the students what they were going to be doing
during the Name Game. She began in phase 1a, by distributing the

Time	Events
8:22	Welcoming
8:35	Introductions
9:17	**Name Game**
10:15	Scavenger Hunt
11:12	Third Grade
11:45	Silent Reading
12:59	Read Aloud
1:07	Interest Inventories
1:58	Treats

Time	Sub-Events
9:17:48	Explaining the Activity
9:25:31	Doing "Name Game"
9:34:14	Discussing Activity

Figure 4.4. Locating the Name Game Event on Day 1

Table 4.2: The Name Game Event

Sub-Events	Time	Phases of Sub-Events	Interactional Spaces	Languages Available
1. Explaining the Activity	9:17:48	1a-Showing materials	•T-WC	English
	9:18:02	1b-Distributing materials	•T-WC	English
	9:19:00	1c-Modeling the process	•T-WC	English
	9:20:50	1d-Discussing how to help each other	•T-WC	English/Spanish
	9:21:14	1e-Answering student questions	•St-T-WC	English
	9:22:47	1f-Deciding who will begin	•TG-WC	English/Spanish
	9:24:05	1g-Reviewing directions	•T-WC	English
2. Doing "Name Game"	9:25:31	2a-Generating lists of names	•TG-WC	English/Spanish
	9:30:45	2b-Counting names on list	•TG-WC	English/Spanish
	9:32:31	2c-Reporting to class	•I-TG-WC	English/Spanish
	9:33:37	2d-Providing feedback	•T-WC	English
3. Discussing Activity	9:34:14	3a-Sharing opinions	•Pairs-TG	English/Spanish
	9:36:21	3b-Reporting to the class/recording ideas	•I-TG-WC	English/Spanish
	9:39:12	3c-Discussing preferences	•TG-WC	English/Spanish
	9:41:30	3d-Reporting to the class	•I-TG-WC	English/Spanish

materials the students would need for the activity (scratch paper) and showing them where these materials were kept in the classroom.

In the next phase (1b), the teacher-whole class interactional space was maintained while a common floor and focus was established as Mrs. T explained and modeled the Name Game process for the students. Analysis shows that in this phase, Mrs. T used the whole class interactional space to introduce what the students would do once they began working in their table groups:

1024	Mrs. T:	if Linda is starting for this table
1025		she will take the pencil
1026		and the
1027		paper
1028		okay
1029		when I say go
1030		she is going to write down somebody's name
1031		in this classroom
1032		and then she is going to pass the paper to
1033		who
1034		Isabel
1035		Isabel is going to write down somebody's name
1036		in this classroom
1037		then she is going to pass the paper to
1038		Ignacio

This excerpt shows that in this space, Mrs. T explained the sequential process for this activity (lines 1030-1038). She used the members of one table group to model this, and asked the students in the class to help identify to whom the paper would be passed on subsequent turns

(lines 1032-1038). She also stated the expectations for what one was to do when one received the paper (lines 1030, 1035).

The next phase (1c) of this sub-event also provided students with ideas for how they might go about helping one another in their groups. There was then a shift, as students began to ask questions about the process (phase 1d). While the whole class interactional space was maintained, there was a co-occurring space that happened between the student who initiated a question and the teacher who answered it. In phase 1e, students were asked to decide in their table groups who would begin the process and to give that person the paper and pencil. This moved the interactions to the table groups. To re-establish the whole class interactional space once again, Mrs. T acknowledged the groups who have followed the directions:

1156	Mrs. T:	Paul must be starting here
1157		I know that
1158		because he has the paper and pencil

She continued to identify students who were starting in each of the table groups and then initiated a review of the process (phase 1f). In this sub-event, the three interactional spaces (T-WC, S-T-WC, and TG-WC) served to provide the students with multiple opportunities to understand the process for this activity.

In the first phase of the second sub-event (2a), Doing the Name Game, the students worked together to generate a list of names of

students in the class. While each student was required to contribute to the list, they were allowed to help one another. Videotape analysis shows that as the students worked to accomplish this, a variety of additional interactional spaces were created. For example, while each table group was working on a list, it was not uncommon to see students "listening in" to the conversations happening at table groups different from their own. It was also not uncommon to see/hear conversations happening amongst pairs of students at a table group.

In the rest of this sub-event, Mrs. T re-established the whole class interactional space by asking the students to count how many names they had on their list (phase 2b) and to report that number to the class (phase 2c). She then congratulated them for their efforts in working together and provided them with feedback about what she saw during their table group work time (phase 2d). The interactional spaces in this sub-event allowed the students to work together in a variety of ways. While the task was to generate a list of names in their table groups, a range of possibilities existed for how this could be accomplished.

The final sub-event, discussing the activity, provided students with an opportunity to share their opinions of the Name Game (phase 3a). Mrs. T asked the students to share their ideas with one other person in their table group, thus creating another, "pairs-table group" interactional space. In phase 3b, students volunteered to share their

ideas with the whole class as the Mrs. T recorded them on the board. Students were then asked to discuss whether they preferred working in a group as opposed to working by themselves and to provide their rationale (phase 3c). This shifted the floor to the table group spaces and provided students with additional opportunities to express their preferences. In the final phase of this sub-event (3d), the students shared their preferences with the whole class. In this sub-event, the table group interactional spaces allowed the students an opportunity to express their ideas and opinions before "going public" with them. Videotape analysis across the year shows this to be a pattern in this classroom. Mrs. T usually gave students time to discuss their ideas in a small group setting before sharing them with the whole class.

Summary of Patterns of Organization

The analysis in this section showed that students in this classroom further learned about working together through participating in a variety of groupings. The teacher utilized a range of organizational patterns in the events throughout the first 3 weeks of school. Examination of one event, "The Name Game," showed that through these various interactional spaces, students were provided with multiple opportunities to interact with each other, the teacher, and the content.

Words and Actions: Explicit Messages About Working Together

While the physical organization of this classroom and the utilization of a variety of interactional spaces provided implicit messages that working together was important, there were other ways that this message was communicated to the students. During the first weeks of school, through her words and actions, Mrs. T indicated that this was to be a key aspect of life in this classroom.

Researchers have argued that the teacher plays a central role in establishing the conditions for student-centered learning (or for students to socially construct knowledge and learning) (Emmer, Evertson, & Anderson, 1980; Evertson & Emmer, 1982; Randolph & Evertson, 1995). They also suggest that to understand how this happens, one must look carefully at the beginning of the year in order to see how "expectations, rules and roles are signaled and re-signaled in different ways across different settings throughout the life of a classroom group" (Randolph & Evertson, 1995, p. 17).

To make visible how the norms and expectations for working together were established, I analyzed fieldnotes and running records (see Chapter 3 for a complete discussion of these) from the first week of school and constructed event maps for these first 3 days (see Appendix B). After identifying the events across these first 3 days, I focused on Mrs. T's initiating discourse for each event to see what messages students were given about working together (see Table

4.3). By focusing on the teacher's initiating discourse here, I am not suggesting that students do not also contribute to the classroom norms and expectations. However, at the beginning of the year, the teacher plays a key role in framing the norms and expectations that will guide daily life, define ways of participating as a group member, and set the conditions for learning.

One of the very first messages that students received was that talking is a significant part of working together. Within the first 5 minutes of the first day of school, during the welcome event, Mrs. T announced:

1350 Mrs. T:	I can't believe how quiet you are
1351	you can talk in this class when it's appropriate
1352	that's no problem

This immediately signaled to students that all members in this classroom had the right to talk, under certain conditions, not just the teacher(s).

In the events presented in this table, talking is mentioned repeatedly (see bold in initiating discourse column). Analysis shows that talking in this class was purposeful (see Figure 4.5). In each instance, there is a specific reason for the talk. During introductions for example, the students were to talk in their table groups in order to introduce themselves. Throughout the first day of school, students were talking to express their opinions, get information, share ideas,

Table 4.3: Establishing Patterns of Organization and Interaction

Day	Events/ Subevents	Patterns of Organization	Lang. Available	Initiating Discourse	Messages Communicated
1	Welcome	T-WC	E/S	"I can't believe how quiet you are you can talk in this class when it's appropriate..."	Talking is part of working together
1	Introductions	T-WC	E	"in this class you'll be seated in teams you'll be seated in tables... and you're going to have team names..." "In this room in order to get your attention because you are going to be doing a lot of teamwork...we have a secret code word..."	In order to work together you will sit together When you hear the word, you need to stop and listen
		I-TG	E/S	"what I want you to do is talk in your tables I want you to introduce yourself to everybody at your table..."	You need to know your team mates and call them by their names
		I-WC	E/S	"we didn't say our names to the whole class and there may be some people who don't know you say your name and what you like to the whole class if you're kinda shy I'll stand behind you..."	It's important for everyone to know each other in this classroom

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1	Roundtable	T-WC TG-WC	E E/S	"write down as many names as you can think of... everyone needs to write something... you need to help each other..." decide who is going to start and give that person the paper and the pencil I'm not going to decide that..."	Everyone needs to participate and you may help each other to accomplish that Working together involves making decisions
		TG-WC	E	"excellent job cooperating you worked together and you were helping new people..."	Working together involves cooperating
		Pairs-TG	E/S	"now with someone in your table I want you **to talk about if you liked this activity** and why you liked it or if you didn't why you didn't..."	Working together includes expressing ideas and opinions with partners
		TG-WC	E/S	"now let's think about it what if I gave everyone a piece of paper and said you have five minutes to write down everyone's names would you rather do that or would you rather do it in a group **talk about what you would prefer and why** share with your group..." "alright would somebody raise their hand and	Working together involves discussing preferences and providing rationales
		I-TG-WC	E/S	tell me what you liked doing and why..."	

				"you know what you're going to get to do lots of activities where you help each other in here..."	
1	Scavenger Hunt	Ind.-Whole Class	E/S	"basically you're going to need **to look for some information** and you're going to **need to talk to people** in this class to get that information..."	Getting information means you need to talk to each other
		Whole Class	E		
1	Third Grade	T-WC	E	"I am sure that you have heard from your friends at Cleveland school all about third grade...and you may have heard all about what you are going to do in math...and you may have heard a whole lot of things..."	Sharing ideas and what you have heard about third grade involves talking to other people in the class
		TG-WC	E/S	"with the people in your table group **talk about all the things you have heard about third grade**...and then we'll share with the class..."	
		I-WC	E/S	"I am going to ask you to raise your hand if you want to share something you think is going to happen in third grade and I am going to write it down on this big piece of paper..."	Ideas are important enough to be recorded

		I-WC	E/S	"at the end of the year last year I had my class write you letters telling you about third grade and their opinions of third grade...I'm going to give you this letter and you get to read it silently and if you need help what can you do? Ask me or ask a teammate... and then I will ask you if you want to share with the whole class..."	You may help one another with reading
		I-WC	E/S	is there anybody who would like to volunteer to read their letter to the whole class?	You don't have to read aloud to the class
1	Interest Inventories	Pairs-WC	E/S	"when I start playing the music you are going to walk around the classroom... when the music stops you stop... and ask the person next to you question number one and you wait to hear their answer... and then they ask you question number one and wait to hear your answer and then we go again..."	Sharing information requires talking to people around you
1	SSR	I-WC	E/S	"after lunch everyday when you come in you will have silent reading...you are going to come in and start reading quietly..."	Reading silently is something we do each day

1	Treats	T-WC Ind.-Whole class Whole Class	E	"we're going to go outside and we are going to sit in a big circle...I have a treat for you...in order to get your treat you need to be able to tell me ten people's names in this class...and when you're done eating you can have free play..."	Names are important in this class
2	Classroom Rights	Language Groups I-TG-WC	E/S E/S	"everyone has the right to be happy and secure in this classroom. This means that I will try to help others and think of their feelings...can anyone think of an example of this..." "I am sure you are talking about which classroom right you want to illustrate and that's okay but you need to do it in a whisper so that everyone can think..."	As a member of this class, you have particular rights and responsibilities. You may talk about what you are doing, but do so quietly so everyone can think
2	Read Aloud	Pair-WC	E/S	"who remembers the title of the book we read yesterday...those with your hands up whisper it to someone sitting next to you..."	Remembering involves talking to others
2	Rules for Caring	Language Groups Partner-Language Group	E/S	"in this class we have rules for caring...how can you show other people that you care...turn to someone sitting next to you and tell that person one way you can show them you care..."	In this class there are rules for how we treat one another

3	Applying for Jobs	TG-WC	E/S	"how does somebody get a job...talk about that in your team..."	
		T-WC	E/S	"in room 18 we also have jobs...probably not the same jobs as your parents when they go to work...but they're the jobs we need to get things done..."	In this class, you have responsibilities.
		I-WC	E/S	"here is a list of all the jobs...it will tell you what you have to do for that job...I will give you one of these and you're going to read it quietly...if you need help what do you do..."	There are jobs that need to be done to keep this class functioning.
		TG-WC	E/S	"talk with someone on your team about which jobs you think you would like..."	Sharing ideas involves talking to others
		I-WC	E/S	"I have just given you a job application...on this job application there are several things that you need to do..."	
3	Giving Graph	I-WC	E/S	"think about something that you have given to somebody else...right now is think time... when you have your card you may walk quietly back to your seat and get started...."	There are different kinds of giving that are important
		TG-WC	E/S	"look at your picture...I want you to share your picture with your teammates...briefly say what you gave someone..."	

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		I-WC	E/S	"who can tell us of all the people who got 21 who would like to come up here and show us how you figured it out..."	Part of solving problems includes sharing how you did it
3	Choosing Team Names	TG-WC	E/S	"Right now you are going to choose a name for your team...you need to listen to all of the rules...the first rule is whatever team name you come up with everyone on your team needs to like it...no team names that are negative or mean...I also won't take team names with violence...however you come up with your team name is up to you..."	In this class, you will have names by which to identify your team
		I-TG	E/S	"Each team is going to make a team cube...it will hang above your table with your team name...on this cube will go all of your collages that we are going to make...each person on your team is different...this square represents you..."	A team is made up of unique individuals
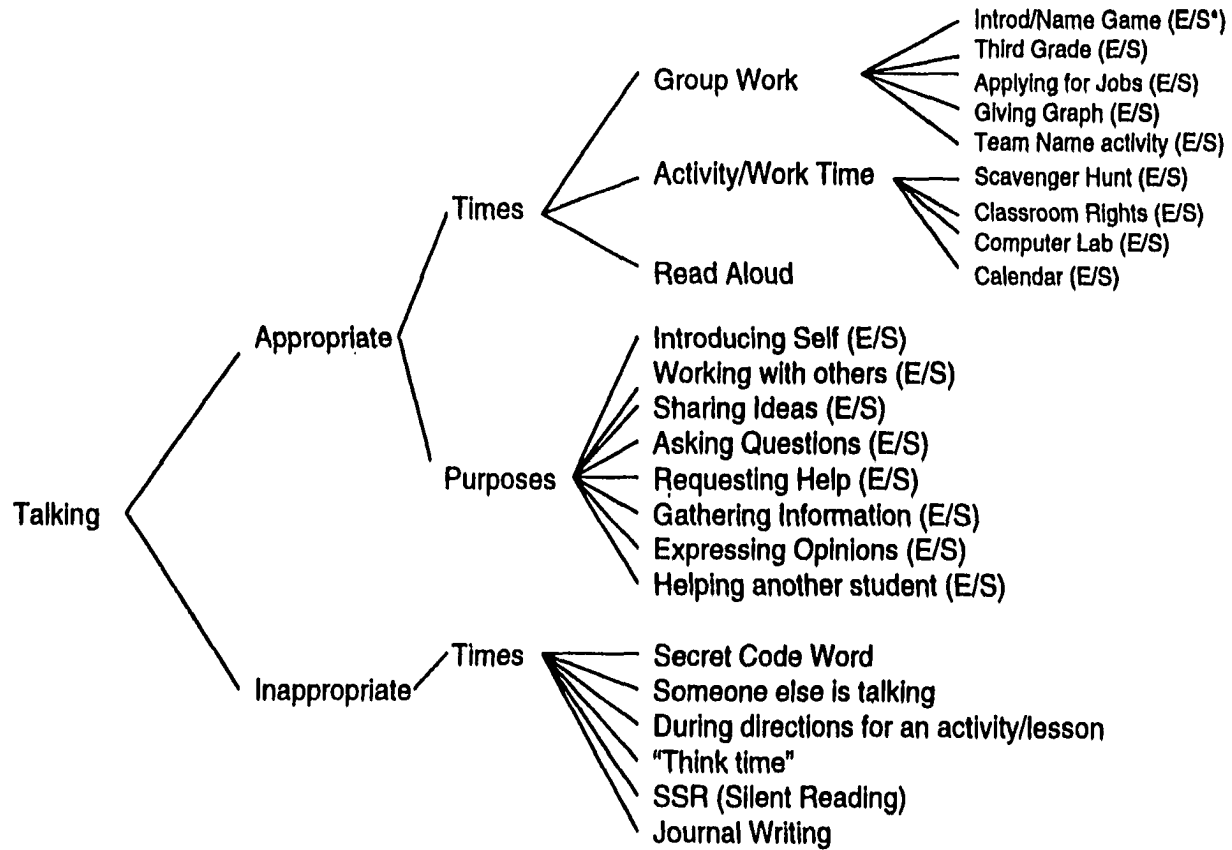
Figure 4.5. Talking in Room 18

Note. *E and S refers to English and Spanish. E/S indicates that students used both languages during this activity.

help one another, and to ask and answer questions. Analysis shows that as the first week of school progressed, additional purposes for talking included discussing classroom rights, remembering previous learning experiences, applying for class jobs, problem solving, and choosing team names. This practice of identifying the purpose of the talk was evident in the first week of school and analysis of videotape data across the year indicated this became a pattern in this classroom.

The next analysis shows that during the first week of school, through these uses of talk, students were also learning when talking was and was not appropriate. By doing a domain analysis, X is a case of Y, these times became visible.

As shown in Figure 4.5, talking was okay during the majority of the day. For example, students were allowed to talk when working with teammates, during activity/work time, during read aloud, and if they had questions or needed help. During the first week of school, students were encouraged to talk with the members of their team during the following events: Introductions, the Name Game, third grade, applying for jobs, the giving graph, and team names and collages. In each of these events, students were expected to work as a team.

Students were also allowed to talk during activity/work time. This was time where students were not necessarily working on a team project, but rather were working individually to complete a task.

During the first week, such times included scavenger hunt, illustrating classroom rights, the computer lab, making the classroom calendar, and math.

During read aloud, students were encouraged to share their ideas with partners during discussion of the text. It was also okay for students to explain to someone what was happening in the book in his/her language. For example, if the text being read aloud was in English, it was okay for students to share in Spanish what was happening when their classmates had a question.

The times when talking was not appropriate are also presented in Figure 4.5. In each case, this was stated explicitly by the teacher. The analysis indicates that there were few occasions when talking was inappropriate or sanctioned in this classroom and quiet times served particular purposes. From the start of school, on Day 1, Mrs. T alerted the students that she would signal when she needed their attention by using a secret code word:

1461	Mrs. T:	alright
1462		in this room
1463		in order to get your attention
1464		because you are going to be doing a lot of teamwork
1465		we have a secret code word
1466		when I say the secret code word
1467		that means you need to stop
1468		look
1469		and Lourdes
1470		listen

Evidence from the fieldnotes and running records from the first week of school showed that the teacher used the secret code word to signal clean up time, to provide directions/additional information for an activity, to remind students to keep their voices down, and to transition from one part of an activity to another. Data from across the year showed that the secret code word changed monthly and included words such as Santa Barbara (the first secret code word), dolphins, and aliens. The secret code word was voted upon by the students and was usually related to the academic content being studied. Analysis of reconstructed teacher head notes indicated that Mrs. T changed this word monthly for three purposes: to keep it a "secret" from those students not in Room 18, to further build the students' sense of community, and to ensure that the students listened to and paid attention to the word.

The other times when it was not appropriate to talk included: when someone else was talking, during directions, and during "think time." Evidence from the running records shows that Mrs. T signaled these expectations repeatedly during the first 3 weeks of school:

1443	Mrs. T:	alright
1444		Ramon come up here (points to stool in front of classroom)
1445	Ramon:	(goes to stool and sits down)
1446	Mrs. T:	kay
1447		in order to hear Ramon
1448		what do you need to do
1449	Ignacio:	listen

1450 Paul: be quiet
1451 Mrs. T: (puts fingers to lips)

These expectations were re-signaled throughout the year, indicating that these were key times when talking was not appropriate.

The only other times when talking was not allowed were during journal writing (which happened every morning) and during Silent reading (which happened every afternoon). Analysis of videotape data across the year shows, however, that students were not sanctioned for talking during these times if the purpose of the talk was to request help or assistance from someone at their table group and they were not disturbing others with their talk.

This analysis indicated that during the first week of school students were provided explicit messages about talking being an important part of working together in this classroom. They learned that talking was okay during most of the school day, as long as this talk was purposeful and related to the activity being accomplished. They also learned the times when talking was not appropriate.

However, analysis shows that talking was only one part of working together that was communicated explicitly during this first week of school. There were other aspects that were also important. These included: respecting each other's rights and differences, cooperating and helping one another.

Examination of data across the first days of school shows that respecting each other's rights and differences was another important

aspect of working together. On Day 2, students met in language groups to discuss the classroom rights (see Appendix C). This was one of the few instances where students were separated according to their primary language (Spanish/English). Analysis of notes from the teacher indicated that she elected to separate the students according to language for this particular discussion because she felt that understanding the classroom rights was key to their being able to successfully participate in this community. She also wanted to provide students with an opportunity to discuss any issues or concerns they might have in their primary language.

In addition to respecting one another's rights, analysis showed that students were expected to respect each other's differences. On Day 3, students were given an opportunity to share some of those differences while making a team cube:

1004	Mrs. T:	each team is going to make
1005		a team cube
1006		it will hang above your table
1007		with your team name
1008		on this cube will go
1009		all of the collages that we are going to make
1010		each person on your team is different
1011		each person likes something different
1012		this square represents you

As previous analysis indicated, this message that working together means working with people who are different (lines 1010,

1011), was one that students often included as an important aspect of this classroom (see Figure 4.1).

To learn more about each other's differences, each student was provided with an opportunity to be "Superstar of the Week." Analysis of data across the year showed that this was a weekly event. Every Friday, Mrs. T would provide the class with clues about the next Superstar of the week. The students would use these cues to predict who the person was. On Monday, the superstar of the week brought in personal items and artifacts (e.g., photographs, awards, posters, trophies, etc.) to display on the board. On Friday, the superstar was given time to share each of these items and to discuss how they were significant in his/her life.

Cooperating and helping one another was an additional aspect of working together in this classroom. On Day 1, during the Name Game, helping one another was presented explicitly. In her explanation of the directions for this activity, Mrs. T stated,

1074	and write down as many names
1075	as your team can think of
1076	everybody needs to write something down
1077	Lourdes
1078	now
1079	Juan Antonio is new
1080	es nuevo *(is new)*
1081	y no habla inglés *(and he doesn't speak English)*
1082	quién en esta mesa habla español *(who at this table speaks Spanish)*
1083	(Julia raises her hand)

1084	entonces quién va *ayudarlo (then who is going to help him)*
1085	Julia
1086	you need to help each other

In this excerpt, Mrs. T made it clear to the students that while each student was expected to contribute to the group process and product (line 1076), they were also responsible for helping one another to accomplish that goal (lines 1082-1084). During the scavenger hunt on Day 1, helping others was again part of the Mrs. T's discourse:

1468	Mrs. T:	look around the room
1469		and those of you who are finished
1470		would you help those people who have their hands up
1471		and need a little bit more time

In this case, helping others was not limited only to helping those who are a part of your table group. Rather, it meant looking around and identifying those who may have needed help and then being willing to provide it. As the first weeks of school progressed, the students were encouraged to not only help others but to be willing to ask for help from others when they needed it. Analysis shows that Mrs. T repeatedly asked students, "if you need help what do you do?" to which the students began to respond, "ask somebody."

Summary of Explicit Messages

The analyses in this section showed that throughout the first week of school, Mrs. T made explicit statements about the nature of

working together in this classroom. She supported those statements with the kinds of activities in which she engaged the students. For example, she told students that they could talk in this classroom and then she provided them with opportunities to do so. It was also communicated to students that they would be expected to respect each other and to help one another.

Discussion of "We Work Together"

The analyses presented in the previous sections showed the basis for the students' claim (in the "Important Book") that working together was a significant part of life in this classroom. Mrs. T not only explicitly told the students what this meant (being able to talk, respecting each other's rights and differences and helping one another), but she organized the classroom in ways to facilitate this. Through the physical arrangement of classroom spaces (i.e., curriculum spaces, interactive spaces, and personal spaces) and the use of a variety of groupings and interactional spaces, she further supported the students in working together.

Working together came to be viewed as a cultural resource in this classroom. As Alejandra suggested in the opening excerpt of this section, the students recognized that they were able to utilize this resource for a variety of academic purposes. They also recognized that they were able to work together even though they did not

necessarily speak the same language (see Lesley's excerpt). The next section will explore how being bilingual also came to be viewed as important.

"Somos Bilingües" (We are Bilingual)

La cosa importante de nuestra clase es que es diferente de las otras clases. En esta clase **podemos hablar en inglés y español. Podemos leer libros en inglés y español. Podemos escribir en los dos tambien**. Pero la cosa importante de nuestra clase es que es diferente de las otras clase.

(The important thing about our class is that it is different from other classes. In this class we can speak English and Spanish. We can read books in English and Spanish also. But the important thing about our class is that it is different from other classes.)
Carmen (From Room 18's "Important Book," June 1993)

The important thing about our class is that it is bilingual. Some Spanish speakers can read English books and some English speakers can read Spanish books. English speaking kids sometimes write in Spanish and Spanish speaking kids sometimes write in English. But the important thing about our class is that it is bilingual.
Linda (From Room 18's "Important Book," June 1993)

As previously discussed, analysis of the students' "Important Books" showed that from their perspectives, another significant attribute of this classroom was that it was a bilingual classroom. Although given the official designation of bilingual classroom, at this school site it was expected that Spanish instruction be limited to the Language Arts block (See Chapter 3 for a full discussion of this). The

rest of the school day was to be in English (or Sheltered English[3]) as much as possible. Analysis of teachers' notes and journal entries shows that Mrs. T was aware of this school norm. She indicated that she had spoken with parents of the "English speakers" and they were concerned about how much Spanish would be spoken in the classroom. While Mrs. T recognized the school norms and the parents' concerns, analysis of her journal indicates that one of her goals was to create a classroom community where two languages were respected and utilized.

The analysis presented here examines how, in the first 3 weeks of school, respecting and utilizing two languages was established and communicated. It focuses upon the use of Spanish and English in both the public (whole class) and small group interactional spaces.

Whole Class Interactional Space: Written Language

Analysis of videotape data from the first 3 weeks of school shows that in this classroom the physical environment communicated that this was a bilingual classroom. Both Spanish and English were displayed throughout (see Figure 4.2). For example, the welcome sign on the door was in Spanish and English, all of the signs on the walls were in both languages, and the materials on the shelves around the room were labeled in both English and Spanish. Additionally, the classroom library contained and displayed books in

both languages. As the first weeks of school progressed, additional charts and information were added to the classroom environment. For example, the rules for caring generated by the students were posted in English and Spanish (see Table 4.4), as were the classroom rights (see Appendix C). Song and poem charts in both languages were added to the classroom collection (e.g., "Me I Am", "Que Viva Mi Barrio"), and books written by the students in both languages were displayed in the classroom library (e.g., Una Casa es Una Casa para Mi, Fortunately). Additionally, all of the materials distributed (e.g., assignments, homework calendars, notices to parents) were in Spanish and English. Just as the physical arrangement of space suggested that working together was an important aspect of this classroom, the public display of both written Spanish and English communicated that bilingualism was also valued.

Whole Class Interactional Space: Oral Language

The previous analysis showed that incorporating written Spanish and English into the physical environment of the classroom was one way that Mrs. T utilized the whole class interactional space. Further analysis of running records from the first 3 weeks of school indicated that Mrs. T used oral language in particular ways and for particular purposes in this whole class public space. The analysis

Table 4.4: Rules for Caring

RULES FOR CARING

Help other people
If they do something wrong and they get mad, calm them down.
Be a friend
Help people if they need help (anything)
Play with them
Share
Help them if they fall
Help people if they're sad
Take them to the nurse (if they get hurt)
Help them find a friend
Walk them home

LAS REGLAS PARA MOSTRAR CARINO
(Rules for Caring)

Ayudarle cuando se caen (*help them when they fall*)
Ayudarle con las tareas (*help them with their work*)
Ayudarle escribir (*help them write*)
Ayudarle con las matemáticas (como las tablas) (*help them with math, like the mulitiplication tables*)
Si no saben quehacer, ayudarle. *(If they don't know what to do, help them)*
Enseñarles al inglés *(teach them English)*
Ayudarle si tienen algo difícil *(help them with something difficult)*
Ayudarle leer *(help them read)*
Jugar con ellos *(play with them)*
Enseñarles al español *(teach them Spanish)*

presented here considers the teacher's use of oral Spanish in this space. The focus on oral Spanish in these analyses was deliberate. Given the implicit policy at this school site, that English would be used for the majority of instruction, I wanted to examine how the teacher in this classroom communicated to the students that being bilingual was an important aspect of daily life.

By examining the events that occurred during the first 3 weeks of school, patterns of oral Spanish language use became visible. While Mrs. T informed the students within the first 15 minutes of school on Day 1 that they had two teachers who speak Spanish and English, her own use of Spanish in this public space was limited. Across the events for the first 3 weeks of school, Mrs. T used Spanish in the whole class interactional space for four general purposes: To explain directions/procedures for a task or activity, to check for students' understanding of these directions, to translate ideas presented by class members into Spanish (and vice-versa), and to read texts during read aloud time (see Table 4.5).

To illustrate these particular uses of Spanish, one event, "writing a pattern story" will be further considered. This particular event occurred on the fourth day of school. After reading aloud a pattern story entitled <u>A House Is a House for Me</u> (Hoberman, 1978), Mrs. T asked the students to identify the pattern in the story. She then

Table 4.5: <u>Teacher's Use of Spanish During First</u>
<u>3 Weeks of School</u>

Day	Event	Purpose- Whole Class Interactional Space	Purpose-Small Group or T-S Interactional Spaces
1	Introductions	-Establishing that both teachers speak Spanish -Explaining directions	-Helping teams decide who will begin -Facilitating introductions -Asking questions
1	Name Game	-Explaining directions -Checking for understanding of directions -Reviewing what had been stated by classmates in English	-Clarifying directions -Asking student opinions -Encouraging students to expand upon their responses -Restating questions for discussion
1	Scavenger Hunt	-Explaining directions -Reviewing answers	-Clarifying directions -Answering students' questions -Facilitating process -Helping students gather information
1	Third Grade	-Explaining directions -Restating contributions made by students in English	-Facilitating sharing of ideas -Asking probing questions

1	Interest Inventories	-Explaining directions -Checking for understanding of directions	-Answering student questions -Asking probing questions -Helping students generate ideas
2	Morning Business	-Explaining morning procedures -Explaining homework policy	
2	Dialogue Journals	-Explaining procedures	-Clarifying task -Answering student questions -Asking probing questions
2	Read Aloud	-Reading text aloud	
2	Thursday Folders	-Explaining purpose of folders -Describing contents of folders	
3	Applying for Jobs	-Posing question for group discussion -Restating student contributions -Explaining directions -Checking for understanding of directions	-Restating questions posed in English -Answering student questions -Asking probing questions -Encouraging elaboration -Helping students read and complete form
3	Giving Graph	-Explaining directions -Checking for understanding of directions	

3	Calendar	-Reviewing events that happen in September -Explaining directions -Checking for understanding of directions	
4	Pattern Books	-Reviewing pattern in read aloud book -Explaining directions -Checking for understanding of directions	-Asking probing questions -Discussing and recording students' sentences for book -Reading sentences with students
4	Math	-Explaining directions -Explaining procedure for determining odd/even numbers	-Answering students' questions -Clarifying task -Reviewing concept of pattern
4	Assigning Jobs	-Reviewing class jobs and responsibilities	
4	Spelling	-Explaining procedures for spelling -Checking for understanding	-Helping students construct spelling lists -Answering students' questions

4	Homework Calendars	-Explaining directions for homework calendars -Explaining homework assignment -Explaining contents of letters to parents	

explained to the students that they were going to use this particular

pattern to construct their own class books. She recorded the basic

pattern on the board and asked students to contribute possible ideas

for the class text. After the students suggested several ideas in

English, she repeated them in Spanish:

1388	Mrs. T:	en español (*in Spanish*)
1389		el patrón es este (*this is the pattern*)
1390		(T says the words as she writes) un
1391		or una (*a*)
1392		blanco (*blank*)
1393		es (*is*)
1394		una (*a*)
1395		casa (*house*)
1396		para (*for*)
1397		blanco (*blank*)
1398		(T rereads the sentence aloud)
1399		entonces (*then*)
1400		aquí (T points to what has been written on board) (*here*)
1401		una casa para perros (*a doghouse is a house for a dog*)
1402		un garage es una casa para un carro (*a garage is a house for a car*)
1403		un carro es una casa para gente (*a car is a house for people*)
1404		una computadora es una casa para un disk (*a computer is a house for a disk*)
1405	SNI:[4]	disco (*disk*)
1406	Mrs. T:	disco (*disk*)
1407		un rancho es una casa para un caballo (*a farm/ranch is a house for a horse*)

In this excerpt, it is possible to see how Mrs. T translated the students'

ideas into Spanish (lines 1401-1407). This particular use of Spanish

was also seen in other events (e.g., Name Game, Third Grade,

Applying for Jobs) where the students were asked to generate ideas in

their small groups and then share them with the whole class. This use

of oral Spanish communicated to the students that all of the ideas

contributed were valuable, and that all students needed to be able to

understand them.

After the students generated possible ideas for their stories,

Mrs. T explained the directions for the activity. She provided all of the

directions in English and then began in Spanish:

1665	Mrs. T:	en español (in Spanish)
1666		la primera cosa que van a hacer *(the first thing you are going to do)*
1667		Carmen
1668		Elizabeth
1669		van a recibir una hoja de papel *(you are going to receive a piece of paper)*
1670		kay
1671		van a escribir una oración usando este patrón *(you are going to write a sentence using the pattern)*
1672		por ejemplo *(for example)*
1673		una manzana es una casa para un gusano *(an apple is a house for a worm)*
1674		un sombrero es una casa para una cabeza *(a hat is a house for ahead)*
1675		un libro es una casa para un cuento *(a book is a house for a story)*

-----Break in Transcript-----

1679	okay
1680	y después de escribir *(and after you write)*
1681	la oración *(the sentence)*
1682	vas a hacer un dibujo *(you are going to make a picture)*

Explaining directions was the most common use of Spanish by the teacher in the whole class interactional space, suggesting that it was important for students to understand what they were supposed to do either in their small groups or individually. It also suggests that all students, regardless of "language," were expected to participate. Analysis of videotape data from across the year supported this.

Another use of Spanish that emerged from the data was checking for understanding of the directions. After the teacher had completed the directions for an activity, she would then check to make sure that the students understood what they were supposed to do, as seen in the following excerpt:

1755	Mrs. T:	qué van a hacer primero Pavo (what are you going to do first)
1756	Paco:	(inaudible)
1757	Mrs. T:	muy bien *(very good)*
1758		y después de escribir su oración *(and after you write your sentence)*
1759		van a salir de sus sillas *(are you going to leave your seats)*
1760	Students:	no
1761	Mrs. T:	van a hacer sus dibujos *(you are going to make your pictures)*

Checking for understanding often reviewed the sequence of directions (lines 1755, 1758, 1761). Analysis of the running records indicated

that once the teacher had explained an activity or task in this way, the students were encouraged and expected to ask their teammates if they needed help remembering what to do before going to the teacher.

In each of these instances, Mrs. T is using reiterative code switching (Fránquiz, 1995). This type of code switching is used for the purposes of reiterating the message(s) expressed in one language in the other language. The meaning of the message is not enhanced, but rather reiterated in a different linguistic code. This may or may not occur concurrently (Jacobson, 1989).

The fourth major use of Spanish in the whole class interactional space occurred during read aloud time. Analysis of the running records and videotape data from the first 3 weeks showed that Mrs. T and the student teacher (Mrs. A) would often read stories aloud in Spanish (Day 2, Day 5, Day 6, Day 9, Day 11) to the students during this particular time. While the reading of the story happened in Spanish, the discussion of the text occurred in both languages (Spanish and English), as occurred on Day 5 with the reading of La Princesa Vestida en Una Bolsa de Papel (The Paper Bag Princess):

1564	Mrs. A:	porqué no se casaron *(why didn't they get married)*
1565		que piensas *(what do you think)*
1566	SNI:	es que el príncipe *(it's because the*
1567		era inútil (was useless)
1568	Mrs. A:	what does inútil mean

1569		qué significa inútil (what does this mean)
1570	SNI:	useless
1571	Mrs. A:	useless
1572		why did she think he wasn't useful
1573	Ignacio:	because what he said

In this excerpt, Mrs. A began by asking students to consider reasons that the princess in the story did not want to marry the prince (lines 1564-1565). When a student responded that it was because the prince was useless (inútil) (lines 1566-1567), this prompted a discussion of the meaning of the word (lines 1568-1571). In this case, English was used to clarify a previous response from a student in Spanish (line 1567, 1570-1571) so that all students were able to understand the conversation about the text.

This analysis showed that Spanish was used for particular purposes in the whole class public space. As seen in the previous analyses, students often worked together in small groups, and therefore it was important that they know what was expected of them during these times. Mrs. T ensured that this happened by explaining the directions for the activities in both Spanish and English and checking to make sure that the students understood these directions. After the students had completed an activity in their small groups, they were often asked to report out or share what they had done (e.g., Name Game event). Mrs. T used Spanish in these instances to ensure that what was reported by the students was available to the

group in both languages, suggesting that hearing all of the ideas was important.

Examination of the teacher's journal and recorded notes indicates that she was aware of the "pressure" to speak English in her classroom (Journal Entries dated 9/9, 10/15, 11/3, 11/12, 11/13). For example, on the first day of school there was a parent observing in her classroom to monitor how much Spanish was spoken and to determine if his daughter would remain in a bilingual classroom. As mentioned previously, the implicit policy of the school was that English would be used for the majority of the school day, with the exception of Spanish reading. This may have contributed to the ways Mrs. T used Spanish in the whole class interactional spaces in this classroom.

Small Group Interactional Spaces

After conducting the preceding analysis, I began to question how the students came to value this as a bilingual classroom when the use of the Spanish language was apparently limited when compared to that of English. This led me to further examine how Mrs. T used Spanish in other interactional spaces, namely in small groups and teacher-student interactions. I returned to the videotape data and running records from the first 3 weeks of school with this particular focus. This analysis showed different patterns or purposes of Spanish language use (see Table 4. 5).

What becomes visible is that Mrs. T used much more Spanish during these times and in these spaces. The uses that were most prevalent were: clarifying the task or the concept, expanding upon a concept, answering students' questions, facilitating the group process (sharing of ideas, information, etc.), and asking probing questions to encourage students to further elaborate or expand upon their ideas.

In returning to the "writing a pattern story" event described above, it is possible to see how Mrs. T used Spanish while working with one student, Maria Isabel:

2200	Mrs. T:	tienes tu oración *(do you have your sentence)*
2201	Maria Isabel:	no
2202	Mrs. T:	qué quieres decir *(what do you want to say)*
2203		aquí está el patrón *(here is the pattern)*
2204		(points to board)
2205		un blanco es una casa para un blanco *(a blank is a house for a blank)*
2206	Maria Isabel	un libro *(a book)*
2207	Mrs. T	qué tiene libros *(what do books have)*
2208	Maria Isabel	cuentos *(stories)*
2209	Mrs. T:	okay
2210		un libro es una casa para cuentos *(a book is a house for stories)*
2211		mira *(watch)*
2212		(records sentence on computer)
2213		leemela *(read it to me)*

2214 Maria Isabel: un libro es una casa para
                          cuentos *(a book is a house for
                          stories)*

In the above excerpt, Mrs. T worked with Maria Isabel to help

her generate a sentence for the class book. She began by asking

Maria Isabel what she wanted to say (line 2202) and then repeated

the pattern that she was supposed to use (lines 2203-2205). After

Maria Isabel stated an idea (line 2206), Mrs. T asked her what it was a

home for (line 2207). In this space, the teacher used Spanish to clarify

the task and to encourage Maria Isabel to expand upon her ideas.

Videotape data showed that Mrs. T used Spanish with other students

in a similar manner during this event.

What becomes evident from this analysis is that Mrs. T used

Spanish for very different purposes in the more "private" spaces in the

classroom, especially at the beginning of the year. It was here that the

actual content instruction (explanation of concepts, clarification of

concepts and elaborating upon concepts) happened. As seen in the

example of Maria, this was primarily based upon the student's needs

and prompted by their questions.

Summary of Language Use

These analyses show a contrast between how Spanish was

used by this teacher in the whole class public space and with students

in small groups. Taken together, it is possible to see that because the

events in this classroom often included various organizational patterns (e.g., different interactional spaces), Mrs. T was able to utilize Spanish in ways that allowed her to meet the norms and expectations of the school and parents while beginning to accomplish her goal of creating a classroom community where two languages were utilized and respected.

Differing Expectations

While being bilingual came to be valued by the students, as indicated in their "Important Books," some of their attitudes at the beginning of the year were different. Because of their previous schooling experiences, the students in this classroom arrived with particular assumptions and/or beliefs about classroom life and what would be expected of them (Chandler, 1992; Green & Harker, 1988). They drew on these assumptions as they entered this new classroom. While some of their expectations for how to take up a student role were similar to those they had experienced previously, there were others that were quite different, requiring them to redefine their understandings (Crawford, 1999). One of the most challenging differences for the predominantly English-speaking students in this classroom was that they would need to listen to Spanish. While the Spanish-speaking students were expected to listen to English, a new

language for many of them, this was not new for them as students, and thus did not present the same challenges.

In order to make visible these differences in expectations, the analysis presented in this section focuses upon two students, Andrew and Lesley. Both of these students were Native English speakers. While Andrew had been in a bilingual classroom previously, Lesley had not. These telling cases (Mitchell, 1983) were selected not because they were representative of all of the students, but rather because they show how two students entered this classroom with particular assumptions and understandings about being bilingual and how these understandings shifted and changed as time progressed.

I don't get it"—"I don't speak Spanish". While Andrew had been in a bilingual classroom in second grade, it became clear on the first day of school that his expectations for how to be a student did not include being asked to follow directions in Spanish. Analysis of the videotape data showed that he became upset during a game of Simon Says. The teacher began this game in English and then switched to Spanish. She modeled the process for the duration of the game. At 10:08:16, the following exchange takes place:

1015	Mrs. T	simon dice *(simon says)*
1016		toca la cintura *(touch your waist)*
1017	Andrew:	I don't get it
1018	Mrs. T:	are you watching me
1019	Andrew:	yeah
1020	Mrs. T:	then
1021		do it

1022	Andrew:	but I (inaudible)
1023	Mrs. T:	just listen
1024		listen to the words
1025		and see if you can figure them out
1026		no biggie
1027		did I make anyone sit down
1028	Andrew:	no

In this excerpt, Andrew suggested that he was having difficulty playing this game because he didn't understand the language (line 1017). Mrs. T reminded him that she was doing each of the motions and asked if he was watching her (line 1018). While Andrew was watching, he indicated that it was still difficult (lines 1019, 1022). Mrs. T suggested that he simply try to listen to the words (lines 1023-1025) in addition to watching her and that there was no consequence for not being able to follow along (line 1027). After this excerpt, Mrs. T then repeated the same two lines in Spanish (Simon dice toca la cintura and Simon dice toca la cabeza) three times each, allowing Andrew an opportunity to successfully participate and to distinguish between la cintura (waist) and la cabeza (head).

In Lesley's case, this was her first experience in a bilingual classroom. She arrived on the first day of school with her father, who was concerned about her placement in this classroom since she only spoke English. While Lesley made it through the first day of school without incident, the second day of school presented a challenge for her.

During read aloud on this day, Mrs. T announced that she was going to read a story aloud in Spanish:

```
1016  Mrs. T:     yesterday
1017              I read a story in English
1018              right
1019              today
1020              I am going to read a story in
1021              Spanish
```

Immediately, Lesley sat upright in her place and asked:

```
1022  Lesley:     what if I don't speak Spanish
```

Her body posture and tone of voice indicated her concern. Mrs. T responded with:

```
1023  Mrs. T:     you can listen
1024              you're kind of in the same position
1025              Lesley
1026              as some of the new kids from Mexico
1027              who don't speak a word of English
1028              so listen and see how much
1029              you can understand
1030              and then later on
1031              if you're interested
1032              I can explain the story to you in
                  English
```

For Lesley, the expectation that she would listen to a language unfamiliar to her during read aloud was new. She was concerned that she would not be able to understand the story if she did not speak the language (line 1022). Mrs. T responded to her concern by asking her to consider the position of the students who don't speak English (lines 1024-1027). She also suggested that Lesley try to understand as much as she could, implying that she didn't expect her to understand it

all. Analysis of the videotape data showed that Lesley did listen to the story and she was looking at the pictures as Mrs. T read aloud. There was no evidence that she later approached the teacher to ask her about the contents of the story.

Both of these students were used to being successful in school. The expectation that they would listen to Spanish was problematic for them at first as it created a possibility that they would not understand what to do and thus would be unsuccessful at completing the required task. This expectation challenged both of these students to reconsider what it meant to be a student and what it meant to be "successful." In both of their cases, it meant that they needed to utilize different strategies (e.g., listening to the words and watching) to understand what was happening in a language new to them.

"Why do you say that - maestra?". The differing expectations of these two students were also visible during a math lesson that occurred on the eighth day of school. As the students were constructing and recording tile patterns in their table groups, they engaged in various conversations. At Andrew's table group, as one of the students raised her hand to get the attention of the teacher (lines 2030, 2031), Andrew began to question her (line 2033):

```
2030  Lourdes:   maestra (teacher)
2031             maestra (teacher)
2032  Andrew:    Lourdes
2033             why do you say this
2034             maestra
```

2035		(walks over to where she is sitting)
2036	Silvia:	it's Mrs. Tuyay
2037		say Mrs. Tuyay
2038	Andrew:	maestra is a word for teacher
2039		say Mrs. Tuyay

Both Andrew and Silvia were trying to get Lourdes to use the teacher's

name (lines 2036, 2039) rather than call her maestra. Andrew

understood the meaning of the term maestra (line 2038), but his

previous question suggests that he was unclear about its usage here.

This conversation continues on the videotape, but the audio is

inaudible. After approximately 2 minutes, upon overhearing this

conversation, Mrs. T joined the group:

2077	Mrs. T:	you know what
2078		you know why they call me maestra
2079	Andrew:	why
2080	Mrs. T:	because in Mexico
2081		if you go to school in Mexico
2082		you aren't allowed to call your teacher by their name
2083		you aren't supposed to call the teacher by their name
2084		it's rude to call your teacher Mrs. Tuyay ·
2085		or by their name at all
2086	Paul:	oh
2087		really
2088	Andrew:	why
2089	Mrs. T:	that's just the way it is in their country
2090		just like here
2091		you call me Mrs. Tuyay
2092		you don't call me Sabrina

In this excerpt, Mrs. T indicated that she has heard what was said at

this table group (lines 2077, 2078) even though she had not been

physically present (she was working with another student at another table group). She proceeded to provide a response to Andrew's previous question to Lourdes (lines 2080-2085) and suggested that the students in this country have a similar practice (lines 2090-2092).

As Mrs. T was explaining this, Ramon, who was seated at Lesley's table group, next to Andrew' s group, turned around and looked at the teacher. He then turned back to his table group and the following conversation began:

2095	Ramon:	maestra
2096	Jennifer:	maesta
2097	Lesley:	not maesta
2098		maestra
2099		ra
2100		ra
2101	Ramon:	así así así
2102		ra ra
2103		maestra

At this point, Jennifer tried to pronounce the word maestra. She then went to get Mrs. T to come and help her with the pattern that she was constructing. As Mrs. T left Andrew's table group, all of the students, including Andrew, began to say the word maestra.

After Mrs. T finished working with Jennifer, she left this table group. After she does, the following occurs:

2176	Lesley:	we can call her
2177		teacher Tuyay
2178		maestra Tuyay
2179	Luciano:	let's call her
2180		teacher
2181		maestra

2182	Lesley:	okay
2183		I know
2184		teacher
2185	Luciano:	Mrs. Tuyay
2186		maestra
2187	Lesley:	Tuyay
2188		teacher
2189	SNI:	(inaudible)
2190	Lesley:	you don't know how to say teacher in Spanish
2191	SNI:	no

These excerpts together show how both Andrew and Lesley began to change and to feel more comfortable listening to Spanish being spoken in the classroom. While in the first 2 days of school both of them had claimed to not speak Spanish, here we see them beginning to experiment with the language and trying to use it.

Data from across the year show that both of these students continued to refine their understandings of being bilingual and to challenge their own assumptions. Analysis of the teacher's journal after parent-teacher conferences in November (entry from 11/5) indicated that Lesley had clearly articulated this. During her conference, when asked by the teacher what her goals for the rest of the year were, Lesley stated that she wanted to become bilingual, and to learn more Spanish. She continued to pursue this goal as the year progressed. Andrew, too, continued to develop his bilingual skills. Analysis of videotape data from across the year showed that he often elected to provide responses to the teacher's questions in Spanish during math (10/13, 11/4, 1/4, 3/1). Additionally, he began to speak

more Spanish during small group interactions (1/15, 4/28) with his peers.

Discussion of "Somos Bilingües"

This set of analyses examined the students' claim that another important aspect of this classroom was that it was bilingual. This was accomplished through considering how language was used both orally and in writing in the public, whole class interactional space. It was shown that Mrs. T used Spanish in particular ways and for particular purposes in this space. This contrasted with how she used Spanish in the small group interactional spaces throughout the classroom. It was here that she utilized oral Spanish for instructional purposes and to further explain and expand upon academic concepts.

This section also presented the differing expectations of two Native English speakers in the class to show how being bilingual was not something that was appreciated by all of the students in the beginning of the year. This analysis made visible how these students shifted their perspectives over time, and came to value being bilingual.

Together, these analyses demonstrated that the use of two languages (e.g., English and Spanish) was another cultural resource available to the students in this classroom. As Carmen's "Important Book" excerpt indicated (see the beginning of this section), the students in this classroom understood that they were able to draw upon and utilize this cultural resource for learning academic content.

"We Learn Differently"

The previous two sections (**We Work Together** and **Somos Bilingües**) examined the students' claims that working together and being bilingual were important aspects of life in this classroom. In this section, one final aspect of this classroom that the students deemed important (Learning differently) is explored. Analysis of their "Important Books," showed that students identified three key areas as being different, which will be discussed here: Math, Writing, and Projects.

Math

> La cosa importante de nuestra clase es que estudiamos mucho. **Estudiamos matemáticas con frijoles, fichas y muchas cosas que tenemos. Estudiamos hacer muchos patrones de manera como lo hacemos. Estudiamos a restar, sumar, multiplicar y dividir.** Pero la cosa importante de nuestra clase es que estudiamos mucho."
> Alma (Excerpt from Room 18's "Important Book," June 1993)
>
> *(The important thing about our class is that we study a lot. We study math with beans, chips and a lot of things that we have. We study [how to] do a lot of patterns in the way that we do them. We study adding, subtracting, multiplying and dividing. But the important thing about our class is that we study a lot.)*

Math in this classroom was different from students' previous experiences, as it involved the use of a variety of manipulatives. It incorporated the use of tiles, beans, and anything else that was

available (as indicated by Alma's excerpt). Mrs. T utilized a math curriculum that was different from the district-adopted textbook, although she used the text as a supplement. During math time, the students often worked together in two languages to construct and solve problems using these objects. The students were also expected to share their problem solving strategies with their classmates.

The focus of this particular curriculum was upon understanding the mathematical concepts and often involved working in a different base (4 or 5 instead of base 10). The first cycle of activity in mathematics focused on identifying patterns, and this practice was incorporated into the other math cycles of activity (beginning addition and subtraction, addition and subtraction with regrouping, beginning multiplication and division, sorting and classifying and problem solving). (This patterns cycle of activity will be further addressed in the following chapter.)

By utilizing this curriculum and focusing on conceptual understandings, a particular view of what counted as mathematics was constructed in this classroom. Such a view implied that problem solving, reasoning and communicating were essential aspects of learning math, which was consonant with the math reforms that were taking place during this time (National Council of Teachers of Mathematics, 1991).

Writing

> La cosa importante de nuestra clase es que **escribimos mucho. Escribimos cuentos** de cualquiera cosa. Hacemos libros. **Escribimos en nuestros journals.** Pero la cosa importante de nuestra clase es que escribimos mucho.
> Reina (From Room 18's "Important Book," June 1993)
>
> *(The important thing about our class is that we write a lot. We write stories about everything. We make books. We write in our journals. But the important thing about our class is that we write a lot.)*

Writing in this classroom was also viewed as important. As Reina states above, "we write a lot in this classroom," suggesting that while students had previous experiences with writing, the amount of writing in this classroom was different for many of them. The students began each day writing in their dialogue journals. These journals included letters that went back and forth between the teacher and the students. Each morning the students would write a letter to the teacher, to which she would respond (see Appendix D). Therefore, they began their dialogue journal time by reading the response from Mrs. T (or one of the student teachers).

Writers' workshop also occurred every day. This was a time when students wrote on topics of their own choice. They utilized the writing process, beginning with rough drafts and proceeding through the stages of editing, revising and publishing. Every Thursday, students went to the computer lab to publish the stories they had written during writer's workshop. For most of the students in this

classroom, Writers' workshop was new; they had not experienced this previously.

In addition to these specified times, writing was also incorporated into other content areas. Students had learning logs in which they recorded information in math, science and social studies. Most of the content area projects also included writing (e.g., Timelines, Important Books for Santa Barbara Landmarks, Planet reports and Planet stories, Rainforest reports). In many of these projects, the students worked together to create a product (e.g., report, story, etc.) in two languages.

One aspect of writing that was also mentioned by the students was spelling (see Jennifer's excerpt that follows). In this classroom, students each had their own spelling lists, which included words that they had misspelled in their writing (journals or workshop stories). The teacher kept a running list for each student in the class. Every Monday, they created their weekly spelling list from this record. During the week, as part of their homework, they practiced these words in various activities. Each Friday, they then took a spelling test, which was given to them by another student in the classroom. Those words that the students spelled correctly on their test were taken off of their lists. If they missed a word, it remained on their list until they learned it. Students were then expected to know how to spell these words in their writing.

Through these varied experiences, the students came to see themselves as authors and to understand that writing served particular purposes. They were provided opportunities to use writing in language arts, math, science, and social studies. They were encouraged to write alone, and to work together to co-author. They were also allowed to choose the language(s) in which they would write.

Projects

> The important thing about our class is that we are all different. Our class is bilingual. We come from different places. Our class is different than other classes because **we do a lot of projects.** We have desks that don't have a place to put books, we have cubbies instead. We do different things than in other classes. **We learn in different ways. We do math and spelling and writing differently.** But the important thing about our class is that we are all different.
> Jennifer (Excerpt from Room 18's "Important Book," June 1993)

In addition to math and writing, the students also mentioned the projects they did in this class as being different from their previous experiences. While there were many projects completed during the year, the ones mentioned most often by the students in their Important Books were the solar system and the rainforest.

During the solar system cycle of activity (see Chapter 2 for a discussion of cycle of activity), the students were engaged in two projects: bilingual planet reports and planet stories. The bilingual

planet reports were group projects. Each table group was responsible for researching one/two planets and presenting this information bilingually in the form of a report. The planet stories were student-generated projects that involved the writing of realistic fiction stories.

The rainforest projects included rainforest reports, constructing terrariums, and rainforest tours. During this cycle of activity, the classroom was transformed into a rainforest. The students researched and wrote bilingual rainforest reports on an animal of their choice. They selected materials and plants and constructed terrariums in which to observe the water cycle. They also conducted tours of the classroom for other classes in the school. Each student became a tour guide and explained what they had learned about the rainforest during this particular cycle of activity.

Most of the projects in this class were group projects and required students to work together and to create a bilingual product (e.g., Important Books about Santa Barbara Landmarks, Native American Reports, Planet Reports, Planet Stories, Rainforest Reports). Students were encouraged to explore their own questions in addition to meeting the requirements of the "official" third-grade curricula. For many of the students, these were their first experiences with "projects," and thus a reason they saw being a student in this classroom as "different."

Discussion of "We Learn Differently"

In this section, the claim that students learned differently in this classroom was explored. Math, writing, spelling, and projects were described, as they were the aspects of learning differently most often mentioned by the students. It was shown how each of these was different or new for many of the students in this classroom.

Summary of Part One

This set of analyses examined how this class differed from others as seen from the students' perspectives. It explored the significance of **working together, being bilingual, and learning differently** and how this was communicated during the first 3 weeks of school. The classroom environment, the organizational patterns, and the teacher's explicit messages and actions each contributed to particular understandings of what it meant to be a student in this classroom.

Part Two: Shaping Literate Practices

Central Premise:

Members of a class jointly construct patterned ways of acting, interacting, perceiving and interpreting everyday life (Green & Harker, 1982; Green & Meyer, 1991). These patterned ways become cultural practices and processes that members draw upon to participate in and interpret subsequent interactions, events and aspects of daily life (Bloome & Bailey, 1992; Fairclough, 1993).

Part One of this chapter focused on the important aspects of this classroom as perceived by the students, and how these were established during the first 3 weeks of school. The present analysis builds upon the previous ones by focusing upon the relationship(s) between this classroom culture and academic literacy. The guiding question for this phase of the analysis is how do these aspects of this classroom (working together, being bilingual, and learning differently) form the basis for what counts as academic literacies. Specifically, I examine the literate actions and practices that were constructed by members of this classroom during the first 3 weeks of school and how these evolved across the school year.

This analysis began with a further investigation of data collected from the first 3 weeks of school. Event maps from these 13 days were re-examined to identify the literate actions that were constructed within each of the events (see Table 4.6). A reading of this table shows the range of ways students were expected to read, write, think (i.e., use inquiry processes) and interact. It also shows the frequency with which particular actions occurred, indicating that several of these actions were becoming patterned (e.g., working together, taking with others, sharing information/ideas, making choices, reporting to the class, listening to a story, reading text of choice, writing in journals).

Table 4.6: <u>Literate Actions Constructed During the First 3 Weeks of School</u>

Literate Actions	9/9	9-10	9-11	9-14	9-15	9-16	9-17	9-18	9-21	9-22	9-23	9-24	9-25
Working together	X	X	X	X	X	X	X	X	X	X	X	X	X
Talking with others	X	X	X	X	X	X	X	X	X	X	X	X	X
Listening to others	X	X	X	X	X	X	X	X	X	X	X	X	X
Sharing information/ideas	X	X	X	X	X	X	X	X	X	X	X	X	X
Listening to/watching directions	X	X	X	X	X	X	X	X	X	X	X	X	X
Following directions	X	X	X	X	X	X	X	X	X	X	X	X	X
Making choices	X	X	X	X	X	X	X	X	X	X	X	X	X
Making personal connections	X	X	X		X	X	X		X	X	X	X	
Using prior knowledge/ Experiences	X	X	X	X	X	X			X	X	X		

Asking & answering questions	X	X	X					X	X	X			X
Gathering information	X	X	X	X	X				X	X	X		
Generating ideas	X	X	X	X	X	X			X	X			X
Reporting to class	X	X	X	X	X	X	X	X	X	X	X		X
Solving problems	X		X	X	X	X	X	X		X			X
Sharing problem solving strategies			X	X		X		X					X
Listening to a text	X	X	X	X	X	X		X	X	X	X	X	
Reading silently	X	X	X	X	X	X	X	X	X	X	X	X	X
Reading aloud	X	X	X	X	X	X	X	X	X	X	X	X	X
Reading text of choice	X	X	X	X	X	X	X	X	X	X	X	X	X
Discussing text	X	X	X	X	X	X			X	X	X		
Writing in journals		X	X	X	X	X	X	X	X	X	X	X	X

Writing a story				X		X				X	X	X	X
Using writing process					X	X	X	X	X	X	X	X	X
Writing nonfiction					X	X	X	X	X	X	X	X	
Making predictions			X		X			X			X		
Using evidence	X			X	X						X		
Supporting & refuting predictions											X		
Identifying patterns				X	X	X		X	X	X	X		X
Constructing patterns				X	X	X		X	X	X	X		X
Recording patterns								X	X	X	X		X
Comparing and contrasting	X		X	X		X		X					X

To further explore how students engaged in reading, writing, and utilizing inquiry processes during these 3 weeks, a content analysis of each was conducted. First, the literate actions were clustered into the categories of reading, writing, and utilizing inquiry processes. Next, each literate action was examined in relationship to the event(s) in which it was constructed to identify the texts used and produced.[5] Each of these is presented in Figures 4.6–4.8b.

Taken together, these analyses show the variety of events in which these literate actions were constructed, as well as the range of texts used and produced. For example, in the third-grade event (Day 1), students generated a list of ideas (generating ideas) about what they had heard about third grade (using prior knowledge). They were then given letters from previous third graders which they **read silently** and **discussed**. After this, students were given an opportunity to **read** these letters **aloud** to the class. Finally, the students were asked to **compare and contrast** the contents of the letters with the previously generated lists of what they had heard about third grade. Similarly, a variety of literate actions (reading aloud, using prior knowledge, asking and answering questions, gathering information and writing nonfiction) were part of the construction of Mrs. Raddue's (a classroom volunteer from a local retirement home) timeline. In this activity, several students volunteered to interview Mrs. Raddue. Using this information, the students worked in groups to

Listening To/
Discussing Text
- Teacher From Black Lagoon (E)
- El Papa de David (S)
- The Giving Tree (E)
- A House is A House For Me (E)
- La Princesa Vestida en Una Bolsa de Papel (S)
- Student Made texts from previous years (E/S)
- Class generated books (E/S)
- The Napping House (E)
- Cuadros de Mi Familia/FamilyPictures (S/E)

Reading Text of Choice
- Texts selected after finishing an assignment (E/S)

Reading Silently
- Daily SSR Texts (E/S)
- Letters from previous 3rd graders (E/S)
- Interest Inventories (E/S)
- Classroom Rights (E/S)
- Job Descriptions and Applications (E/S)
- Timeline Information (E/S)

Reading Aloud
- Letters from previous 3rd graders (E/S)
- Interest inventories (E/S)
- Scavenger Hunt Forms (E/S)
- Classroom rights (E/S)
- Rules for Caring (E/S)
- List of ways to get a job (E/S)
- Job Applications (E/S)
- Items on giving graph (E/S)
- September events list (E/S)
- Pattern story ideas (E/S)
- Homework calendars (E/S)
- Events for Mrs. Raddue's timeline (E/S)
- Contents of Writers' Workshop folders (E/S)

Reading

Figure 4.6. Content Analysis - Reading

Writing In Journals ———— Dialogue Journal
Entries-E/S

Pattern Story: A House
Is A House For Me-E/S

Writing A Story   Pattern Story: The
Hamburger House-E/S

Writing   Writers' Workshop
Stories-E/S

Pattern Story: A House
Is A House For Me-E/S

Using the Writing   Personal Timelines-E/S
Process

Writers' Workshop
Pieces-E/S

Personal Timelines-E/S

Writing Non-Fiction
Mrs. Raddue's Timeline-E

Figure 4.7. Content Analysis - Writing

Asking & Answering
Questions
- Scavenger Hunt-E/S
- Interest Inventories-E/S
- Job Applications-E/S
- Mrs. Raddue's interview-E
- Star of the Week sharing-E/S

Gathering Information
- Scavenger Hunt-E/S
- Rules for Caring-E/S
- Giving Graph-E/S
- Mrs. Raddue's timeline-E
- Personal Timelines-E/S

Using
Inquiry
Processes

Generating Ideas
- Name Game-E/S
- Third Grade-E/S
- Classroom Rights-E/S
- Rules For Caring-E/S
- Applying for Jobs-E/S
- Pattern Stories-E/S
- Even Numbers-E/S
- Personal Timelines-E/S

Solving Problems
- Scavenger Hunt-E/S
- Giving Graphs-E/S
- Even Numbers-E/S
- Ordering Numbers-E/S
- Mrs. Raddue's timeline-E

Using Prior Knowledge
& Previous Experiences
- Third Grade-E/S
- Classroom Rights-E/S
- Sep. Calendar-E/S
- Even Numbers-E/S
- Personal Timelines-E/S
- Mrs. Raddue's timeline-E

Figure 4.8a. Content Analysis - Using Inquiry Processes

Figure 4.8b. Content Analysis - Using Inquiry Processes

create a timeline of the important events in her life. This was presented to her at a special ceremony honoring school volunteers.

What is evident is that the content of reading, writing, and utilizing inquiry processes during these first 3 weeks mainly focused upon building a classroom community (e.g., Name Game, Interest Inventories, Scavenger Hunt, Giving Graphs, Rules for Caring, Classroom Rights). However, in looking across the school year, there is a shift. These literate actions (practices) are no longer used for the purposes of building community, but rather for the acquisition of academic literacies. This will be further explored in the following chapters.

To better understand which of these literate actions became patterned practices over time, ethnographic data from across the school year were examined. The first step in this analysis was the identification of cycles of activity across the school year. As shown in Figure 4.9, there were 13 cycles of activity that occurred during the year. The difference in colors of the bars represents the two types of cycles of activity: unbounded and bounded (C. N. Dixon, personal communication, 2000). Unbounded cycles were used to establish patterns of literate actions/practices that were used across the curriculum, while bounded cycles employed actions/practices for exploring particular academic content. There were two unbounded cycles, dialogue journals and writers' workshop. These were

Sorting & Classifying   Rainforest

Native Americans

Patterns   Solar System

Beg. Multiplication   Division

Learning About Self & Others   +/- with Regrouping
Addition/Subtraction

Santa Barbara

Writers' Workshop

Dialogue Journals

Sep.   Oct.   Nov.   Dec.   Jan.   Feb.   Mar.   Apr.   May   June
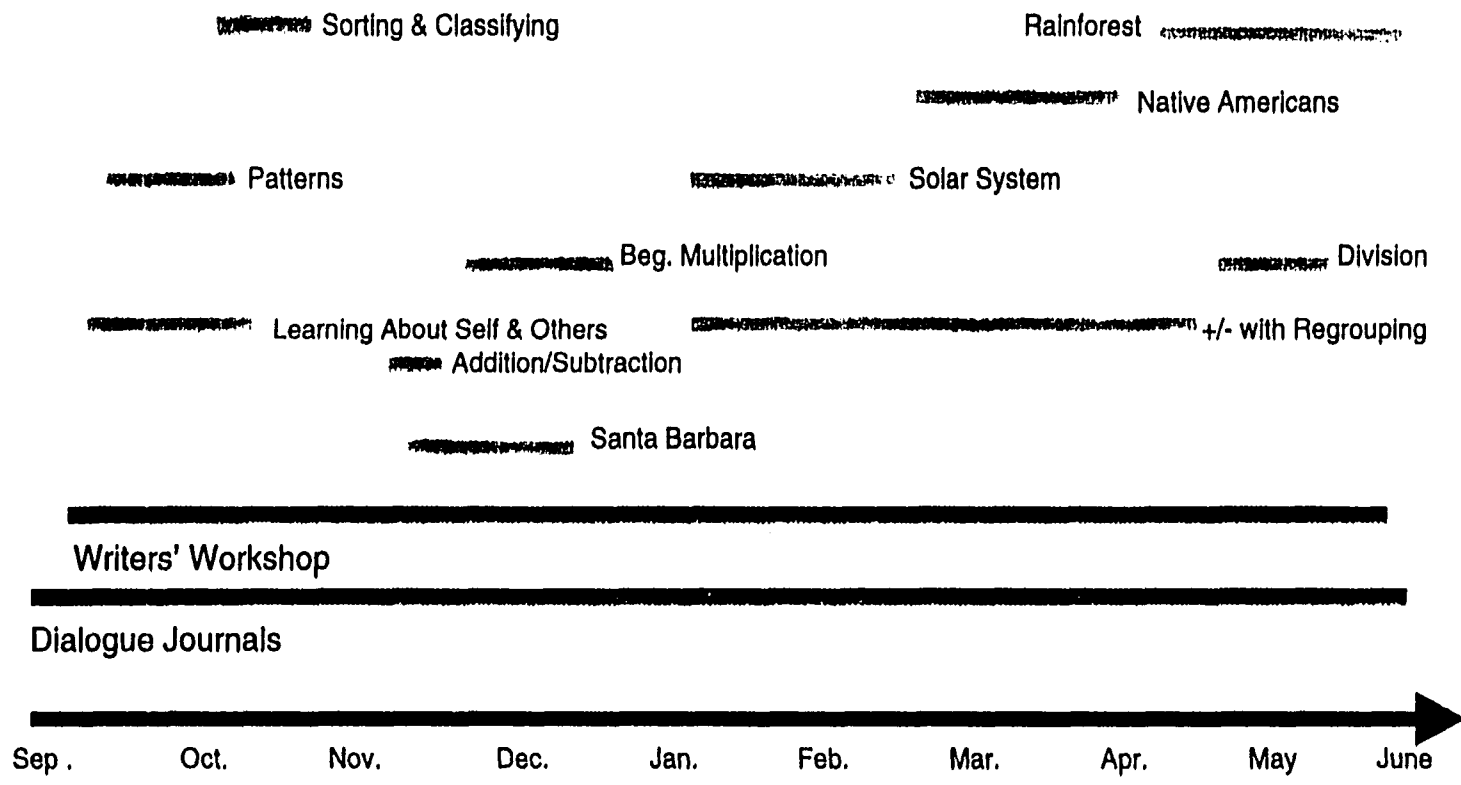
Figure 4.9. Timeline of Cycles of Activity Across the School Year

continuous and ongoing throughout the school year. The other 11 cycles of activity were bounded. They had discrete beginnings and endings. While many of these cycles of activity crossed content areas, they did have a particular focus (e.g., patterns, Santa Barbara, rainforest). This figure also indicates that these cycles did not occur in a linear fashion, but rather co-occurred and overlapped (for example, learning about self and others, as well as patterns and sorting and classifying occurred in September and October).

After locating all of the cycles of activity, two from each of the content areas (math, science, social studies) were examined more closely to identify the events that comprised that particular cycle.[6] The literate actions and practices that were constructed during the events were then highlighted and compared with those identified in the first 3 weeks of school. This analysis showed that many of the literate actions from the first 3 weeks were also evident in these cycles of activity (see Table 4.7). As these literate actions appeared repeatedly, they became literate practices. This suggests that not only were these practices evident across cycles of activity during the school year, but also across content areas, providing evidence that these were the literate practices that formed the basis for academic literacy in this classroom.

The final step in this analysis was an examination of the relationship between these literate actions and practices and the

Table 4.7: Literate Actions Across Cycles of Activity

Literate Actions	Patterns	Beg. Mulitipli- cation	Santa Barbara	Native Americans	Solar System	Rain- forest
Working together	X	X	X	X	X	X
Talking with others	X	X	X	X	X	X
Listening to others	X	X	X	X	X	X
Sharing information/ideas	X	X	X	X	X	X
Listening to/watching directions	X	X	X	X	X	X
Following directions	X	X	X	X	X	X
Making choices	X	X	X	X	X	X
Making personal connections	X	X	X	X	X	X
Using Prior Knowledge/ Experiences	X	X	X	X	X	X

Asking & answering questions	X	X	X	X	X	X
Gathering information	X	X	X	X	X	X
Generating Ideas	X	X	X	X	X	X
Reporting to class	X	X	X	X	X	X
Solving problems	X	X		X	X	
Sharing problem solving strategies	X	X		X		
Listening to a text	X		X	X	X	X
Reading silently	X		X	X	X	X
Reading aloud	X	X	X	X	X	X
Reading text of choice			X	X	X	X
Discussing text	X		X	X	X	X
Writing in journals						

Writing a story	X		X	X	X	
Using writing process	X		X	X	X	X
Writing nonfiction			X	X	X	X
Making predictions	X	X		X	X	X
Using evidence	X	X		X	X	X
Supporting & refuting predictions	X	X		X	X	X
Identifying patterns	X	X	X			
Constructing patterns	X	X	X			
Recording patterns	X	X				
Comparing and contrasting	X	X	X	X	X	X

students' claims about this classroom. This began by returning to the student's original claims that working together, being bilingual, and learning differently were important aspects that differentiated this classroom from others. The events from the first 3 weeks were then re-examined with these in mind. Whenever an event included one of these aspects, the literate actions constructed during that event were listed on the table (4.8). For example, the Name Game event involved both working together and being bilingual. Therefore, the literate actions constructed during this event (working together, talking to others, listening to others, sharing information/ideas, generating ideas, and reporting to the class) were included in both of these sections. The results of this analysis are presented in the first two columns of Table 4.8.

The next step was to triangulate these findings with other data to determine whether or not the students recognized these literate actions and practices. To accomplish this, I conducted an analysis of three texts: "The Important Books," Parent Newsletters, and Year-End Summaries. These texts were written by students in this classroom. "The Important Books," as previously discussed, were pattern stories that discussed the important aspects of this classroom. The parent newsletters were sent home four times during the year (October, December, March, and June—see Appendix E). The articles in these newsletters were written in Spanish and English by teams of students.

Table 4.8: <u>Relationships Between Students' Claims and</u> <u>Literate Actions</u>

"Important" Aspect	Literate Actions	Students' Words
Working Together	-working together -talking with others -listening to others -sharing information/ideas -making choices -using prior knowledge -asking & answering question -gathering information -generating ideas -solving problems -reporting to the class -reading aloud -discussing text -writing a story -writing nonfiction -making predictions -identifying patterns -comparing & contrasting	"Everybody helps in our class and everybody cooperates." IB "Somos cooperativos" IB (*We're cooperative*) "Trabajamos juntos para hacer muchas actividades." IB (*We work together to do many activities*) "We have group names. We do a lot of projects where we have to cooperate." NL "We studied about Santa Barbara Landmarks. We got into groups and made a landmark." YS
Being Bilingual	-working together -sharing information/ideas -making choices -using prior knowledge -asking & answering questions -gathering information -generating ideas -solving problems	"We all work together even though we speak different languages." IB "Podemos hablar ingles y español." IB (*We can speak English and Spanish*)

Being Bilingual	-listening to a story -reading silently -discussing text -writing in journals -writing a story -writing nonfiction -making predictions -supporting & refuting predictions -identifying patterns -comparing & contrasting	"Trabajamos mucho en ingles y español." IB (*We work a lot in English and Spanish*) "Podemos leer libros en ingles y español." IB (*We can read books in English & Spanish*) "Podemos escribir en ingles y español." IB (*We can write in English and Spanish*)
Learning Differently Writing	-writing in journals	"We write a lot in room 18. We start each day by writing in our journals." NL "Escribimos en nuestros journals." IB (*We write in our journals*)
	-writing a story	"Escribimos cuentos de cualquiera cosa." IB (*We write stories about lots of things*)
	-using writing process	"We do Writers' Workshop every day. "We write stories about anything. When we finish a story we do a friend edit. We also do a teacher edit." NL

Writing	-identifying patterns -constructing patterns	"We have made lots of pattern books. We did Fortunately books, A House is A House for Me and Important Books." YS
Math	-writing non-fiction	"We have done reports on our moms, Native Americans, the solar system and the rainforest." NL
	-identifying patterns -constructing patterns -recording patterns	"Hacemos muchos patrones." IB (*We do lots of patterns*) "...we first started with patterns. We made patterns using tiles & unifix cubes and would record them. We also did people patterns." NL
	-solving problems -sharing problem solving strategies	"We had hard math problems we solved with beans as ones, cups as tens, bowls as hundreds and cans as thousands." NL
	-sorting & classifying	"We have done sorting and classifying with things like Venn Diagrams." NL "We have been learning about sorting trees. We

		used them to sort all kinds of stuff." YS
Projects	-working together -making choices -using prior knowledge	"We do a lot of projects together." IB
	-asking & answering questions -gathering information	"We worked on studying women's history by asking our moms questions. We asked if it was difficult to be a woman. We put it together and made it into a report. We also wrote why our moms are special." NL
	-generating ideas -reporting to the class	"We studied about the planets. We read a book called The Magic School Bus. We wrote reports in groups. We wrote them in English and Spanish." NL
	-listening to text -reading silently -reading aloud -reading text of choice -discussing text	"We have been learning about the rainforest. We have read many books like The Great Kapok Tree and Life in A Rainforest. We learned a poem called "Jungle Rain." NL
	-writing a story -using writing process	"We have worked on a book called the Important Book and we

		used all of the landmarks." NL
Projects	-writing nonfiction	"We did rainforest reports. It was very hard to do. They were about animals that live in the rainforest, where they live, what they ate and what's happening to them." NL
	-making predictions -supporting/refuting predictions -using evidence	"We have done 5 senses. We had to guess what was inside of five boxes using our senses. We also made a five senses book. We are thinking about what it is like to be a scientist." NL "Hicimos actividades de los indios de lo que comían y como agarraban la comida." YS (*We have done activities about the Indians and what they ate and how they got their food*)

Key For Students' Words:
IB=Important Book
NL=Newsletter
YS=Year-end summary

The purpose was to inform the parents of what was happening in the classroom. Finally, the year-end summaries were written during the last week of school. These provided students with an opportunity to record what they had learned during the school year. The results of this text analysis are presented in column three of Table 4.8.

What is visible from this table is that the students clearly recognize working together, being bilingual, and learning differently. This supports previous findings that these were important aspects of this classroom. What is also evident is that their words indicate that they also understand many of the literate practices. Working together, writing in journals, writing stories, using the writing process, writing reports (non-fiction), reporting to the class, asking questions, "doing" patterns, making patterns, solving problems, sorting and classifying, and reading texts are those practices that are explicit in the students' writing.

There were several passages from the student's work though, that did not make explicit their understanding of these literate practices. These passages required further analysis to determine what literate actions may have been involved. Two of these passages are discussed here. The first comes from one of the parent newsletters:

> We have done 5 senses. We had to guess what was inside of five boxes using our five senses. We also made a five senses

book. We are thinking about what it is like to be a scientist.

(October 1992)

In this excerpt, the student used the word "guess," which suggests that what was involved in this five senses activity was the making of predictions. Analysis of videotape data shows that this was the case. In this particular event, which occurred on 10/6, the students were using their five senses to determine what was in each of five boxes. For example, in the box marked with an ear, they had to listen to the contents and predict what was in that box based upon what they heard. This provides evidence of an additional practice, making predictions, which will be examined further in Chapter 6.

The second passage comes from a year-end summary:

> Hicimos actividades de los indios de lo que comían y como agarraban la comida.
> *(We did activities about the Indians . . . what they ate and how they got food.)*

It is not clear from what this student wrote which literate practices were involved. Because food was specifically mentioned, this provided a way to locate a specific activity. Analysis of videotape data and the teachers' plan book indicated that the students had participated in an activity (on 3/16) that centered on the food of the Chumash Indians. The students were asked to make predictions about what was in a bag that the teacher provided. They were then given clues and expected to use these cues to determine the bag's contents. After discovering

that there was an acorn inside the bag, the students worked in groups to generate predictions about how the Chumash prepared acorns for their meals. They then read a piece of text to learn more about this food making process. This examination shows that the students utilized the following literate practices in this activity: making predictions and using evidence to support and/or refute their predictions.

Summary of Part Two

This set of analyses examined the literate actions that were constructed during the first 3 weeks of school and across cycles of activity during the school year. It was shown that many of the literate actions were present in cycles of activity from various content areas across the school year, suggesting that they became literate practices.

From the theoretical perspective of classrooms as cultures, what members of this particular classroom came to "know, understand, expect, produce and do" (Green & Meyer, 1991, p. 143), was learned through their interactions with each other and academic content as they participated in the everyday events of classroom life. As these analyses showed, the students in this classroom understood it in particular ways. They identified what they considered to be the important aspects of this classroom and the ethnographic data from across the school year supported their claims. Additionally, the

analyses indicated that the students also recognized the literate actions and practices that were constructed during the first 3 weeks of school and across the school year. Together, this suggests that these were the literate practices that were important in the framing of what counted as academic literacies.

Chapter Summary and Discussion

The purpose of this chapter was to identify the literate actions and practices that were considered by student members to be important and that defined ways of interacting and participating in this bilingual third-grade classroom. This was accomplished through ethnographic and sociolinguistic analyses focusing how these were constructed during the first 3 weeks of school and understood by the students as contributing to the development of academic literacy in this classroom.

The data presentation in this chapter was done in two parts. The first part focused on becoming a student and differentiating this class from others, while the second considered the shaping of literate practices. The data analysis for each of these parts consisted of various phases, allowing me to enter the same data set with a different set of questions multiple times to systematically show how this classroom culture was socially constructed.

In Part One, the guiding questions focused upon the important aspects of this classroom from the students' perspectives and how these were established during the first 3 weeks of school. The analyses in this part were presented in three sections.

The first investigation examined working together. This analysis showed that through the physical arrangement of the classroom, the utilization of varied organizational patterns and interactional spaces and explicit messages from the teachers, the students learned that working together was an important part of life in this classroom.

The second examination of this data explored being bilingual and how respecting and utilizing two languages was established. The use of written and spoken Spanish by the teacher in the public, whole class space was compared and contrasted to the Spanish used in small groups. Additionally, the expectations of two monolingual English-speaking students and how these changed over time were presented.

The final analysis in this part investigated the students' claim that they learned differently in this classroom. Three particular areas identified by the students (math, writing, and projects) were described. This analysis showed that for many students in this classroom the use of manipulatives in math, Writers' Workshop, and doing projects were

new and different. As a whole, this set of analyses examined what it meant to be a student in this classroom.

Part Two of this chapter focused specifically on the literate actions and practices that were constructed during the first 3 weeks of school and across the school year and how these were related to the students' claims about this classroom. Cycles of activity across the school year were identified. It was shown that the literate actions from the first 3 weeks were also present in various content areas over time, suggesting that these became the literate practices that shaped academic literacy in this classroom. To further support this claim, evidence was gathered from the triangulation of data. This indicated that the students also recognized these literate practices as being significant.

This chapter took a broad view of everyday life in this classroom to identify the actions and practices that define the cultural expectations for membership and formed the basis of academic literacies in this classroom. In the next two chapters, I focus on two particular literate practices (identifying patterns and making predictions) to explore the relationships between literate practices and opportunities for learning academic content. Specifically, Chapter 5 examines the literate practices of identifying and constructing patterns and how these were constructed during a mathematics cycle of activity. It also considers how these were utilized in language arts and

social science. Chapter 6 explores the literate practice of making

predictions and how this was constructed through various events

across cycles of activity and academic content areas.

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[1]The translations provided are direct translations of the student's work. They are intended to keep the text as the student wrote it.

[2]Throughout this study, pseudonyms are used for the students' names to protect their identity. Female names were chosen for the girls and male names for the boys.

[3]Sheltered instruction was the term used by the administrator and teachers at this school site. It is also referred to as SDAIE (specially designed academic instruction in English). The goal of SDAIE (sheltered instruction) is to contextualize the instruction of academic concepts so they are more comprehensible to students who are learning English (Díaz-Rico & Weed, 1995)

[4]In some instances, it was not possible to identify the student who was speaking. In such cases, SNI (student not identifiable) is used to represent this student.

[5]Text, in this case, included the "verbal, visual and written aspects of communication and context. It is constructed by participants as they interact with each other" (Green & Meyer, 1991, p. 153).

[6]While these cycles of activity did include more than one content area, the focus of each could be considered to be math, science, or social science.

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Bilingual Elementary Classroom

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by

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Part Two

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CHAPTER FIVE
EXPLORING ACADEMIC LITERACIES

Overview

Chapter 4 examined what it meant to be a member of this classroom community from the students' perspective. It focused on three themes identified in the students' end of the year writing (i.e., working together, being bilingual, and learning differently) and how each of these contributed to situationally defined ways of interacting with each other and with academic content. In the first part of that chapter, data from the first 3 weeks of the school year were analyzed through multiple points of entry, based upon different questions and purposes. The goal in this section was to make visible what it meant to be a member of this classroom culture and how the norms and expectations, rights and responsibilities, and roles and obligations led to the construction of particular literate actions. The second part of Chapter 4 examined the literate actions from the first 3 weeks of school and across cycles of activity from various content areas across the school year to show which of these were becoming literate practices (i.e., literate actions used repeatedly across the school year). These were then compared to the students' claims about life in this classroom. These analyses made visible the cultural expectations of membership and how these contributed to the construction of

particular literate actions and practices and what counted as academic literacies.

This chapter builds upon the previous analyses to further explore what counts as academic literacies. It is divided into two parts. The first part includes two sections of analyses that work together to examine how academic literacies are defined from the perspective of the national content standards and how these are related to the literate actions and practices of the third-grade bilingual classroom. Because academic literacy is not well defined in the research literature (see Chapter 2 for a complete discussion), one way to define what counts as academic literacy is to consider what is called for in the national content standards.[1]

The analyses in these two sections examine what counts as being academically literate in three content areas (math, science, and social studies) from the perspective of the authors of the national standards. Then academic literacies are identified through a cross-case analysis of the three sets of content area standards. The national standards were purposefully selected for this analysis because they guide much of the educational policy in this country (Hiebert, 2000), and serve as the foundation from which state standards have been developed. These standards were developed to provide "guiding principles" (NCTM, 2000) and not to prescribe a specific curriculum (National Research Council, 1996). For these reasons, I have chosen

to analyze these standards as opposed to the various other standards that exist for a variety of different purposes (i.e., California State Content Standards, Opportunity to Learn standards, Teaching Standards).

I have also deliberately chosen to examine only the content standards for math, science, and social studies. This decision was based upon the organizational structure of the school site where this study was conducted. As discussed in Chapter 3, the students in this classroom received different language arts instruction depending upon their primary language. Mrs. T kept her Spanish speakers for reading/language arts, but sent the native English speakers to two different third-grade classrooms for their instruction. Additionally, she received all of the Spanish-speaking students from the third grade, to whom she provided reading/language instruction in Spanish. While the analyses for this chapter (and Chapter 6) are informed by events that were constructed during Spanish reading, language arts was not considered for analysis as a separate content area because these students did not receive the same Language Arts instruction. Additionally, when working with all of the students (i.e., after Spanish reading) outside of the "official" language arts instructional time, language arts (both Spanish and English) were integrated into the other content areas in this classroom. Because of this, and because the standards address language arts as a separate discipline, I have

elected not to analyze them, instead focusing on academic literacy within the other content areas.

The second part of this chapter investigates the relationships between academic literacies and opportunities for learning academic content in the bilingual classroom, which is the focus of this study. Specifically, two literate practices, **identifying** and **constructing patterns**, are explored in depth by examining how they were introduced and developed across content areas.

Part One: What Counts as Academic Literacies?

A National Standards Perspective

The importance of being literate in each of the academic disciplines is a theme interwoven throughout the national standards (National Council for the Social Studies, 1994, National Council of Teachers of Mathematics, 1991, 2000; National Research Council, 1996). Each of the standards documents claims that literacy in that discipline is becoming increasingly important in a global society and in the workplace. They further suggest that to keep pace in global markets, the United States needs to have "capable citizenry" (National Research Council, 1996, p. 2). "Being literate" is a key component of being seen as a "capable citizen." While "being literate" in each of the disciplines is a central tenet of each set of standards, literacy is not defined explicitly. Rather, the definition is implied throughout

documents, as each of the national content standards (math, science, and social studies) describe what K-12 students "need to know, understand and be able to do" (National Research Council, 1996, p. 2) in order to be considered literate in that particular discipline. While academic literacy has often been defined as a specialized form of reading, writing, and thinking done in the "academy" (i.e., college or university) (Zamel, 1998), the national standards suggest that we need to consider its significance in elementary, middle, and high-school situations as well.

It is important to recognize however, that these standards were constructed by people who embrace particular ideologies. These ideologies influence the nature of what gets included in the documents. It cannot be assumed that these standards represent a consensus as to the definition of what it means to be literate in a particular discipline. However, because of the influential nature of these standards, they often do determine (through text and test materials) what counts as being literate in a particular discipline for K-12 students. In science (as well as the other disciplines), the standards "provide the criteria that people at the local, state, and national levels can use to judge whether particular actions will serve the vision of a scientifically literate society" (National Research Council, 1996, p. 3).

What Counts as Academic Literacy in Each Discipline?

The exploration of what counted as being academically literate in each of the disciplines (math, science, and social studies) began with a text analysis (Bazerman, 1988) of the standards documents[2] to identify the (potential) actions that were called for in each of the texts. This is consistent with the theoretical framework underlying this dissertation, which views disciplinary knowledge as co-constructed in and through the actions and interactions of people. By asking what the students need to be able to do (i.e., what actions they need to be able to take) in each of the content areas, it was possible to identify these actions (often in the form of verbs). For example, the science content standard B (Physical Science) states that students in grades K-4 should understand the properties of objects and materials:

> Physical science in grades K-4 includes topics that give students a chance to increase their understanding of the characteristics of objects and materials they encounter. Through observation, manipulation and the classification of common objects, children reflect on the similarities and differences of the objects. (National Research Council, 1996, p. 123)

According to this excerpt, students learn about the properties of objects and materials by observing, manipulating, and classifying them. Observe, manipulate, and classify are the actions in which students are to be engaged; it is what they are expected to be able to do (see Table 5.1, column one).

Table 5.1: <u>Content Analysis of National Standards (Partial Results)</u>

Action[a]	Math	Science	Social Studies
Analyzing	-mathematical situations (2) -characteristics & properties of 2- & 3-dimensional figures (3) -data using graphs (5) -categorical data in different ways (5)	-data (A-E) -their own work (A-E) -the work of others (A-E) -science questions (A)	-a particular event to identify reasons an individual might respond to it in different ways (4)
Applying	-a variety of techniques, tools & formulas for determining measurements (4) -basic notions of chance & probability (5) -a variety of strategies to solve problems (6)	-inquiry processes across investigations (A-F) -the results of experiments to scientific content (A)	-knowledge of economic concepts to current local economic issues (7) -information about an issue of public concern from multiple points of view (10)
Asking Questions	-they want to investigate (5) -based upon initial data collection (5)	-about objects, organisms & events in the environment (A-F) -develop ability to ask scientific questions (A-G)	-about the nature of culture (1) -about their environment (e.g., where are things located?) (3) -about the roles of institutions (5)
Choosing	-appropriate computational procedures & tools (1)	-appropriate tools for observing & measuring (A)	
Classifying	-2 & 3-dimensional shapes according to their attributes (3) -categorical data in different ways (5)	-common objects and materials in the environment (B) -organisms (C)	

Collecting	-data to answer questions posed using observations, measurements, surveys, etc. (5)	-information (A-G)) -data (A-F)	-information sing appropriate resources, data sources (3)
Communicating	-mathematical thinking with others (8)	-ideas (E) -a problem, design & solution (E) -orally, in writing, through pictures (A-G) -about their own and their peer's investigations & explanations (A-G)	-their understandings of concepts in personally meaningful ways -understandings of idea or concept through reading, thinking, discussing, writing
Comparing	-size of fractions & decimals (1) -whole number computational algorithms for each operation (1) -2 & 3-dimensional geometric figures (3) -data representations (5) -related data sets (5) -data from one sample to other samples (5)	-answers from own investigations with scientific knowledge, experiences & observations of others (A-G) -common objects & materials in environment (B) -the effect of different soils on plant growth (D) -observations with photographs of similar, but large scale changes (D)	-ways in which people from different cultures think about & deal with physical environment and social conditions (1) -different stories or accounts of past events, people, places (2)

| Identifying | -characteristics of numbers (e.g. odd/even)-(1)
-relationships between operations (1, 2)
-properties of operations (1,2)
-relationships between 2 quantities that vary together (2)
-generalizations (2)
-situations with varying rates of change (2)
-attributes of 2 & 3-dimensional geometric figures (3)
-a 3-dimensional shape from a set of 2-dimensional views (3)
-attributes such as length, area & volume (4) | -properties of earth materials (D)
-sequences of changes (D)
-a simple problem (E)
-materials used (E)
-how well a product does what it's supposed to do (E) | -various sources for reconstructing the past (e.g., documents, letters, maps, textbooks) (2)
-ways family, groups and community influence individual's daily life & personal choices (4)
-reasons individuals might respond to a particular event in different ways (4)
-roles as learned patterns in group situations (5)
-examples of institutions (5)
-factors that contribute to cooperation & cause dispute among groups (6)
-examples of private & public goods & services (7)
-examples in which science & technology have led to changes in physical environment (8)
-key ideals of the United States' democratic republican form of government (10)
-examples of change (2) |
| Identifying Patterns | -geometric & numeric patterns (2) | -in changes of day/night sky (D)
-of weather changes (D)
-in movements of objects' shadow and positions of sun & moon (D) | -of historical change (2)
-associated with physical system changes such as seasons & weather (3)
-of behavior evident in people of different age groups (4) |

Organizing	-data to answer questions posed (5) -data using tables & graphs (5) -and consolidate mathematical thinking to communicate with others (8) -mathematical ideas (10)	-ideas and information to communicate with others (A-G)	-information about an issue of public concern from multiple points of view (10)
Predicting	-what will happen later in a patterned sequence (2) -the results of sliding, flipping, & turning 2-dimensional figures (3) -develop predictions based on data (5)	-using knowledge of the world (A-F) -using data that has been gathered (A-F) -changes in natural & designed systems using evidence (A)	-physical system changes, such as seasons, climate & weather (3) -social & economic effects of environmental changes & crises resulting from such phenomena as floods, storms & drought (3)
Reading	-(and write) large numbers (1) -fractions & decimals (1)	-stories that express the theme of science as a human endeavor (G) -texts that highlight how scientists work (G) --about the contributions of diverse individuals to science and technology (G)	-simple timelines (2)

[a]To remain consistent with the theoretical orientation brought to this study, and to signal the active nature of the work (learning) that the students are to do, I have chosen to use the active form of the verbs that appeared in the standards documents.

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The second step in this analysis investigated the content knowledge that is linked with each of these actions. While the focus of this study is on actions, one of the verbs that is used repeatedly across documents is "understand." To make visible what counted as "understanding" in math, science, and social studies, I chose to analyze the content in each of these documents as well. Partial results of this analysis are presented in Table 5.1. For the complete results, please see Appendix F.

A reading of this table (5.1) shows that across the three documents, there were a total of 38 actions (verbs). The content (what students need to understand) for each of the actions (what students need to be able to do) in each discipline is presented. By examining each of the columns of math, science, and social studies, in relationship to the action column, what counts as being literate in each of these disciplines (from the perspective of the standards) is made visible. For example, being scientifically literate means being able to do scientific inquiry (asking questions, collecting data, analyzing data, and communicating findings) in relationship to physical science (content standard B), life science (content standard C), and earth and space science (content standard D). For the majority of the actions represented in this table, it is possible to see that there is a range of content that is linked with each. This is seen in the numbers or letters in parentheses, which indicate a different content standard. For

example, being able to compare in mathematics means doing this in relationship to fractions and decimals, computational algorithms, geometric figures, data representation, and related data sets. In science, students are comparing: their own answers to those of other students and scientists, common environmental objects and materials, observations, and the effects of different kinds of soil on plant growth. Finally, in social studies, students are comparing the physical environments and social conditions of people from different cultures as well as different stories of past events, people, and places.

This analysis shows that for each of the disciplines, there is particular content that needs to be understood in particular ways (i.e., through particular actions) and/or particular actions that need to be performed in relation to particular content, in order to be considered "literate."

What Counts as Academic Literacies Across Disciplines?

To investigate what counts as academic literacies across content areas, further analysis was conducted. This involved a cross-case analysis of the content area literate actions presented in Table 5. 1 to identify the overlaps in the actions. Examination of all of the actions in Table 5.1 (see Appendix F) shows that there were 20 common actions (verbs) across the three disciplines. These are represented in Table 5.2. While the academic content related to each

Table 5.2: Common Actions Across Disciplines

Action[a]	→	Math	Science	Social Studies
Analyzing	→	-mathematical situations(2) -characteristics & properties of 2-& 3-dimensional figures (3) -data using graphs (5) -categorical data in different ways (5)	-data (A-E) -their own work (A-E) -the work of others (A-E) -science questions (A)	-a particular event to identify reasons an individual might respond to it in different ways (4)
Applying	→	-a variety of techniques, tools & formulas for determining measurements (4) -basic notions of chance & probability (5) -a variety of strategies to solve problems (6)	-inquiry processes across investigations (A-F) -the results of experiments to scientific content (A)	-knowledge of economic concepts to current local economic issues (7) -information about an issue of public concern from multiple points of view (10)
Asking Questions	→	-they want to investigate (5) -based upon initial data collection (5)	-about objects, organisms & events in the environment (A-F) -develop ability to ask scientific questions (A-G)	-about the nature of culture (1) -about their environment (e.g. where are things located?) (3) -about the roles of institutions (5)
Collecting	→	-data to answer questions posed using observations, measurements, surveys, etc. (5)	-information (A-G)) -data (A-F)	-information sing appropriate resources, data sources (3)
Communicating	→	-mathematical thinking with others (8)	-ideas (E) -a problem, design & solution (E) -orally, in writing, through	-their understandings of concepts in personally meaningful ways -understandings of idea or

Communicating (continued)	→		pictures (A-G) -about their own and their peer's investigations & explanations (A-G)	concept through reading, thinking, discussing, writing
Comparing	→	-size of fractions & decimals (1) -whole number computational algorithms for each operation (1) -2 & 3-dimensional geometric figures (3) -data representations (5) -related data sets (5) -data from one sample to other samples (5)	-answers from own investigations with scientific knowledge, experiences & observations of others (A-G) -common objects & materials in environment (B) -the effect of different soils on plant growth (D) -observations with photographs of similar, but large scale changes (D)	-ways in which people from different cultures think about & deal with physical environment and social conditions (1) -different stories or accounts of past events, people, places (2)
Describing	→	-geometric & numeric patterns (3) -relationships between 2 quantities that vary together (2) -situations involving inverse relationships (2) -the results of subdividing, combining & transforming shapes (3) -location and movement (3) -a motion or series of motions that will show 2 figures congruent (3) -geometric shapes (3) -shape & important features of	-investigations in ways that others will enable others to repeat them (A-F) -common objects & materials in environment (B) -properties of earth materials such as rocks (D)	-similarities & differences in the ways groups/cultures address human needs (1) -ways in which language, stories, music and art serve as expressions of culture (1) -the importance of cultural unity and diversity within and across groups (1) -physical system changes such as climate, seasons (3) -how people create places that reflect ideas, personality, culture as they design homes, etc. (3) -personal changes (4)

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| Describing (continued) | → | a set of numerical data (5) -how data collection methods can impact the nature of the data set (5) -probabilities of outcomes (5) | | -unique features of one's family (4) -ways family, groups, and community influence individual's daily life (4) -tensions between and among individuals, groups or institutions (5) -how we depend on workers with specialized jobs and the ways they contribute to production & exchange of goods & services (7) -influence of incentives, values, traditions on economic decisions (7) -ways science & technology have influenced the lives of people (8) -how public policies are used to address issues of public concern (10) |
| Examining | → | -geometric shapes (3) -a set of ordered numerical data (5) -own ideas and those put forth by other students (7) | -objects and their behavior (B) | --interactions of human beings & their physical environment (3) -existing uses of resources and land (3) -rights & responsibilities of the individual in relation to his/her social group (6) -the effects of changing |

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Examining (continued)	→			technologies on the global community (9) -the relationships & tensions between personal wants & needs and various global concerns (9) -the influence of public opinion on personal decision-making & government policy on public issues (10)
Explaining	→	-patterns verbally (2) -problem solving strategies to others (6) -mathematical thinking (8)	-develop explanations based on data/evidence (A-F) -develop explanations based on what is already known about the world (A-F)	-group & institutional influences on people, events & elements of culture (5) -the purpose of government (6) -the role of money in everyday life (7) -actions citizens can take to influence public policy decisions (10)
Exploring	→	-symmetry in 3-dimensional objects (3) -effect on size when objects change under simple transformations (3)	-the world by observing & manipulating common objects & materials (B)	-similarities & differences in the ways groups/cultures address human needs (1) -ways the earth's physical features have changed over time (3) -factors that contribute to one's personal identity (4) -the role of technology in communication, transportation, information processing as it contributes to or helps resolve

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Exploring (continued)	→		·	conflicts (6) -causes, consequences, & possible solutions to persistent, contemporary & emergent global issues (9)
Evaluating	→	-Inferences, predictions & arguments based on data (5) -mathematical arguments & proofs (5) ··	-own results or solutions (A-F) -other's results (A-F) -a product or design (E) -the merits or strength of the data & Information that will be used to make explanations (A)	-uses of resources and land (3)
Identifying	→	-characteristics of numbers (e.g. odd/even)-(1) -relationships between operations (1, 2) -properties of operations (1,2) -relationships between 2 quantities that vary together (2) -generalizations (2) -situations with varying rates of change (2) -attributes of 2 & 3-dimensional geometric figures (3) -a 3-dimensional shape from a set of 2-dimensional views (3) -attributes such as length, area & volume (4)	-properties of earth materials (D) · -sequences of changes (D) -a simple problem (E) -materials used (E) -how well a product does what It's supposed to do (E)	-various sources for reconstructing the past (e.g. documents, letters, maps, textbooks) (2) -ways family, groups and community influence Individual's daily life & personal choices (4) -reasons individuals might respond to a particular event in different ways (4) -roles as learned patterns In group situations (5) -examples of institutions (5) -factors that contribute to cooperation & cause dispute among groups (6) -examples of private & public goods & services (7)

Identifying (continued)	→			-examples in which science & technology have led to changes in physical environment (8) -key ideals of the United States' democratic republican form of government (10) -examples of change (2)
Identifying Patterns	→	-geometric & numeric patterns (2)	-in changes of day/night sky (D) -of weather changes (D) -in movements of objects' shadow and positions of sun & moon (D)	-of historical change (2) -associated with physical system changes such as seasons & weather (3)
Interpreting	→	-data using methods of exploratory data analysis (3)	-data by proposing reasonable explanations (A-F)	-various representations of the earth (3) -information (3) -how the "common good" can be strengthened through various forms of citizen action (10)
Organizing	→	-data to answer questions posed (5) -data using tables & graphs (5) -and consolidate mathematical thinking to communicate with others (8) -mathematical ideas through the use of representations (10)	-ideas and information to communicate with others (A-G)	-information about an issue of public concern from multiple points of view (10)

Predicting	→	-the results of sliding, flipping, & turning 2-dimensional figures (3) -develop predictions based on data (5)	-using knowledge of the world (A-F) -using data that has been gathered (A-F) -changes in natural & designed systems using evidence (A)	-physical system changes, such as seasons, climate & weather (3) -social & economic effects of environmental changes & crises resulting from such phenomena as floods, storms & drought (3)
Reading	→	-(and write) large numbers (1) -fractions & decimals (1)	-stories that express the theme of science as a human endeavor (G) -texts that highlight how scientists work (G) -about the contributions of diverse individuals to science and technology (G)	-simple timelines (2)
Understanding	→	-numbers and ways of representing numbers (1) -relationships among numbers and number systems (1) -the meaning of operations (1) -various types of patterns & functional relationships (2) -attributes, units and systems of measurement (4) -basic notions of chance and probability (5) -how mathematical ideas build upon one another to produce a coherent whole (9)	-scientific inquiry (A) -properties of objects & materials (B) -light, heat, electricity, magnetism (B) -the characteristics of organisms (C) -life cycles of organisms (C) -organisms & environments (C) -properties of earth materials (D) -objects in the sky (D) -changes in the earth & sky	-that different people may describe the same event in diverse ways (2) -that people in different times & places view the world differently (2)

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Understanding (continued)	→		(D) -science & technology (E) -personal health (F) -characteristics & changes in populations (F) -types of resources (F) -changes in environments (F) -science as a human endeavor (G)	
Using	→	-computational tools & strategies (1) -relationships between operations to solve problems (1) -properties of operations to solve problems (1) -symbolic forms to represent mathematical situations (2) -mathematical models (2) -variables to solve problems (2) -visualization & spatial reasoning to solve problems (3) -coordinate maps to represent actual places (3) -spatial orientation (3) -map scales to measure distance (4) -graphs to analyze data (5) -various types of reasoning (7)	-tools or simple instruments to observe and gather information (A) -data/evidence to construct a reasonable explanation (A-F) -different kinds of investigations depending upon the question (A) -sequence of five stages in designing a solution to a problem (E)	-vocabulary associated with time such as past, present, future, and long ago (2) -knowledge of facts & concepts drawn from history to inform decision making on public issues (2) -mental maps of locales, regions and the world (3) -various representations of the earth such as maps, globes, photographs (3) -appropriate resources, data sources and geographic tools (3) -economic concepts such as supply & demand (7)

Using (continued)	→	-the language of mathematics (8) -math in contexts outside of mathematics (9) -representations to model and interpret physical, social and mathematical phenomena (10)		
Working	→	-expand abilities to work together and learn from each other (8)	-individually (A-G) -collaboratively (A-G)	-independently to accomplish goals (4) -cooperatively to accomplish goals (4)

[a]To remain consistent with the theoretical framework brought to this study, and to signal the active nature of the work the students are to do, I have chosen to use the active form of the verbs that appeared in the standards documents.

verb varies, the actions are similar. For example, all three disciplines suggest that one aspect of being academically literate is being able to describe. However, what is described (the content), and what is meant by "description," varies across disciplines. In mathematics, students may be describing geometric shapes, while in social studies they are describing physical system changes. This analysis suggests that these 20 actions can be viewed as framing what counts as academic literacies across disciplines.

A domain analysis using a means-end semantic relationship (X is a way to do Y) (Spradley, 1980), was next conducted to further explore the relationships between these 20 actions. After categorizing and grouping included terms, cover terms were generated (see Table 5.3)[3]. This table shows that all 20 of the common actions across disciplines (see the actions in bold) could be grouped into six domains:

- ways to gather information,
- ways to analyze information
- ways to make inferences
- ways to judge information
- ways to demonstrate understandings
- ways to share understandings

For example, compare, identify patterns, and work were classified as common "ways to analyze information" across the disciplines.

Table 5.3: Domain Analysis of Actions Across Standards

X is a way to...

Gather Information	Analyze Information	Infer from Information	Judge Information	Demonstrate Understandings	Share Understandings
-ask questions (M,S, SS)	-classify (M,S)	-estimate (M)	-evaluate (M,S,SS)	-apply (M,S,SS)	-communicate (M,S, SS)
-analyze (M,S,SS)	-compare (M,S,SS)	-interpret (M,S,SS)	-work (M,S,SS)	-choose (M,S)	-express (M)
-collect (M,S,SS)	-distinguish (SS)	-predict (M,S, SS)		-describe (M,S,SS)	-organize (M,S,SS)
-design (M,S)	-identify patterns (M,S,SS)	-work (M,S,SS)		-determine (M)	-record (M,S)
				-develop (M,S)	-represent (M)
-examine (M, S,SS)	-visualize (M)			-explain (M, S,SS)	-work (M,S,SS)
-explore (M,S,SS)	-work (M,S,SS)			-extend (M)	
-investigate (M,S) -manipulate				-give examples of (SS) -identify	

(M,S) -observe (S,SS) **-read** (M,S,SS) **-work** (M,S,SS)				(M,S,SS) -recognize (M,SS) -show (SS) **-understand** (M,S,SS) **-use** (M,S,SS) **-work** (M,S,SS)

After categorizing the common actions, I next analyzed the remaining 18 (from Appendix F; e.g., design, manipulate, distinguish, visualize, estimate) which were not held in common (see Table 5.3, those not in bold). What becomes visible is that the six cover terms or domains accounted for all 38 verbs. For example, classify, distinguish, and visualize were other "ways to analyze information" (besides those held in common). This suggests that these domains of actions (gathering information, analyzing information, inferring from information, judging information, demonstrating understandings, and sharing understandings) provide a way of framing of academic literacies across content areas.

Summary of the National Perspective

Taken together, these analyses revealed what counts as academic literacy from the perspectives of the authors of the national standards. They showed that to be literate in a particular discipline a student needs to be able to demonstrate understanding of specific content knowledge. They also highlighted the actions that students need to learn in order to demonstrate this knowledge. Across disciplines, it was shown that there are common actions that are called for, suggesting that academic literacy requires both general and specific application of these actions. For example, students need to know how to make predictions in a general sense, across disciplines.

However, the nature of the evidence that they will use to make their predictions will be discipline specific.

The Classroom Perspective

Because the national standards provide many of the criteria against which students are judged, the findings from these analyses were used to re-examine those done in Chapter 4. The analysis of classroom actions done in Chapter 4 was re-examined in light of the findings from the analyses of the national standards. Specifically, a domain analysis of the literate actions from the first 3 weeks of school (Table 4.5) was carried out, using the same semantic relationship, X is a way to do Y, and the same cover terms was conducted. The results of this analysis are presented in Table 5.4. This table indicates that the literate actions from the first 3 weeks of school could also be categorized into the same six domains. That is, during this three-week period, students were engaged in gathering information, analyzing it, making inferences, judging information, demonstrating their understandings, and sharing their understandings with others. There were 10 actions included in these domains that were the same as those found in the national standards (indicated in bold on the table): asking questions, choosing, collecting (gathering), communicating (sharing, reporting), comparing, identifying patterns, predicting, reading, using (evidence, prior knowledge), and working together.

Table 5.4: <u>Domain Analysis of Literate Actions From First 3 Weeks</u>

<u>X is a way to...</u>

Gather Information	Analyze Information	Infer from Information	Judge Information	Demonstrate Understandings	Share Understandings
-working together	-working together	-working together	-working together	-working together	-working together
-talking to others	-talking to others	-talking to others	-talking to others	-talking to others	-talking to others
-listening to others	-listening to others	-listening to others	-listening to others	-listening to others	-listening to others
-making choices	*-making choices*	*-making choices*	*-making choices*	*-making choices*	*-making choices*
-using prior knowledge	*-solving problems*	-using prior knowledge	-using prior knowledge	-asking/ answering questions	*-answering questions*
-asking questions	*-writing (a story and nonfiction)*	-make predictions	-asking questions	*-solving problems*	-reporting to the class

-gathering information	-identifying patterns	-support/refute predictions	-using evidence	-writing a story	-sharing problem solving strategies
-generating ideas	-comparing & contrasting			-writing nonfiction	-writing a story
-listening to text	-using evidence			-writing in journals	-writing nonfiction
-reading text				-using writing process	-recording patterns
-discussing text				-using evidence	
				-supporting /refuting predictions	
				-constructing patterns	

There were other actions that were similar, but not identical (these are represented in italics on the table). For example, sharing problem solving strategies, an action from the first 3 weeks is similar to the action of explaining in the national standards. That is, in the math standards, the students are supposed to be able to "explain problem solving strategies to others." Writing, another action from the first 3 weeks of school, is not explicitly included as a separate action in any of the standards. However, it is identified as a means of communicating ideas and understandings in both science and social studies. It must be remembered though, that these actions represent only those from the first 3 weeks of school. The next step in the analysis was to see what was visible across the school year (see Table 5.5).

Looking Across the School Year

The next analysis examined the literate actions and practices of particular cycles of activity across the school year. While this was also done in Chapter 4 (Table 4.6), this analysis expands on that analysis by considering all of the literate actions and practices in the events of selected cycles of activity rather than focusing specifically on those from the first 3 weeks of school. Three cycles of activity: Sorting and Classifying (October-November, Math); Santa Barbara (November-December, Social Studies); and The Rainforest (April-June, Science),

Table 5.5: <u>Literate Actions Across the Year</u>

Name of Cycle	Event/Activity	Literate Actions/Practices
Sorting & Classifying	Junkboxes	-describing contents of junkboxes -classifying data -sorting by 2 attributes -sorting by 3 attributes -generating rules of classification
	Sorting Trees	-describing data -analyzing data -sorting and classifying data
	Venn Diagrams	-analyzing data -comparing & contrasting information
Santa Barbara-Our Local Community	KWLQ	-using prior knowledge -identifying what you already know -asking questions -organizing & classifying questions -collecting information through reading -answering questions -reporting findings to the class
	Landmarks	-brainstorming possible landmarks -gathering information through reading, asking questions -locating landmark on the classroom map -making representation of landmark for map

	Landmarks (continued)	-describing landmark -reporting to the class
	Important Books	-using previously learned information -constructing pattern story about landmark -sharing with the class
	Introduction to a Compass	-making predictions -using evidence to support/refute predictions -share your decisions to the group
	Hidden Treasure	-write directions for how to find a treasure -use knowledge of grids and longitude & latitude -follow directions to find someone's treasure
	Where is Your House?	-apply knowledge of longitude/latitude & grids to locate own streets on SB maps -reading & examining maps -sharing information
The Rainforest	RF Destruction Activity	-reading information -summarizing & synthesizing info. -presenting info. to class
	RF Layers Activity	-making predictions -sharing thinking with others

	RF Layers Activity (continued)	-evaluating information/evidence & using to support/refute predictions -evaluating thinking of others
	Jungle in the Pantry	-making predictions -analyzing information -classifying data -sharing thinking with others
	Cooperative Rainforest Reports	-making choices -asking questions -gathering information -summarizing information -writing nonfiction -presenting findings to others -working together
	Terrariums	-making terrariums -examining different kinds of soil -exploring water cycle -asking questions -observing -gathering data -analyzing data -sharing findings with others
	Rainforest Tours	-organizing information -making choices -communicating what you have learned with others -making formal presentations

were selected for this analysis (see Figure 4.9). The events that comprised the cycle were then analyzed for literate actions and practices. The results of this analysis are presented in Table 5.5.

As shown in this table, the students were engaged in a variety of actions that were called for by the national standards. Asking questions, comparing and contrasting, gathering (collecting) information, identifying patterns, predicting, reading, and writing were actions that were introduced during the first 3 weeks of school and were utilized across cycles of activity, thus making them literate practices (as discussed in the previous chapter). Sorting and classifying, describing, analyzing data, organizing, examining, exploring, and evaluating were actions that were introduced later in the year.

Summary of Classroom Perspective

These analyses, together with those from Chapter 4, suggest that what counted as being academically literate in this classroom was being able to use particular literate practices within and across content areas. These practices were established in and through the actions and interactions of the members of this classroom and became cultural resources upon which they could draw when presented new information (Castanheira et al., 1998). These practices, in turn, matched the academic literacies called for by the national standards.

Thus, by using a variety of literate practices across cycles of activity, the students in this classroom were presented with multiple opportunities for acquiring academic literacies as well as learning academic content. This will be explored further in the next section.

Part Two: Identifying and Constructing Patterns - Exploring Opportunities for Learning

The purpose of this section is to investigate how the literate practices of this bilingual third-grade classroom provided the students with opportunities to become academically literate. The questions guiding this analysis were: What are the relationships between literate practices and opportunities for acquiring academic literacies and learning academic content? How do these literate practices support and/or constrain access to academic content? To answer this question, the literate practices of identifying and constructing patterns, and making predictions were selected for further analysis. These literate practices were deliberately selected because they both were introduced during the first 3 weeks of school and were utilized across the school year. Identifying and constructing patterns will be explored in this chapter. Making predictions will be addressed in Chapter 6.

"Looking for Patterns": An Introduction

This analysis began by identifying the "Looking for Patterns" cycle of activity (see Chapter 3 for a more complete

discussion of cycle of activity). This was accomplished by examining the running records, the videotaped data, and the teacher's plan book and locating events related to identifying and constructing patterns. This cycle was selected to provide a way of examining how this teacher explicitly introduced the literate practices of identifying and constructing patterns and constructed opportunities for learning how to use these cultural resources both within and across content areas.

This cycle of activity ("**Looking for Patterns**") began in September (9/14) and lasted through mid-October (10/14) (see Figure 5.1). For 20 days (Table 5.6), the students were engaged in a series of events that were designed to introduce them to the practices of identifying and constructing patterns. Through these events, the students were encouraged to explore a variety of patterns and to construct and record their own.

To understand how Mrs. T introduced the students to these literate practices, two key events (Gumperz, 1986) from the first day of this cycle of activity were selected for transcription. These key events were purposefully chosen to examine how Mrs. T introduced patterns in math and in writing. The talk on these transcripts is represented in message units, each labeled with a different line number. Because this study builds on previous work which locates opportunities for learning in the interaction of class members (Tuyay, Jennings, & Dixon, 1995), the interactions were examined to identify the potential

Timeline of School Year
September
October
November
December
January
February
March
April
May
June

Looking for Patterns Cycle of Activity
Week One (9/14-9/18)
Week Two (9/21-9/25)
Week Three (9/28-10/2)
Week Four (10/5-10/9)
Week Five (10/12-10/14)

Key Events
Writing Pattern Stories (9-14-92)
Exploring Patterns in Math (9-14-92)
Identifying Patterns in the Classroom (9-16-92)
Pattern Stations (10-2-92)
Sharing Fortunately Pattern Stories (10-13-92)

Figure 5.1, Locating Key Events

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Table 5.6: Looking for Patterns Cycle of Activity

Monday	Tuesday	Wednesday	Thursday	Friday
9/14-Day 1 Creating pattern stories using A House Is a House for Me Math: Exploring patterns-Snap/clap, people, tiles	9/15-Day 2 Making House Books Math: Exploring patterns-snap/clap, people, tiles	9/16-Day 3 Read Aloud Pattern books from previous year Math: Identifying patterns-snap/clap, people, tiles Finding patterns in the classroom	9/17- Computer Lab	9/18-Day 4 Math: Identifying patterns (snap-clap, people) Constructing and recording tile patterns
9/21-Day 5 Read Aloud: Class made pattern books Math: Identifying and naming patterns Constructing and recording tile patterns	9/22-Day 6 Read Aloud: The Napping House/ Generating ideas for new pattern story Math: Patterns with colored cubes	9/23-Day 7 Writing own stories Math: Identifying & naming patterns Constructing & recording patterns with colored cubes	9/24 Computer Lab	9/25-Day 8 Writing own stories Math: Identifying & naming patterns Constructing & recording patterns with colored cubes
9/28-Day 9 Math: Identifying patterns drawn on the board Constructing & recording patterns with colored cubes	9/29-Day 10 Read Aloud: Fortunately Generate ideas for own pattern stories Math: Identifying board patterns Constructing & recording cube patterns	9/30-Day 11 Writing pattern stories (drafts) Math: Identifying board patterns Identifying patterns that lead to functions-eyes, toes, etc.	10/1 Computer Lab	10/2-Day 12 Writing own Fortunately stories (drafts) Math: Identifying board patterns Patterns stations Intro. to learning logs
10/5-Day 13 Fortunately Books (editing)	10/6-Day 14 Fortunately Books (editing)	10/7-Day 15 Fortunately Books (final copies)	10/8-Computer Lab	10/9-Day 17 Fortunately Books (final copies)
10/12-Day 18 Fortunately Books (Illustrations)	10/13-Day 19 Share Fortunately Books with class	10/14-Day 20 Share Fortunately Books with class		

opportunities for learning constructed in and through the talk. Once a potential opportunity was identified, it was then possible to investigate what the students took up and how they used the opportunity to learn (Alton-Lee & Nuthall, 1992; Jennings, O'Keefe, & Shamlin, 1999).

Event One: Creating a Pattern Story - Introducing Patterns in Writing

The first event analyzed consisted of five sub-events: Reading Aloud, Discussing the pattern in the story, Generating ideas for own stories, Explaining the directions, and Writing pattern stories (see Table 5.7). The first four sub-events were analyzed for the potential opportunities for learning that were available to the students. These four sub-events were selected because they happened at the whole class level, thus, these potential opportunities were available to all of the students. The results of this analysis are presented in Table 5.8.

As Table 5.8 shows, in the first sub-event, the students were listening to the book, A House Is a House for Me. Mrs. T informed the students that they would be listening to a story with a pattern (lines 1005-1006) and that they needed to listen carefully to identify that pattern (line 1001). Her talk suggested to the students that stories may have patterns in them, and one needs to listen carefully in order to identify these patterns. She then began reading the text aloud to the students, stopping to discuss the illustrations and vocabulary (e.g., coop, sty, hutch) that arose. By page 3, the students began to say

Table 5.7: Event Map for Writing a Pattern Story (A House Is a House for Me)

Sub-Events	Phases	Interactional Spaces	Languages Available	Actions
1. Read Aloud	1a-Introducing the book 1b-Reading aloud 1c-Discussing book 1d-Identifying patterns	T-WC T-WC I-WC	English	-listening to story -asking & answering questions -sharing ideas -discussing text
2. Identifying the patterns	2a-Discussing the text 2b-Identifying patterns	Pairs-WC I-WC	English & Spanish	-talking with others -sharing ideas -identifying patterns
3. Generating ideas for a pattern story.	3a-generating examples orally 3b-generating ideas with pattern from book	T-WC I-WC	English & Spanish	-sharing ideas -using pattern from the book -discussing ideas -reading aloud
4. Explanation of directions	4a-explaining directions for class books 4b-checking for understanding	T-WC I-T-WC	English & Spanish	-listening to directions -following directions -asking/answering questions -making choices
5. Writing pattern stories	5a-drafting ideas 5b-writing sentences on computer 5c-illustrating stories 5d-publishing	I-WC I-TG I-T-WC I-WC I-WC	English & Spanish	-using pattern to write a sentence -sharing ideas -illustrating page -reading aloud -illustrating -listening to a story

Table 5.8: <u>Potential Opportunities for Learning in Writing a Pattern Story</u>

Sub-Event	Talk		Potential Opportunities for Learning
1. Read Aloud: <u>A House Is a House for Me</u>	1001 Mrs.T:	you're going to need to listen carefully to today's story	-stories/books can have patterns in them
	1002	because after we're done reading it	-one needs to listen carefully to identify the pattern
	1003	you're going to make books of your own	-one can use a similar pattern to
	1004	with a similar pattern	write his/her own story
	1005	there is a pattern in this story	
	1006	I want you to be listening to what it is	
2. Identifying the Pattern	1265 Mrs. T:	how many of you saw a pattern in that story	-a pattern is something that repeats itself
	1266 Students:	(begin raising their hands)	-in this story, you hear the pattern over and over again
	1267 Mrs. T:	if you saw a pattern	
	1268	would you whisper it to the person next to you	-one of the patterns was in a sentence
	1269	what did you hear over and over	

	1270	what repeated itself	
	1271 Students:	(whispering)	
	1272 Mrs.T:	I see Ignacio's hand	
	1273	he wants to tell me	
	1274	Ignacio	
	1275 Ignacio:	the house	
	1276	the house	
	1277 Mrs.T.:	and the sentence went	
	1278 Students:	and a house is a house for me	
3. Generating Ideas for a Pattern Story	1292 Mrs.T:	today we're going to make	-writing involves thinking of ideas
	1293	we're going to make our own stories	-one can use ideas from the book to generate ideas for their own writing
	1294	about	
	1295	houses	
	1296	for things	-your ideas do not have to be the same as the ones in the book
	1297	can you think of an example that may not have been	
	1298	in	-you can incorporate your ideas into the pattern from the book
	1299	the book	
	1300	James	-the same pattern can

	1301 James:	a doghouse	incorporate many ideas
	1302 Mrs.T.:	okay	
	1303	a doghouse is a house for a what	
	1304 James:	a dog	
	----BREAK-----		
	1320 Mrs.T.:	this is our pattern	
	1321	(writing on board)	
	1322 Mrs.T.:	a blank is a house for a blank	
	1323	and I heard	
	1324	James say	
	1325	a doghouse	
	1326	is a house for a	
	1327	dog	
	1328	(writes this on the board)	
	1329	can you think of another example	
	-----BREAK-----		

	1544 Mrs.T.:	tenemos muchos ejemplos	
	1545	para un blanco es una casa para un blanco (*we have many examples for a blank is a house for a blank*)	
4. Explanation of Procedures	1549 Mrs.T:	we're going to make two different books	-books can be written in different languages
	1550	we're going to make one in English	
	1551	and one in Spanish	-you can decide the language in which you want to write
	1552 Paul:	do we have to make one in Spanish	
	1553 Mrs.T:	no you don't need to	-you can use the ideas already generated by the class or you can create your own
	1554	you decide what to do	
	.....BREAK....		-you may make more than one page for the class book
	1579 Mrs. T:	you need to write	
	1580	whichever sentence you want	
	1581	alright	
	1582	it can be one of these	

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		(points to board)	
	1583	or it can be something totally different	
	1584	it can be something you just think of	
	1585	that's fine	
	1586	you write a sentence	
	1587	if you want to write more than one sentence	
	1588	you can make more than one page	

one of the lines in the text that repeated itself (and a house is a house

for me) aloud with her as she read, indicating that the students were

inferring the definition of "pattern." Mid-way through the book, Mrs. T

began asking the students to complete the other sentence that

repeated throughout the text (a ---- is a house for a ----) and to answer

her questions about different kinds of houses expanding beyond the

text of the story. For example:

1187	Mrs. T:	a shoe or a boot is a house for a what
1188	Students:	foot
1189	Mrs. T:	where do you live Marty
1190	Marty:	a house
1191	Mrs. T:	what's a mitt a house for
1192	Students:	a ball
1193	Mrs. T:	a ball
1194		what's an egg a house for
1195	Students:	a chick
1196	Mrs. T:	what's a grocery bag a house for
1197	Students:	groceries
1198		food

This excerpt provides evidence of the students beginning to

understand what a pattern is and that patterns exist in this particular

story. The sentence, "a ---- is a house for a ----" that Mrs. T asked the

students to finish (line 1187) is the one that the students later used to

write their own pattern stories. She also drew their attention to the

different kinds of houses mentioned in the text and asked them to

consider what they were houses for (lines 1191-1198).

In sub-event two, Mrs. T asked the students to recall the pattern

in the book:

1265	Mrs. T:	how many of you saw a pattern in that story
1266	Students	(begin raising their hands)
1267	Mrs. T:	if you saw a pattern
1268		would you whisper it to the person next to you
1269		what did you hear over and over
1270		what repeated itself

---break in transcript---

1275	Mrs. T:	Ignacio
1276	Ignacio:	the house
1277	Mrs. T:	the house
1278		and the sentence went
1279	Students:	and a house is a house for me

In this excerpt, Mrs. T asked the students to share what they heard in the story that repeated itself (lines 1269-1270). The students were able to remember one of the sentences (and a house is a house for me) that repeated itself in the text (lines 1275-1278).

During the next sub-event, the students were provided many opportunities to share their ideas for the story that they would later write. Mrs. T recorded their ideas on the board, using the pattern a ---- is a house for a ----. Students volunteered a variety of examples (see Appendix G for the complete transcript of this sub-event) in both English and Spanish, suggesting that they were beginning to understand the idea that a pattern could incorporate many different ideas (see Table 5.9 for a list of their ideas).

Table 5.9: <u>Students' Ideas for a Pattern Story</u>

Pattern =   A   _____   is a house for a   _____.

doghouse	dog
garage	car
car	engine
computer	disk
ranch	horse
hole	mouse
book	pages
page	words
hose	water
book	story
hole	worm
hole	snake
earth	core
mudhole	mosquitoes
hole	ant
wires	electricity
batteries	electricity

(Spanish)   Una   _____   es una casa para   _____.

casa de perros	perros
garage	carros
computadora	disco
rancho	caballos
libro	cuentos
manzana	gusano
manzana	semilla

In the next sub-event, Mrs. T began by explaining that the students would be making class pattern books (lines 1549-1557):

1549	Mrs. T:	we're going to make two different books
1550		we're going to make one in
1551		English
1552		and one in
1553		Spanish
1554	Paul:	do we have to make one in Spanish too
1555	Mrs. T:	no
1556		you don't have to
1557		you decide what you want to do

After she explained the directions for making the book pages, Mrs. T checked to make sure the students understood those directions.

Finally, the students returned to their own seats to begin working on their rough drafts. Each student was to construct one page for a class book. The students continued working on their book pages for the next 2 days (see Table 5.6, Days 2 and 3). On Day 5 (9/21), the teacher read the student-made books aloud to the class during read aloud time. The text from the class books is included in Appendix H. As this shows, the students were able to successfully incorporate their own ideas into the text sentence pattern to generate their own stories.

Summary of Introduction of Patterns in Writing

This analysis shows how the Mrs. T introduced the students to patterns in writing. First, they listened to identify patterned repetitions in the language of the text. Next, the students were asked to generate

their own ideas using one of the sentence patterns from the text. Finally, the students created their own page for a class story. During this event, the students were provided with multiple opportunities for learning. As the class book demonstrates, they took up many of these opportunities and were able to incorporate their ideas into the pattern of the text.

Event Two: Exploring Patterns in Math

On the first day of the **"Looking for Patterns"** cycle of activity, students were introduced to patterns in writing as discussed above. They were also introduced to patterns in math on that day. Examination of the teacher's reconstructed head-notes indicates that this was a purposefully created unit of study. Mrs. T planned to introduce the students to the practices of identifying and constructing patterns in both math and writing. In this analysis, how patterns were introduced in math is investigated by examining the event called "exploring patterns" (see Table 5.10). The next step was transcription of this event. Then the transcript was examined to identify how the event was co-constructed and what potential opportunities for learning were available to the students (see Table 5.11).

As indicated in this table, Mrs. T introduced the students to patterns by drawing an intertextual tie to what many of the students

Table 5.10: <u>Event Map - Introduction to Patterns (Math)</u>

Sub-Events	Phases	Interactional Spaces	Languages Available	Actions
1. Snap-Clap Patterns	1a-doing snap-clap patterns 1b-naming snap-clap patterns	T-WC	English	-observing -identifying patterns -doing patterns -naming patterns
2. People Patterns	2a-girl/boy pattern 2b-clothing patterns	T-WC I-WC	English	-observing -determining rule of pattern -applying/testing rule of pattern -talking with others -sharing ideas -agreeing/disagreeing
3. Tile Patterns		T-WC I-TG-WC	English & Spanish	-observing -identifying patterns -constructing patterns -determining the rule or logic of patterns -applying the rule -extending patterns -testing ideas

Table 5.11: <u>Potential Opportunities for Learning</u> <u>in Exploring Patterns</u>

Line Number	Speaker	Discourse	Potential Opportunities for Learning
1012	Mrs. T	and we're going to be working with	-Patterns involves working
1013		patterns	
1014		most of you have done patterns in first and second	-Learning patterns is an ongoing
1015		grade	process
1016		for instance	
1017		watch	-You can identify
1018		and when you know the pattern do it with me	patterns by observing
1019		(Begins doing snap- clap pattern)	
1020	Students	(Doing snap-clap pattern)	
1025	Mrs. T	this is a simple pattern right	-There are different kinds of patterns
1026		if we put letters to it	
1027		we can say	-Patterns can be
1028		ab	named in different
1029		ab	ways
1030		ab	
1031	Students	ab	
1032		ab	
1033		ab	
1034	Mrs. T	okay now stop	
1035		and watch this pattern	-There are different
1036		(does snap, clap, clap)	kinds of snap-clap
1038		if we put letters to it	patterns
1039		it would be	
1040		abb	
1041		abb	
1042		abb	
1043	Students	abb	
1044		abb	
1045	Mrs.T & students	abb	
1046		abb	
1047	Mrs.T	that's a pattern	
1048		Elizabeth come here (T points to the front of the room)	
1049	Elizabeth	(goes to front of room)	

1050		Robert come here (T points to front of room)	
1051	Robert	(goes to front of room)	
1052	Mrs.T	Lourdes come here (points to front of room)	
1053	Lourdes	(goes to front of room)	
1054	Mrs.T	Marty come here (points to front of room)	
1055	Marty	(goes to front of room)	-There are different
1056	Mrs. T	raise your hand if you see my pattern	ways to construct patterns
1057	Manuel	yeah	
1058		gir	
1059	Mrs.T	just raise your hand	
1060		alza la mano si puedes ver el patron	
1061		aquí en frente (points to front of room)	
1062		que es el patrón	
1063		Jorge	
1064	Jorge	Robert	
1065	Mrs. T	nope	
1066		a pattern	
1067		Linda	
1068	Linda	small	
1069		big	
1070-		small big	
1071	Mrs.T	well	-There is a logic to
1072		that wasn't my pattern	a pattern
1073		and I don't know if it really works	
1074		because these two	
1075		(goes to Lourdes & Marty and points to them)	-One needs to
1076		are almost the same size	apply/test the logic
1077		but that was a great try	-identifying patterns
1078		good try	requires effort
1079		Manuel	-it's okay to be
1080	Manuel	boy girl boy girl	wrong
1081	Mrs. T	boy (pointing to Elizabeth)	
1082		girl (pointing to Robert)	
1083		they might get mad	
1084		what's this	
1085	Students	girl	
1086	Mrs. T	girl	
1087		(points to Robert)	

1088	Students	boy	
1089	Students	girl	
1090		boy	-One can extend
1091	Mrs. T	what would be here	the pattern by
1092	Students	girl	applying the
1093	Mrs. T	and then a	logic/rule
1094	Students	boy	
1095	Mrs. T	you're right	
1096		sit down thank you	
1097		I'm going to do another pattern for you	
1098	Ignacio	what	
1099	Mrs. T	Jessie (points to front of room)	
1100	Jessie	(goes to front of room)	
1101	Mrs. T	you're going to have to be very careful observers	-Identifying some patterns requires
1102		to see if you can figure this one out	close observation
1103		Daniel (points to front of room)	
1104	Daniel	(goes to front of room)	
1105	Mrs. T	Linda (points to front of room)	
1106	Linda	(goes to front of room)	
1107	SNI	girl boy girl	
1108	Mrs. Tuyay	Isabel (points to front of room)	
1109	Isabel	(goes to front of room)	
1110	SNI	oh	
1111		girl boy girl girl	
1112		do you know it	
1113	Mrs. T	Carmen (points to front of room)	
1114	Carmen	(goes to front of room)	
1115	SNI	girl boy girl girl girl	
1116		huh	
1117	Mrs.T	Lourdes (points to front of room)	
1118	Lourdes	(goes to front of room)	
1119	SNI	I know it	
1120		girl boy girl girl girl	
1121	Mrs.T	kay	
1122		look at something	
1123		nobody has gotten it so far	-The past logic/rule
1124		it has nothing to do with	does not apply to

		boys and girls	this one
1125	Mrs. T	because they're not	-Use the rule to see
		enough boys up there	if it works, in this
1126	Students	(raising their hands)	case it doesn't
1127	Mrs. T	Robert thinks he knows it	
1128		Luciano thinks he knows it	
1129		James thinks he knows it	
1130		James	
1131		what do you think it might be	
1132	James	small	
1133		small big small big small	-Identifying
1134	Mrs.T	does that work	patterns involves
1135	Students	no	testing ideas
1136	Mrs.T	that doesn't work	
1137		good try though James	
1138		Luciano what do you think it might be	
1139	Luciano	white	
1140		(inaudible)	
1141	Mrs. T	white what	
1142		does that pattern work	
1143	Luciano	no	
1144	Students	no	
1145	Mrs. T	it doesn't work I don't think	
	—break—		-Additional
1160	Mrs. T	raise your hand if you want a hint	information may help one determine
1161	Students	(raising hands)	the pattern
1162	SNI	I do I do	
1163	Mrs. T	okay	
1164		look at their sleeves	
1165	SNI	oh	
1166		I know	
1167	Mrs. T	let's do it together	
1168		look at their sleeves	
1169		look at the sleeves (points to Jessie's sleeves)	
1170		what does she have (stands by Jessie)	
1171	Students	long	
1172	Mrs. T	she has long sleeves	
1173		(moves behind Daniel)	
1174	Students	short sleeves	
1175		long sleeves	
1176		short sleeves	

1177		long sleeves	
1178		short sleeves	
1179	Mrs. T	is that a pattern	
1180	Students	yeah	
1181	Mrs. T	okay	
1182		you may sit down	
1183		thank you	
		----break----	-Can construct
1199	Mrs. T	I'm going to build a pattern with my tiles	different kinds of patterns, in this
1200		on the board	case using tiles
1201		when I finish building it	
1202		I want you to build one too	
1203		(Begins making pattern on front board)	-Watch to identify the pattern before
	Students	(watching)	you construct your
1205	Mrs. T	kay this is my pattern with tiles	own
1206		will you build the same pattern on your desk with the tiles	
1207		but I want you to continue it	-Patterns can be extended
1208	Students	(empty out their tiles and begin working)	
		----break----	
1326	Mrs. T	this pattern	
1327		is one	
1328		two	
1329		one	
1330		two	
1331		kay	-Patterns repeat
1332		it keeps going	themselves
1333		the reason were' going to be doing patterns in math	-There are patterns
1334		is because mathematics	in math
1335		has	
1336		a lot	
1337		of	
1338		patterns	-Mathematicians
1339		if you understand the patterns in math	use patterns to help them
1340		you will be great mathematicians	understand

had experienced previously in second grade (snap-clap patterns and

people patterns[4]):

1014	Mrs. T:	most of you have done patterns in
1015		first and second grade
1016		for instance
1017		watch
1018		and when you know the pattern do it with me
1019		(begins doing snap-clap pattern)
1020	Students:	(doing snap-clap pattern)

In this excerpt, Mrs. T reminded the students of their previous

experiences with patterns (lines 1014-1015). This suggested to the

students that learning to identify patterns is an ongoing process. Mrs.

T indicated to the students that one of the strategies for identifying

patterns was observing (lines 1018-1020).

Students were also provided with opportunities to name the

snap-clap pattern:

1026	Mrs. T:	if we put letters to it
1027		we can say
1028		ab
1029		ab
1030		ab
1031	Students:	ab
1032		ab
1033		ab

This naming of snap-clap patterns was an extension of the students'

previous experiences, as they were not asked to do this in earlier

grades. Using letters was introduced as one way to name snap-clap

patterns.

In addition to snap-clap patterns, Mrs. T also re-introduced

people patterns (students had done them in second grade) by calling

four students to the front of the room and then asking the class to

identify the pattern:

1056	Mrs. T:	raise your hand if you see my pattern
1057	Manuel:	yeah
1058		gir
1059	Mrs. T:	just raise you're your hand
1060		alza la mano si puedes ver el patrón (*raise your hand if you see the pattern*)
1061		aquí en frente (*here in front*) (points to front of room)
1062		qué es el patrón (what is the pattern)
1063		Jorge
1064	Jorge:	Robert
1065	Mrs. T:	nope
1066	Mrs. T:	a pattern
1067		Linda
1068	Linda:	small
1069		big
1070		small big
1071	Mrs. T:	well
1072		that wasn't my pattern
1073		and I don't know if it really works
1074		because these two
1075		(goes to Lourdes and Marty and points to them)
1076		are almost the same size
1077		but that was a great try
1078		good try

In this excerpt it is possible to see that the students were provided

opportunities to determine the logic or rule of pattern construction and

to test their ideas (lines 1056-1078; see also lines 1127-1145 on

Table 5.11). By using snap-clap and people patterns as part of the

introduction to patterns in math in this class, Mrs. T was able to propose intertextual ties to the students' previous learning experiences, which were recognized and acknowledged by the students. This will be further explored in subsequent sections.

Finally, the students were introduced to a new way of constructing patterns:

1199	Mrs. T:	I'm going to build a pattern with my tiles
1200		on the board
1201		when I finish building it
1202		I want you to build one too
1203		(begins building pattern with tiles)
1204	Students	(watching teacher build pattern)
1205	Mrs. T:	kay this is my pattern with tiles
1206		will you build the same pattern on your desk with the tiles
1207		but I want you to continue it

In this segment, Mrs. T introduced the students to the use of tiles for pattern construction (lines 1199-1207). This moved the students from "thinking/talking about" patterns to "doing" patterns. Again, Mrs. T reminded them that they needed to watch how she constructed the pattern to determine the logic or rule before they started making their own (lines 1205-1207).

The students were then provided opportunities to construct and extend the pattern. The students worked at their table groups to construct their own tile pattern. While they were required to make their own pattern, they were allowed to help one another. During this time,

Mrs. T circulated the classroom and worked with small groups or

individual students:

1214	Mrs. T:	(approaches table)
1215	Ignacio:	do we keep going
1216	Mrs. T:	keep going
1217		start with the same thing I have on the board
1218	Paul:	am I doing it right
1219	Mrs. T:	(shakes head yes)
1220		good job
1221	Ignacio	(looks over at Paul's pattern)
1222		(begins building with tiles)
1223	Mrs. T:	is mine a straight line Ignacio
1224	Ignacio:	huh
1225	Mrs. T:	is mine a straight line
1226	Ignacio:	yeah
1227	Mrs. T:	it is
1228	Ignacio:	no
1229	Mrs. T:	well
1230	Mrs. T:	well
1231		look at this
1232		do you see a pattern here (points to (Paul's tiles)
1233	Ignacio:	yes
1234	Mrs. T:	what is it
1235		(points to tiles) how many here
1236	Ignacio:	one
1237	Mrs. T:	how many here
1238	Ignacio:	two
1239		one
1240		two
1241	Mrs. T:	okay
1242		do you see that
1243	Ignacio:	(nods head yes)

In this excerpt, Mrs. T worked with one student (Ignacio) to help him

understand how to construct a tile pattern (lines 1330-1343). In so

doing, she implied that it was okay to look at the work of others at the

table (lines 1221, 1232). By working with students in this way, Mrs. T was able to provide them further opportunities for understanding how to construct and extend patterns.

At the end of this introductory event, Mrs. T provided a rationale for why the students would be engaging in identifying and constructing patterns during math time:

1333	Mrs. T:	the reason we're going to be doing patterns in math
1334		is because mathematics
1335		has
1336		a lot
1337		of
1338		patterns
1339		if you understand the patterns in math
1340		you will be great mathematicians

This excerpt shows that Mrs. T suggested to the students that being able to identify patterns was a practice that would allow them to become "great mathematicians" (lines 1333-1340). This provides evidence that in this classroom the students were going to "be" mathematicians (lines 1339-1340), and were therefore going to be using particular kinds of practices.

Summary of Introduction to Patterns

Through these analyses, it is possible to see that the students were provided with a variety of opportunities for learning how to identify and construct patterns on the first day of this cycle of activity.

Mrs. Tuyay began with the students' previous experiences and built upon them by introducing new ways of constructing and naming patterns. By introducing these practices in both writing and math, the students were provided with opportunities to understand how these practices are applied similarly and differently in various content areas.

Weaving an Intertextual Web

Analyses in this section investigate how the practices of identifying and constructing patterns were further developed in subsequent events within this cycle of activity and across the school year. They also explore how the knowledge constructed at one point in time was consequential for learning at other points in time (Putney, 1997; Putney, Green, Dixon, Durán, & Yeager, 2000). To accomplish this goal, I drew on the concept of intertextuality. As discussed in detail in Chapter 3, I used the view of intertextuality proposed by Bloome and Egan-Robertson (1993) who argued that intertextuality is not simply a juxtaposition of texts by the analyst, but one that is "proposed, recognized, acknowledged, and socially significant" (p. 311) to members. By locating the intertextual ties within and between events, I examine how students were provided with opportunities to develop and refine their understandings of the literate practices of identifying and constructing patterns.

Instances of Intertextuality

To explore the intertextual relationships within and between events in the "**Looking for Patterns**" cycle of activity, I selected eight math events for further analysis. These events were purposefully chosen, as each of them included a particular aspect of identifying and constructing patterns:

9/14 - Introduction to patterns in math
9/15 - New ways to name patterns
9/16 - Making own tile patterns & finding patterns in the
        classroom
9/18 - Recording tile patterns (introduction)
9/22 - Constructing patterns with colored cubes (introduction)
9/25 - Recording cube patterns
9/28 - Introduction of a new way to begin math
10/2 - Introducing to math pattern stations and learning logs

After selecting the events, each of them was transcribed using message units (see previous discussion in Chapter 3). These transcripts were then analyzed for evidence of the four criteria of intertextuality (Bloome & Egan-Robertson, 1993): proposal, recognition, acknowledgement, and social significance.

Snap-clap patterns. Table 5.12 represents part of this analysis, instances of intertextuality in snap-clap patterns, which were one type of pattern introduced by Mrs. T on Day 1. The first column in this table locates the event within the cycle of activity. The next column shows how the instance of intertextuality was proposed and by whom. In the third column, the evidence for recognition and acknowledgment is provided. I deliberately combined recognition and

Table 5.12: <u>Instances of Intertextuality in Math Events - Snap-Clap Patterns</u>

Date/Day	Proposal	Recognition and Acknowledgement	Social Significance
9-14 Day 1	Mrs. T: 1013 most of you have done patterns 1014 in first and second grade 1015 for instance 1016 watch 1017 and when you know the pattern 1018 do it with me 1019 (begins snap clap pattern) 1026 this is a simple pattern right 1027 if we put letters to it 1028 we can say 1029 ab (snap, clap) 1030 ab (snap, clap) 1031 ab (snap, clap)	Students in the class begin to do the snap-clap pattern with the teacher. At this point, the students join the teacher in doing and and naming the pattern with the letters A and B.	Not yet visible

9-15
Day 2
	Mrs T:
	1246 alright
	1247 when you know my
	      pattern
	1248 do it please
	1249 (slap, clap, clap)
	1250 (slap, clap, clap)
	
	Mrs. T:
	1255 if I was going to put
	      letters
	1256 I could say
	1257 abb (slap, clap, clap)
	1258 abb (slap, clap, clap)
	
	1266 or
	1267. j (slap)
	1268 kk (clap, clap)
	1269 j (slap)
	1270 kk (clap, clap)
		Students:
		1251 (slap, clap, clap)
		1252 (slap, clap, clap)
		1253 (slap, clap, clap)
		1254 (slap, clap, clap)
		
		Students:
		1259 abb (slap, clap, clap)
		1260 abb (slap, clap, clap)
		1261 abb (slap, clap, clap)
			Establishing how math
			begins

		Students: 1271 jkk (slap, clap, clap) 1272 jkk (slap, clap, clap)	
9-16 Day 3	Mrs: T 1238 (starts a snap-clap pattern) 1239 (clap, clap, snap, snap) 1240 (clap, clap, snap, snap) Mrs. T: 1245 Jennifer 1246 if you were going to put letters to this 1247 what would they be Mrs. T: 1249 good job 1250 ready	Students join and begin doing the clap, clap, snap, snap pattern. Jennifer: 1248 aa bb Students begin doing pattern: 1251 aa (clap, clap) 1252 bb (snap, snap) 1253 aa (clap, clap) 1254 bb (snap, snap)	Establishment of how to begin math The students are able to name the pattern themselves.

	Mrs. T: 1258 Paul 1259 if you were going to put numbers to this 1260 what would they be 1263 numbers **Mrs. T:** 1268 good 1269 if you were going to put colors to this Elizabeth 1270 what would they be	**Paul:** 1261: aa 1262 bb 1264 numbers 1265 1122 1266 1122 1267 1122 **Elizabeth:** 1271 um 1272 red and pink **Students:** 1273 red red (clap, clap) 1274 pink pink (snap, snap) 1275 red red (clap, clap) 1276 pink pink (snap, snap)	The students are able to use this information to label patterns by different names: letters, numbers, colors.

| 9-18
Day 4 | Mrs. T:
1000 okay
1001 (slap, slap, clap, clap, snap)
1002 (slap, slap, clap, clap, snap)

Mrs. T:
1006 how many letters would this pattern have
1007 Daniel

Mrs. T:
1011 good job
1012 aa (slap, slap)
1013 bb (clap, clap)
1014 c (snap) | Students:
1003 (slap, slap, clap, clap, snap)
1004 (slap, slap, clap, clap, snap)
1005 (slap, slap, clap, clap, snap)

Daniel:
1008 aa
1009 bb
1010 d

Students:
1015 aa (slap, slap)
1016 bb (clap, clap)
1017 c (snap) | Establishment of how math begins. |

		1018 aa (slap, slap) 1019 bb (clap, clap) 1020 c (snap)	
	Mrs. T: 1021 who has a snap clap pattern they would like to do for us		The students generate their own snap clap patterns and name them.
	1023 Ramon	1022 (students raise hands)	
	Ramon: 1025 ready	Ramon: 1024 (goes to center of room) Students: 1026 ready	
	1027 okay 1028 (slap, slap, clap, clap) 1029 (slap, slap, clap, clap) 1030 (slap, slap, clap, clap) 1031 (laughs and falls on the floor)		

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	Mrs: T:
	1032 what would the letters
	       for Ramon's pattern be
	
	Mrs. T:
	1039 who else has a pattern
	       they would like to do
	1040 who is the next teacher
	
	Mrs. T:
	1042 kay
	1043 Linda
	
	Mrs. T:
	1046 you're the teacher
	1047 go
		Students:
		1033 aa
		1034 bb
		(Mrs. T and students)
		1035 aa (slap, slap)
		1036 bb (clap, clap)
		1037 aa (slap, slap)
		1038 bb (clap, clap)
		
		1041 (students raise hands)
		
		Linda
		1044 (goes to center of the
		      room)
		1045 (looks around)	

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		Linda:	
		1048 (clap, clap, slap, slap, clap, clap, snap)	
	Mrs. T:		
	1049 wait I don't even have it yet		
	1050 keep doing it until everybody gets it		
		Linda resumes doing the pattern and the students begin doing it with her.	
	Mrs. T:		
	1055 what would the letters be for this pattern		
	1056 you're going to have to think a bit		
	1057 (signals to Paul)	Paul:	
		1058 aa	
		1059 bb	
		1060 aa	
		1061 c	
	Mrs. T:		
	1062 listen to Paul		
		Paul:	
		1063 aa	
		1064 bb	

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		1065 aa	
		1066 c	
		The students join Paul	
	Mrs. T: 1074 okay 1075 next teacher 1076 a boy this time		
		1077 (male students raise their hands)	
	1078 Paul		
		Paul: 1079 (goes to the center of the room) 1080 (snap, clap, snap) 1081 (stops and shrugs shoulders)	
	Mrs. T: 1082 well 1083 Paul 1084 is that a pattern		
		Paul: 1085 yaaa	
	1086 you didn't repeat anything		
		1087 oh 1088 okay	

1089 (snap, clap, slap)
1090 (snap, clap, snap)

The students begin doing the pattern with Paul. They also name it with the letters a, b and c.

acknowledgment in one column, as all of the instances of

intertextuality in the events analyzed occurred simultaneously.[5]

Social significance is identified in column four.

As indicated in this table, Mrs. T proposed the first intertextual

tie on Day 1 (9-14) of this cycle of activity by reminding the students

that most of them had done patterns in previous grades (lines 1013-

1014) and by doing a simple snap-clap pattern (line 1019). The

students recognized and acknowledged this connection by doing the

snap-clap pattern with her. At this point, the significance of this

intertextual tie is not evident. However, it becomes visible in

subsequent days, thus meeting the criteria for intertextuality and

demonstrating that it may occur over time, rather than "in the moment."

On Day 2, there was another attempt to construct intertextuality.

In this-instance, Mrs. T began with another snap-clap pattern and

asked the students to join her when they knew it (lines 1246-1250).

The students both recognized and acknowledged this proposal by

doing the snap-clap pattern with her (lines 1251-1254). Mrs. T

continued constructing this intertextual link by providing the students

with two ways to name this pattern using different sets of letters (e.g., a

and b, j and k) (lines 1255-1258, 1266-1270). Again, the students

recognized and acknowledged this tie by saying the letters as they

were doing the pattern (lines 1259-1261, 1271-1272). This tie was

socially significant as it begins to establish ways of beginning math time.

Day 3 presents several instances of intertextuality. In the first, Mrs. T proposed a tie to previous days' math beginnings, by doing a snap-clap pattern without a verbal introduction (lines 1238-1240). The students recognized and acknowledged this by joining in, suggesting that the social consequence of this instance of intertextuality is their recognition of snap-clap patterns as a way to begin math. The next instance of intertextuality occurred when Mrs. T asked one student to name the snap-clap pattern using letters (lines 1245-1247). Jennifer signaled her recognition and acknowledgment of this by answering the question appropriately (line 1248). One consequence of this intertextual link was that Jennifer was able to label the pattern without input from the teacher, suggesting to other students that it was possible for them to do so as well.

In the next instance of intertextuality on Day 3, Mrs. T asked Paul to name the pattern using numbers (lines 1258-1260). He first responded to this request with letters (lines 1261-1262). Mrs. T then reminded him to use numbers (line 1263). He responded appropriately to this reminder (lines 1264-1266) showing that he both recognized and acknowledged it. These ties are socially significant because they show that the students were able to name patterns in different ways.

The final instance of intertextuality on Day 3 occurred when Elizabeth and the other students in the class recognized and acknowledged Mrs. T's proposal, which was a request to name the pattern using colors (lines 1269-1270). Elizabeth responded to the request by stating two colors, red and pink (line 1272). The other students in the class then continued doing the pattern and naming it with these colors (lines 1273-1276). The social significance of this instance was that the students were able to use the labels provided by Elizabeth (red and pink) to name the pattern appropriately. This suggests that the students were beginning to generalize the concept of naming a pattern and understood that it involved more than the use of labels (e.g., letters, numbers, colors).

On Day 4, Mrs. T began this math period much like the other days, by doing a snap-clap pattern (lines 1001-1002). The students did this pattern with her (lines 1003-1005), and were able to name it using letters (lines 1008-1010). A shift then happened. Mrs. T asked if there were any students who wanted to do their own snap-clap patterns (line 1021). This proposal was recognized and acknowledged by three students. Each of the students (Ramon, Linda, and Paul), in turn, proposed an intertextual link to the previous snap-clap patterns, which were recognized and acknowledged by the other students as well as Mrs. T. One of the social consequences of these intertextual links was that the students were able to utilize what they

had learned on previous days to generate and name their own snap-clap patterns. These were also socially significant because they redefined the roles of teacher and student. The students took up the teacher role and led the class in snap-clap patterns while Mrs. T became a student and followed along with the other students in the class.

Summary of snap-clap patterns. What becomes visible through this analysis, is how intertextuality was socially constructed in and through events of this cycle of activity. Using the four criteria, it was possible to see how each instance of intertextuality was proposed, recognized, and acknowledged. What was not always evident on any particular day, however, was the social significance of this intertextuality. To be able to see the social consequences often required looking across events that happened over time.

While these intertextual ties were socially significant and provided students with opportunities for learning how to work together as members of this community, they were also academically significant. Throughout these events, the students were provided with multiple opportunities for learning how to construct various snap-clap patterns and label them in different ways. By examining how these events were related, it was possible to see how knowledge constructed at one point in time was consequential for learning at other points in time. For example, the students were able to use what

they had "learned" on Days 1-3 to construct and label their own snap-clap patterns on Day 4. Thus, these intertextual ties also contributed to students' understandings of patterns in mathematics.

   People patterns. In looking across the math events of the "**Looking for Patterns**" cycle of activity, other intertextual ties became evident. In addition to beginning math with snap-clap patterns, the students were also engaged in trying to figure out Mrs. T's rule as she constructed various people patterns. Mrs. T would call students to stand in the front of the room using a particular logic or rule, while the others were asked to determine the pattern. An example from Day 3 is provided below:

1282	Mrs. T:	okay
1283		look at the pattern
1284		what is it
1285		what is my rule
1286		what is the pattern
1287		you have to look
1288	Students:	(raising hands)
1289	Mrs. T:	Marty
1290		what's my rule
1291	Marty :	small
1292		big
1293		small
1294	Mrs. T:	kay
1295		you started with small
1296		let's look
1297		(goes to front of room and points to students)
1298		if it was small big it would be
1299		small
1300		big
1301		small

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1302                    big
                        small
1303 Students:          big
1304 Mrs. T:            is that my pattern
1305 Students:          no
1306 Marty :            no
```

In this excerpt, Mrs. T began by proposing an intertextual link to past events where students were asked to guess her rule for the people pattern (lines 1283-1287). The students recognized and acknowledged this proposal by raising their hands and bidding for a turn (line 1288). Marty was the first student selected to guess the rule (line 1289). After he stated that he thought the rule was related to size (small and big) (lines 1291-1293), Mrs. T proposed a link between his response and the text that the students had created in the front of the room by applying the big/small rule suggested by Marty (lines 1297-1302). The students in the class recognized and acknowledged this proposal when they finished the pattern using this rule (line 1303), and when they responded that this rule did not work (line 1305). This intertextual link was socially significant because it established a way for students to check and verify the rule of the pattern.

The students continued trying to determine the rule:

```
1310 Ramon:            white shoes
1311                   black shoes
1312                   white shoes
1313                   black shoes
1314                   white shoes
1315                   black shoes
1316 Mrs. T:           you know what
```

1317	I wasn't even paying attention to that
1318	but that completely works
1319	that wasn't my rule
1320	that's close to my rule

In this excerpt, it is possible to see that these intertextual links were socially significant in other ways as well. In this case, the students learned that there was more than one rule that was appropriate and acceptable (lines 1316-1320). As the event continued, the students named the pattern in two additional ways (high tops, low tops and tennis shoes, fancy shoes), both of which were accepted by the teacher. This was socially significant because it allowed the students to broaden their repertoire of use and further develop their understandings of how to name patterns. In this case, they saw that there were various acceptable ways to name the same people pattern, just as there were with snap-clap patterns.

Across the first 8 days of the **"Looking for Patterns"** cycle of activity, math began in a similar way by identifying, constructing and naming snap-clap and people patterns. On Day 9, a different way to begin math was proposed by Mrs. T. She went to the board and drew the following:

She then asked the students if they saw a pattern:

| 1001 | Mrs. T: | look up here please |
| 1002 | | raise your hand if you see a pattern |

The students recognized and acknowledged this proposal

immediately by raising their hands and telling the person next to them

one possible name for the pattern:

1003	Students:	(raise their hands)
1004	Mrs. T:	tell the pattern to someone sitting next to you
1005	Students:	(talking to their neighbors)
1006	Mrs. T:	raise your hand if you would like to tell the class
1007		Elizabeth
1008		what did you call it
1009	Elizabeth:	down up down up down up down up down
1010	Mrs. T:	okay
1011		let's call it what Elizabeth called it
1012	Mrs. T:	(points to board)
1013	Students:	down
1014		up
1015		down
1016		up
1017		down
1018		up
1019		down
1020		up
1021		down
1022		up
1023		down

This instance of intertextuality is significant because it demonstrates

that the students were able to use their previous experiences and

expectations for how to begin math in order to identify and name this

new kind of pattern. The students provided a variety of names for

this pattern (e.g., dot-half circle; ball-mountain) all of which were

accepted by the teacher. Mrs. T constructed another pattern on the

board (-..-..-..), for which the students again provided a variety of

names. This time, their names included line-dot-dot, road-rock-rock, straight-period-period, smooth-rough-rough, and line-two dots. For each of these, the teacher and students applied the names to the drawing on the board.

Summary of people patterns. Together, these instances of intertextuality once again demonstrate how learning in one instance was consequential for learning in others. The students were able to apply what they know about identifying and naming patterns from previous days (1-8) to a new way to begin math.

Tile patterns. After math had officially "begun," and the students were engaged in identifying patterns, Mrs. T introduced the construction of patterns. The first 5 days of this cycle of activity were examined to identify intertextual ties within and between events, as the students constructed patterns using ceramic tiles (see Table 5.13). These are examples of intertextuality because they use similar processes and practices to identify and construct tile patterns. On Day 2 (9-15), the first instance of intertextuality (with tile patterns) was proposed by Mrs. T. She informed the students that they would be constructing tile patterns in the same way they had on the previous day (line 1299). She asked the students to start building the pattern that she was constructing on the board (lines 1321-1322). The students recognized and acknowledged this by beginning to build the same pattern. This intertextual tie was significant as it contributed to

Table 5.13: Instances of Intertextuality in Math Events - Tile Patterns

Date/Day	Proposal	Recognition and Acknowledgement	Social Significance
9-15 Day 2	Mrs.T: we're going to start building patterns just like we did yesterday ...break in transcript... I'm going to start my pattern and that means you get to start building along with me (begins building pattern on board)	The students watch Mrs.T and begin building their patterns at their desks.	Establishing the process for constructing tile patterns.
9-15 Day 2	Mrs. T: okay this one you need to watch carefully I'm building in a different way so you are going to need to figure out what I am doing kay you make it and you extend it	The students watch Mrs. T and begin building this pattern on their desks	Even though there are different ways for constructing tile patterns, they process for doing so is still the same.

9-16 Day 3	Mrs. T: I' m going to start the same way I'm going to build the pattern up here and then you are going to build it on your table top and continue it (T starts building pattern) you may go ahead and open your tiles and build with me	The students open their tile tubs and begin constructing the same pattern that Mrs.T has on the board.	Establishing the process for constructing tile patterns.
9-16 Day 3	Mrs. T: alright everybody's eyes up here please stop what you are doing with the tiles and put your eyes up here right here is the beginning of a pattern if you are going to repeat this whole thing you need to start again with one and then you should have what everybody		The process of building patterns can be applied to longer, more complex patterns.

		Students: two	
	then you should have after two		
		Students: three	
	and then after three what are you going to have		
		Students: two	
	and then after two what are you going to have		
		Students: one	
	okay so you see how that repeated itself see how the whole thing repeated now you are going to build this and extend it	The students build and extend the tile pattern.	
9-16 Day 3	Mrs.T: what you are going to do right now you are going to make up your own pattern at your table then you are going to have a friend	The students begin working at their desks.	Beginning to construct tile patterns without the teacher's guidance.

	complete it for you ...break in transcript... Mrs. T: okay what you need to do is look at the pattern in front of you now you finish it get the tiles and finish it you may sit down in the seat and finish the pattern ...break in transcript... Mrs.T: I think some of you found out that some people didn't make a pattern some people have great pictures but is that a pattern what do you know about a pattern what does it have to do ...break in transcript... what do we know about a pattern Robert	The students begin trying to finish what is on the table in front of them. Students: No	Establishing what counts as a pattern.

		Robert: a pattern for instance it has to go like 11 22 11 and so on like this	
	Mrs.T: remember we said a pattern has to repeat itself if you make this (puts some tiles on board) and you don't repeat it have you made a pattern	Students: no	Re-establishing the characteristics of a pattern.
	no so we're going to try to make a pattern again when I say go you are going to go back to your seats and I want you to make a simple pattern alright so ready go	The students begin constructing simple patterns at their tables.	It may take more than one time to figure out how to construct your own pattern. Begin by constructing a simple pattern.

	Mrs. T: alright now go to the next person's desk and sit down in their seat go the same way …break…. now I want you to finish the pattern in front of you	The students move to the next seat and begin working on the pattern that is on the table in front of them.	
	alright Santa Barbara how many had patterns this time to do	The students raise their hands.	
	now would you please walk quietly back to your seat check to make sure that the person finished your pattern in the right way	The students return to their own seats and check the work of the person who finished their pattern. They discuss their findings with each other.	The teacher is not the only one who can verify whether or not a pattern is correct. There is a right way to complete a pattern.
9-18 Day 4	Mrs. T: today we're going to do patterns with tiles		Re-invoking the process for constructing tile patterns.

	but we're also going to record our patterns in order to do that you need to pay careful attention (Mrs. T constructs a simple pattern on the board) ...break... today you are going to work on building your own patterns you may make as many patterns as you want to until you find one that you really like ...break... (T constructs another pattern) and you know what I like that pattern so I am going to record it I have my graph paper ...break... I'm going to record my pattern so I start here (puts crayon in corner of paper) how many do I color in Ramon	The students watch as Mrs. T builds this pattern and they tell her which number of tiles to put next when prompted. The students watch as Mrs. T constructs a different tile pattern.	Introducing a new step in the process of constructing patterns...that of recording. Before recording, construct many different patterns. From these, select one that you like to record.

	(Mrs. T colors in one square) and then how many	Ramon: one Students: two	
	(Mrs T. colors in two squares) and then how many	Students: three	
	(Mrs. T colors in three squares) and then how many	Students: two	
	(Mrs. T colors in two squares) and then how many	Students: one	
	(Mrs. T colors in one square) is this my pattern am I done		
	why Manuel	Manuel: no	Re-establishing the characteristics of a pattern.
	does this repeat itself yet	you have to repeat	
	so I keep going	Students: no	

	(Mrs. Tuyay asking the students how many squares she should color and coloring the number with which they respond) Mrs. T: everybody needs to get at least one pattern recorded today ...break... alright open your tiles and get started	The students continue to tell Mrs. T how many squares she should color. The students open their tiles and begin constructing patterns. The students select a pattern that they want to record and record it on graph paper.	

the establishment of a particular process for constructing patterns, one that included watching what the teacher was doing and then constructing the same pattern.

Another instance of intertextuality was proposed by Mrs. T as she told the students to watch as she constructed a tile pattern in a different way (lines 1453 and 1457). She suggested that the students were going to need to watch carefully in order to determine how the pattern was constructed and to be able to construct and extend it on their own (lines 1457-1461). By building the same pattern and extending it, the students signaled their recognition and acknowledgment of this intertextual link. The consequence of this instance of intertextuality was the recognition that although there were different ways to construct tile patterns, the process for doing so was still similar. That is, one needed to observe (watch) to determine the pattern, construct the same pattern and then extend it.

On Day 3 (9-16), the process for constructing tile patterns was again established as the students constructed a pattern that Mrs. T had made on the board. On this day however, the tile pattern constructed was more complex. Each step in the pattern did not increase as they had before. Rather, the patterns presented on this day grew to a certain height and then decrease in a predictable manner (see Appendix I for examples). In order to get students to pay attention to this, Mrs. T had the students stop what they were doing

(lines 1397-1399) and watch how she would repeat what she had constructed on the board to make it a pattern (lines 1407-1409). The students recognized and acknowledged this by contributing the number of tiles to be placed on the board at each step (lines 1414, 1417, 1419, 1421). They additionally signaled their recognition and acknowledgment by extending the pattern at their tables. This intertextual tie was significant as it showed how the construction process could be applied to more complex patterns and provided further evidence of the students' understandings of "patterns."

There were other opportunities for students to develop intertextual links proposed by Mrs. T on Day 3 when she told the students that they were going to construct their own patterns for their friends to extend (lines 1448, 1452-1455). The students recognized and acknowledged this proposal by beginning to build with their tiles. As the students switched seats and attempted to extend a peer's pattern, many discovered that something other than a pattern had been constructed (lines 1653-1656). This "frame clash" made visible a need to revisit what the students had previously learned. Mrs. T asked the students to "remember what they knew about patterns" (lines 1658-1659, line 1751). The students recognized and acknowledged this by responding that a pattern repeated itself (lines 1758-1762, line 1770). Mrs. T then asked the students to construct a simple pattern (line 1775), thus proposing an intertextual link to the

previous days' patterns. The students responded by successfully

constructing simple patterns for their peers to complete. These ties

were significant because they re-established the characteristics of a

pattern and suggested that it may take more than one try to construct a

pattern by oneself. Finally, the students were given an opportunity to

determine whether or not their patterns had been successfully

completed (lines 1798-1800). The consequence of this instance of

intertextuality was that students realized that the teacher was not the

only person who could determine successful completion of a pattern.

It was also consequential because it required the students to draw

upon their previous experiences to successfully make this

determination.

On the final day of constructing patterns with tiles, a new aspect

of the process was introduced: recording (lines 1176-1177) (i.e.,

drawing a record on graph paper). By watching Mrs. T construct

several patterns similar to those from the first four days of this cycle of

activity, and decide which one to select for recording, the students

signaled their recognition and acknowledgment of this intertextual link.

They successfully told Mrs. T how many squares to color as she

recorded her pattern on graph paper (lines1282-1299). This was

socially significant as it introduced recording as a step in the pattern

construction process. The students also recognized that what Mrs. T

had recorded was not yet a pattern, since it did not repeat (lines 1298-

1305), and they continued to tell her how many squares on the graph paper should be colored at each step.

Summary of tile patterns. Through the examination of these intertextual ties it is possible to see how the students in this class were further developing their understandings of patterns and how to construct them. They were introduced to a process for constructing tile patterns on Day 1 and were able to use this process on subsequent days (2-5). When introduced to the final phase of the pattern construction process (i.e., recording), the students were able to use what they had learned previously to help Mrs. T record her pattern on graph paper.

Patterns with cubes. To investigate how the students' understandings of this process were further developed and refined, I examined events focusing on pattern construction using colored unifix cubes during the next 5 days of the cycle (Days 6-10). The pattern construction process that was used with tiles was also used with these cubes.

As constructing patterns with cubes was introduced, there were instances of intertextuality that were constructed by the members of this class. The first one occurred as Mrs. T introduced the activity for Day 6 (9-22):

```
1000  Mrs. T:     okay
1001              we are going to be
1002              making patterns today
```

1003		with something other than tiles
1004		and in order for us to do that
1005		everybody needs one of these strips of paper (holds up paper)

---break in transcript---

1009		and we will be working with cubes
1010	Students:	cool
1011	Mrs. T:	I will give you cubes
1012		and you will have five minutes of exploration
1013		you can play with them and build whatever you like
1014	Andrew:	yeeesss

...break in transcript...

| 1021 | Mrs. T: | (distributes cubes) |
| 1022 | Students: | (begin exploring) |

In this excerpt, Mrs. T informed the students that they would again be constructing patterns but that they would be doing so with cubes (lines 1000-1005), which was different from what they had been doing the past 5 days. As Mrs. T announced that they would be using these cubes, the students responded collectively with "cool," (line 1010), signaling their recognition and acknowledgment of this proposal. This tie (utilizing the same process used previously) is socially significant because it establishes that patterns can be constructed with a variety of materials.

As the students began to explore with their cubes, additional instances of intertextuality were proposed. This time, the students

(Elizabeth, Daniel, and Ramon) were the ones who were proposing

them:

Instance One:

1119	Elizabeth:	hey Mrs. T
1120		I have a pattern
1121	Mrs. T:	you do
1122	Elizabeth:	(holding up her cubes)
1123		blue yellow blue yellow blue yellow
1124	Mrs. T:	yep

Instance Two:

1130	Daniel:	Mrs. T
1131		(holds up two towers, one with an AB pattern (red/blue cubes) and one with AABB pattern (black/white cubes)
1132		I did two patterns
1133	Mrs. T:	you sure did

Instance Three:

1141	Ramon:	Mrs. T
1142		I did another pattern (points to cube tower)
1143		blue green red
1144		blue green red
1145	Mrs. T:	very good

In each of these instances, the students are proposing intertextual

links to previous experiences with constructing patterns, and calling

Mrs. T's attention to them (lines 1119-1120, 1130-1132, 1141-1144).

Mrs. T recognized and acknowledged each of these (lines 1124,1133,

1145). These are significant because they demonstrate how students'

previous learning experiences are consequential in their free

exploration. They chose to follow the teacher's directions and

successfully constructed patterns with cubes.

As this cycle of activity continued, the students constructed and recorded various patterns with colored unifix cubes (Days 6-10). They used the process that was previously established when working with tiles: observing to identify the pattern, constructing the pattern, extending the pattern, and recording it. Eventually, the students constructed and recorded their own cube patterns (Days 7 and 10) just as they had with tiles.

Summary of Weaving an Intertextual Web

Throughout these analyses, I examined how the math events of this cycle of activity were intertextually tied, and how these ties allowed the students to further develop their understandings of the practices of identifying and constructing patterns. Through this weaving of an intertextual web, and the linking of these literate practices and academic content, the students were provided with multiple opportunities for learning and becoming academically literate. These opportunities are further discussed in the next section.

Opportunities for Learning

To explore the opportunities for learning that were constructed in and through the intertextually tied events in this cycle of activity, further analysis was conducted. This analysis built upon the previous ones. Specifically, the instances of intertextuality and the previous

transcripts were examined to identify the opportunities for learning that were constructed. This analysis is presented in Figure 5.2.

By doing a domain analysis (Spradley, 1980) using the semantic relationship X is a result of Y, a range of opportunities that were provided across events and activities in this cycle of activity was made visible. Each of the different kinds of pattern activities (e.g., snap-clap, people, tile, cube) provided a variety of opportunities for learning. For example, the events related to constructing tile patterns allowed the students to learn that:

- Patterns involve working
- Learning to identify patterns is an ongoing
    process
- There are different kinds of patterns
- There is a rule or logic to patterns
- One needs to apply the logic to determine the
    pattern
- Identifying patterns requires observation
- One can use previous experiences to help
    identify and construct patterns
- There is a process for constructing patterns
- Constructing patterns requires practice

What becomes visible through this analysis is that through the intertextual linking of events, students were provided with multiple opportunities for learning about identifying and constructing patterns. As these opportunities were provided across activities and events, the students were allowed to develop, expand and refine their understandings of how to utilize these practices in math.

Snap-Clap Patterns

People Patterns

Tile Patterns

Cube Patterns

Pattern Stations

Patterns involve working

Learning to identify patterns is an ongoing process

There are different kinds of patterns

Patterns can be named in different ways

There is a rule or logic to a patterns

One needs to apply the logic or test the rule to determine the pattern

Identifying patterns requires observation

One can use previous experiences to help identify and construct patterns

There is a process for constructing patterns

Constructing patterns requires practice

Figure 5.2. Opportunities for Learning Created Through an Intertextual Web

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Taking Up Opportunities for Learning

The focus of the previous analyses was the identification of potential opportunities for learning. As Alton-Lee and Nuthall (1992) and others (Tuyay, Jennings, and Dixon, 1995) have shown, once opportunities for learning are identified, it is then possible to examine which opportunities are taken up by the students and how they use them to further their learning. This analysis investigates how the previously identified opportunities for learning were taken up (or not) by the students. To accomplish this, the videotapes and transcripts from each of the events were re-analyzed to locate the students' actions and interactions. These were examined for evidence of take-up, either through the talk, actions and/or products that were being created. The results of this analysis are presented in Table 5.14. As this table indicates, these opportunities for learning were taken up in various ways by the students. Two events, "Identifying patterns in the classroom" and "Pattern Stations" (those with stars on the table) were selected to further show this.

Identifying Patterns in the Classroom

The first event, "Identifying patterns in the classroom" occurred on the third day of the patterns cycle of activity (see Table 5.15), as a transition between the official ending of math and lunch. Mrs. T asked

Table 5.14: <u>Students' Take-Up of Opportunities for Learning - Math</u>

Opportunities For Learning	Evidence of Take-Up	Line #	Discourse Samples/Videotape Data
Patterns involve working	-Students construct & extend the teacher's patterns (Days 1-10) -Students construct & record their own patterns (Days 4, 5, 7, 8, 9, 11, 12)		Videotape data from Days 1,2, 3, 4, 5, 8, 9, 10) shows that the students are working on various patterns. Data from Day 9 show that there were recorded cube patterns posted on the board.
Learning to identify patterns is an ongoing process	-Students identify patterns across days in this cycle of activity (Days 1-12)		Videotape data shows that the students identify patterns each day during the cycle of activity and then across they school year.
There are different kinds of patterns	-Students identify & construct snap-clap, tile, and cube patterns (Days 1-10) -Students identify various patterns in the classroom (Day 3)* -Students identify various patterns during stations (Days 11 & 12)	1810 1811 1819 1820 1824 1825 1826	Mrs.T: I want everybody to look around the room and see any patterns in the room ...break.... Mrs.T: okay who would like to share their pattern with us ...break... Carmen: (points to megaskills) red yellow yellow red yellow red red yellow

| Patterns can be named in different ways | -Students name & rename snap-clap patterns using letters, numbers, & colors (Days 1-8)
 -Students name & rename various patterns drawn on the board (Days 9-12) | 1245
 1246

 1247
 1248

 1257
 1258

 1259
 1265
 1266

 1268

 1269
 1270
 1271 | Mrs. T: Jennifer
         If you were going to put
         letters to this
         what would they be
 J: aa bb
 ....break in transcript
 Mrs. T: Paul
         If you were going to put
 Mrs. T: numbers to this
         What would they be
 Paul: 11
         22
 ...break in transcript....
 Mrs. T: If you were going to put
         colors to this Elizabeth
         what would they be
 E: um
         red and pink |
| There is a rule or logic to a pattern | -Students identify Mrs. T's rule in people patterns (Days 1-8)
 -Students identify rules in patterns drawn on the board (Days 9-12)
 -Students identify rule in patterns at stations (Day 12) * | 1282
 1283
 1284
 1285
 1286
 1287
 1288 | Mrs. T: what is my rule
         what is the patttern
         you have to look
         Marty
 Marty: small big
 Mrs. T: kay
         let's look |

| One needs to apply the logic or rule to determine and extend the pattern | -Students extend people patterns created by Mrs. T (Days 1-8)
-Students extend tile & cube patterns created by Mrs. T. (Days 1-10)
-Students extend tile patterns created by a peer (Day 3) | 1242
1243
1244
1245
1246
1247
1248
1249
1250
1252
1253

1263
1264 | Mrs. T: kay
 Now
 Is this a pattern yet?
Sts: no
Mrs.T: so I need to keep going don't I
Sts: yaa
Mrs.T: and I start with what
Sts: one
Mrs.T: and then what do I put
Sts: two
Mrs.T: (puts two tiles)
...break...
Mrs.T: is that a pattern here now
Sts: ya |
| Identifying patterns requires observation | -Students watch Mrs. T construct snap-clap, people, tile and cube patterns (Days 1-10)
-Students look around the classroom to identify patterns (Day 3) | 1401
1402

1403
1404
1405

1406
1407
1408
1409
1410
1411
1412

1413 | Mrs. T: JC
 Your pattern isn't like mine
 (points to the board)
 how many tiles did I start with
JC: one
Mrs.T: so how many should you start with there
JC: here?
Mrs.T: look over there (pts. to board)
 And then look at yours
 Or look over at Linda's
 And then look at yours
JC: (goes to board and looks)
 (returns to seat and adds to pattern)
 I get it |

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One can use previous experiences to help identify & construct patterns	-Students use patterns to do other math activities (Day 2) -Students make patterns with their unifix cubes during free exploration time (Day 5) *	1150 1151 1152 1153 1154 1155 1156 1157 1158	Mrs. T: okay So you were really counting by what R: twos Mrs. T: you were really counting by twos And here they were able to get quite a few Because they were using What we talked about yesterday Mrs. T: were you using a pattern? R: yeah
There is a process for constructing patterns	-Students construct & record their own tile patterns (Days 3 & 4) -Students construct & record their own cube patterns (Days 7, 10)	1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512	Mrs.T: I'm going to write the pattern on the board and then you are going to tell me what mine would be and then you are going to put yours together (writes on board) what comes next Sts: a Mrs. T: what's next Sts: b Mrs.T: what's next Sts: c Mrs.T: kay Who can tell me what colors I put first on my pattern Daniel: red Mrs.T: red is my a Then what do I put Carmen: orange

| Constructing patterns requires practice | -Students need to construct their own tile patterns again (Day 3)
-Students construct multiple tile & cube patterns (Days 2-10)
-Students construct various patterns during station activities (Days 11, 12) | 1486

1487
1488
1489

1490
1491
1492 | Elizabeth:I'm done (looks up from tile pattern)
    (to Mrs. T) is that right
Mrs.T: nope
    It went wrong right here
    (points to place in patttern)
    see if you can fix it
    try again
Elizabeth: (resumes working on pattern) |

Table 5.15: <u>Event Map for Identifying Patterns in the Classroom</u>

Sub-Events	Phases	Interactional Spaces	Languages Available	Actions
1. Identifying Patterns		-Pairs-WC -TG-WC	English & Spanish	-observing -talking with others -identifying patterns in classroom environment
2. Sharing Patterns with the Class		I-WC	English & Spanish	-sharing ideas -explaining patterns -explaining rule/logic of patterns -applying the rules -testing the rules -making decisions

to the students to consider the patterns that existed in the classroom

environment (lines 1810-1816):

1810	Mrs. T:	I want everybody to look around the room
1811		and I want you to look around the room
1812		and see any patterns in the room
1813		and if you see a pattern somewhere
1814		just simply raise your hand
1815		están buscando patrones *(you are looking for patterns)*
1816		en el salón *(in the classroom)*

The students were given approximately 2 minutes to look around the

room and identify patterns. They were then asked to share these with

the rest of the class. Several students volunteered:

Volunteer 1: Carmen

1825	Carmen:	(stands up and goes to the front of the room and points to the charts above the chalkboard)
1826		red yellow yellow red
1827		yellow red red yellow
1828		red yellow yellow red
1829		yellow red red yellow

---break in transcript---

1833	Mrs. T:	kay
1834		is that a pattern
1835	Students:	yaaaa
1836	Mrs. T:	good job Carmen

In this excerpt, it is possible to see that Carmen has been able to

identify a pattern (lines 1826-1829) in the classroom through her

observations of the various displays on the walls. She noticed that

one of these (the charts above the chalkboard) were on red and
yellow paper and arranged as a pattern. The class was then able to
verify that what she identified and reported was a pattern (lines 1834-
1835).

The second volunteer located another pattern:

Volunteer 2: Marty

1842	Marty	the lights
1843	Mrs. T:	are the lights in a pattern
1844		how
1845		what is the pattern in the lights
1846	Marty:	(inaudible)
1847	Mrs. T:	kay
1848		how does it repeat itself
1849		does that repeat
1850		let's find out
1851		everybody look up here
1852		(points to the lights with a yardstick) no light
1853		light
1854		light
1855		say it with me
1856	Students:	no light
1857		light
1858		light
1859		no light
1860		light
1861		light
1862	Mrs. T:	(goes to back of room) let's see if work back here
1863	Students:	no light
1864		light
1865		light
1866	Mrs. T:	does that work
1867		is that a pattern
1868	Students:	yaa

This example shows that Marty was able to **identify a different pattern** in the classroom. When he suggested that the lights were a pattern, it was not immediately evident (to Mrs. T) how this was the case (lines 1843-1845). Marty further **explained the rule** he was using (lines 1846-1854). By **using their previous experiences,** the students were able to **apply Marty's rule** and determine how the pattern repeated itself (lines 1863-1868).

The next volunteer, Paul, located another pattern on the sign on the back bulletin board:

> **Volunteer #3: Paul**
> 1895 Paul: the sign
> 1896   101
> 1897 Mrs. T: what would come after the one
> 1898 Paul: zero
> 1899 Mrs. T: okay
> 1900   do you agree
> 1901   Is that a pattern
> 1902 Students: yaaa

This excerpt shows that Paul was able to **identify a** partial **pattern** through his **observations** (lines 1895-1896). It also demonstrates that he was able to **apply the rule** to determine how to complete this pattern (line 1898). The class then agreed that this was a pattern (lines 1900-1902).

The next volunteer, Luciano, discovered a pattern in the classroom windows:

Volunteer #4: Luciano

1905	Luciano:	the windows
1906	Mrs. T:	what about them
1907		how are they a pattern
1908	Luciano:	(goes to the windows)
1909		(inaudible)
1910	Mrs. T:	everybody look up here
1204		Luciano is talking about if they have screens
1912		(pointing) screen
1913		no screen
1914		screen
1915		what would be next
1916	Students:	no screen
1917	Mrs. T:	good job Luciano

Here it is possible to see that Luciano was able to show Mrs. T the

rule for his pattern (lines 1908-1909) and was able to explain it to

her (this can be inferred from how she responded to his inaudible

comments). The class was then able to **apply this logic** to

determine what would come next in the pattern (lines 1915-1917).

Paul and Luciano both introduced a new rule—that it was possible to

identify a partial pattern and then determine how to complete it. By

recognizing and acknowledging their proposals, Mrs. T and the

students suggested that this was acceptable.

By considering all of these examples together, we can see that

the students took up the following opportunities for learning:

- There are different kinds of patterns
- There is a rule or logic to patterns
- One needs to apply the rule or logic to determine the
  pattern and extend it

- Identifying patterns requires observation
- One can use previous experiences to identify patterns

While it is not possible to claim that the students took up the same opportunities in the same way, it is possible to see the range of ways the students were able to use the practice of identifying patterns. This analysis also demonstrates that the students were beginning to expand their understandings of this practice to other situations outside of math.

Pattern Stations

To further investigate opportunities for learning and how the students took them up, another event was analyzed. This event was selected because it allowed for the examination of how a common event is constructed differently across groups of students. This event ("pattern stations") (see Table 5.16) took place on Day 12 of the "Looking for Patterns" cycle of activity. It consisted of four sub-events: introduction to learning logs, explanation of stations, doing pattern stations, and reflecting in learning logs.

The next step in this analysis was the construction and examination of running records for this event (see Chapter 3 for a complete discussion of running records). This analysis indicated that in the first sub-event, Mrs. T introduced and explained the purpose of learning logs. On this day, the learning logs were to serve as a place to record the information and patterns from each of the five stations.

Table 5.16: Event Map for Pattern Stations (Day 12)

Sub-Events	Phases	Interactional Spaces	Languages Available	Actions
1. Introduction to Learning Logs	1a-explaining logs 1b-uses of logs	T-WC	English	-listening -looking at logs -writing names on logs
2. Explaining Stations	2a-preparing logs 2b-explaining materials 2c-demonstrating activity 2d-checking for understanding	T-WC I-WC	English & Spanish	-listening to directions -making pages for recording -watching demonstration -answering questions
3. Doing Pattern Stations	3a-doing first station 3b-doing second station 3c-doing third station	TG-WC	English & Spanish	-constructing patterns -identifying patterns -using tables and charts to record -reading -working with others -sharing ideas
4. Reflecting		I-WC	English & Spanish	-writing in learning log -reflecting on experiences -identifying patterns -defining patterns -expressing opinions -assessing activities -assessing self

In the next sub-event, Mrs. T explained the directions for the station activities. At each station, the students were required to read the task card, determine the requirements of the activity, construct a pattern, and record the results on tables in their learning logs. After they had recorded their findings, they were to identify what they thought to be the pattern for each station. This too, was recorded in their learning logs. After explaining the directions, Mrs. T checked to make sure that the students understood them.

In the fourth sub-event, the students began working in their groups at the pattern stations. Because of the camera placement, the videotape data from this sub-event makes it possible to examine how three different groups approached the same pattern station activity called "interlocking towers." This allowed me to analyze how the opportunities for learning in a common task were constructed by the students and which of these were taken up and how.

The task called "interlocking towers" was described on the card at this station. This task card included the following directions (for a complete description with visuals, see Appendix I):

> Suppose you build a tower of five interlocking cubes that is 99 cubes high. And suppose that you have to paint each square on the tower. How many squares would you have to paint?
>
> With a tower that is only one cube high, there are five squares to paint-four sides and a top (don't count the bottom).

With a tower that is two cubes high, there are nine squares. How many squares for a tower three cubes high? Four? Make a chart" (Burns, 1992, p. 116)

	Cubes	Squares
1812	5	
1813	9	
1814	?	

Each group that came to this station was directed to read the activity card and to work together to determine how to construct a table and record their findings.

Constructing a common task in different ways. The next step in this analysis involved re-examining the running records to understand how this common task (interlocking towers) was constructed by each of the three groups that came to this station. From these running records, it was possible to determine how time was spent in each group (see Figures 5.3a-5.3c) providing one piece of evidence of how they were constructing this task.

All three of the groups began by determining who was going to read the task card. What differs however, is the amount of time spent making this decision. Groups B and C then read the card aloud, while group one proceeded to try to find the materials they needed for the task. Next, all of the groups made their charts and began to record information. In each case, they were assisted by the teacher (or in the case of group C, the university researcher in this classroom) as they

GROUP A

O minutes
→ Determining who will read the card

→ Trying to find materials
→ Teacher explains the task

→ Making charts in learning logs
→ Recording first information

5 minutes
→ Working with the teacher
→ T leaves; working on own

→ Noticing and discussing the stopped clock
→ Resume working

10 minutes
→ Teacher rejoins group; works w/one student

→ Recording pattern in learning logs

15 minutes

→ Cleaning up

20 minutes

Figure 5.3a. Timeline Showing How Time Was Spent in Pattern Station

GROUP B

O minutes

→ Determining who will read the card
→ Reading the card
→ Begin working/Teacher joins group
→ Working with teacher

→ T leaves group; working on own
→ Counting and recording

5 minutes

→ Counting and recording

→ T rejoins group; identifying & discussing
10 minutes   pattern
→ Resume working on own

→ Recording pattern in learning logs

→ Writing in learning logs

15 minutes

→ Cleaning up

→ Switching stations

20 minutes

Figure 5.3b. Timeline Showing How Time Was Spent in Pattern Station

GROUP C

O minutes

→ Determining who will read
→ Reading card in English
→ Reading card in Spanish/Singing song
→ Determining what to write on the chart

→ Explaining task

5 minutes

→ Recording information
→ Explaining findings

→ Counting and recording

10 minutes

→ Building a tower

→ Recording the pattern
→ Discussing the pattern

15 minutes

→ Writing in learning logs

→ Cleaning up

→ Returning to seats
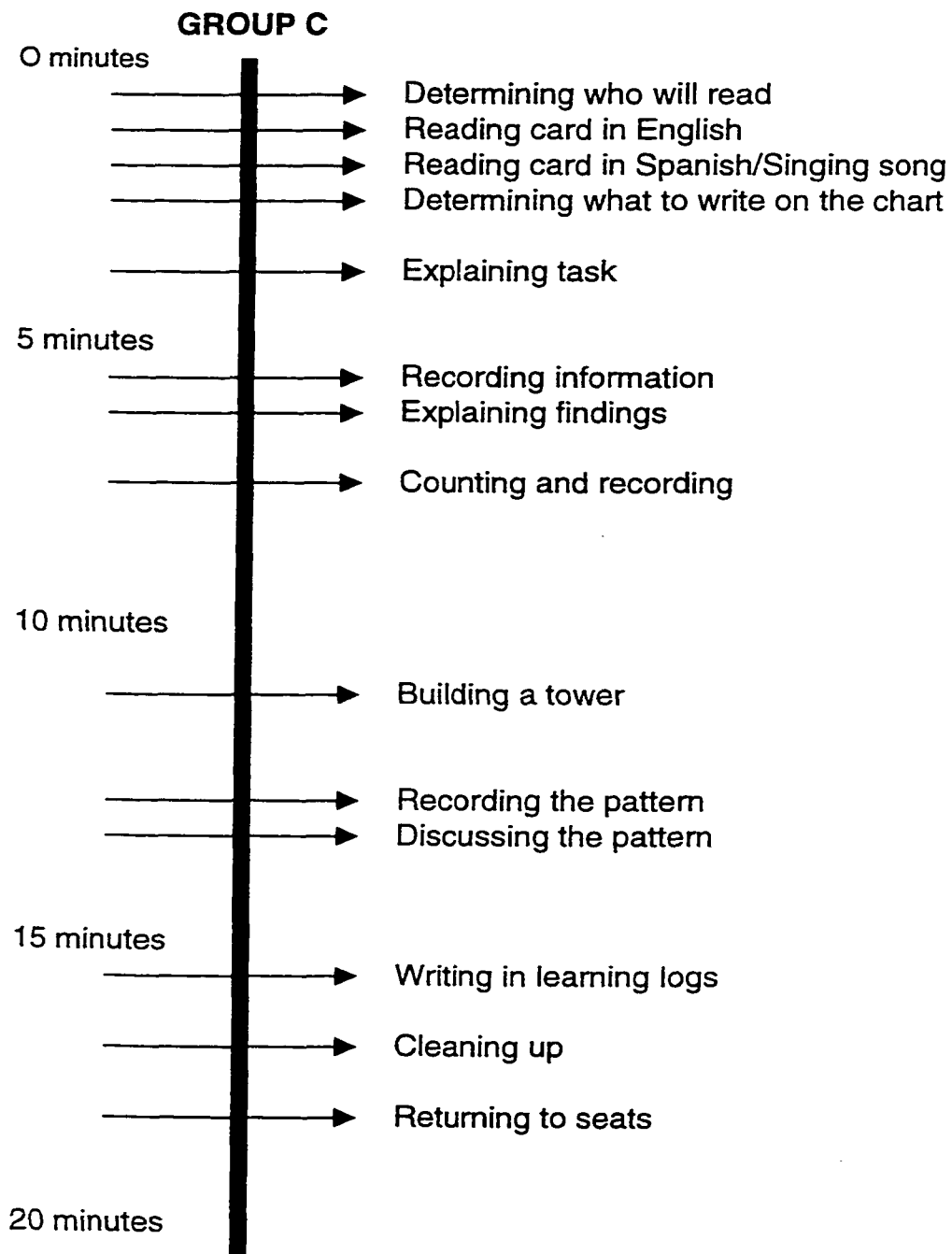
20 minutes

Figure 5.3c. Timeline Showing How Time Was Spent in Pattern Station

did this. What happened after the construction of the charts differed in each group.

Group A continued working with the teacher for approximately 4 minutes. She explained the task to the students and helped them construct the beginnings of their towers and determine the number of sides that would need to be painted. After this, Mrs. T left this group and they then began to work on their own. After approximately 2 minutes of working by themselves, one of the students in this group noticed that the classroom clock had stopped and a discussion began about why. Once the clock resumed working, so did the students. At 11 minutes, Mrs. T rejoined this group. She proceeded to work with one of the students individually after the others ignored her suggestion that they pay attention as well. After 2 more minutes, the students began to record the pattern in their learning logs.

Group B worked briefly with Mrs. T. After approximately 1 minute, she left this group. They continued working on their own, constructing their cube towers, counting the number of sides they would have to paint, and recording the information on their tables. They worked for approximately 5 minutes before Mrs. T rejoined them. At this point, they discussed the pattern with her, and she left. They continued working for approximately 3 more minutes, and were then asked to stop and record the pattern in their learning logs.

After making their charts, group C spent approximately 2 minutes trying to determine what they were supposed to be doing. They then began recording their first information on their charts. After this, the student who read the card aloud (Andrew) reported that he still did not understand the task, and so it was re-explained. The members of this group then resumed constructing their towers and recording their information. At approximately 11 minutes, Andrew began constructing a tower of cubes on the floor. When asked by the university researcher why he was doing this, he responded that it was what they were supposed to do. Other members disagreed and told him what they were doing. He rejoined the group at the table. After 1 additional minute, the students were asked by Mrs. T to record the pattern in their learning logs. This led to a discussion of the pattern at this station as well as the pattern at the previous station. At 16 minutes, this group began to clean up.

The next step in this analysis was the construction of transcripts for each of the groups. These transcripts were then analyzed for the opportunities for learning that were constructed in and through the interactions of the group members. This analysis is presented in Table 5.17.

Examination of this table shows that each of the groups constructed particular opportunities for learning as they interacted with each other during their time at this pattern station. What becomes

Table 5.17: Opportunities for Learning Constructed by Three Groups

GROUP A	GROUP B	GROUP C
-Determining the task involves reading the card and identifying the question -Doing the task requires materials (cubes) -This task requires building a tower out of cubes and counting the number of squares that need to be painted -The chart for recording information needs to be formatted in a particular way -Identifying patterns requires recording information -One cube has five squares (count the sides and the top) -You need to count to determine the number of squares (not guess)	-Determining the task involves reading the card and being able to read all of the words on it -Doing the task · requires cubes and counting -You need to record you information on a chart that has cubes and squares -This task requires that you pretend that you are building and painting a tower -A cube has four sides and a top that need to be painted -Identifying the pattern means considering . the data that has been collected -The number of squares is going up by four each time	-Determining the task involves reading the card as a group (in English and Spanish) -Singing songs is wasting time -Doing the task requires understanding it -Doing the task requires cubes -To understand how to do the task, we need to explain it -There are different ways to construct the towers and count the squares -Information needs to be recorded on a chart -There are different ways of figuring out the problem

-Everyone needs to be able to reach the cubes -Working together means working by yourself alongside others -The clock stopping means that you need to figure out why -Paying attention to what the teacher says may help you understand the task -Determining the pattern means looking at what you have recorded -Recording the pattern in your learning log requires that you did the task appropriately -If one chose not to do the task, one will be able to identify the pattern	-The pattern is adding four or going up by four -Working together means working with each other -Working together means helping each other -Recording the pattern in your learning log means going back and analyzing the data -Members need to talk and work together to find the pattern	-One needs to be able to explain how s/he solved the problem -Figuring out the number of squares to be painted means counting them -One cube has four sides and a top -Working together means helping each other -Working together means working as a group -Building a tower doesn't mean to build one on the floor -Identifying the pattern requires analyzing the data (looking at the chart) -The number of squares is going up by four -The pattern is going up by fours

visible is that there were common opportunities constructed across groups:

- Determining the task involves reading the card
- Doing the task requires cubes
- Information needs to be recorded on a chart with the heading cubes and squares
- Identifying the pattern means considering the data
- The pattern is going up by fours

There were also opportunities for learning that were constructed differently by each group. For example, group A defined working together differently from the other two groups. In this group, working together meant working individually alongside others. There was very little negotiation or sharing of information among the members of this group. In groups B and C, working together meant working with each other. In each of the groups, they shared information and helped one another. Another difference between these groups is how they dealt with topics that were related to the task at hand. Group A had a conversation about the clock stopping. They all stopped what they were doing, looked at the clock and then proposed possible explanations for why it had stopped. Group B did not have any conversations that were not related to the task. In group C, when one of the members starting singing a song, he was told by another group member that he was "wasting time." These differences show how the interactions in the groups led each of them to construct this common task in different ways.

Summary of constructing a common task in different

ways. These analyses made visible how this common task was

constructed similarly and differently by each group. While each of the

groups began by reading the card aloud and trying to determine the

task, the amount of time that it took to accomplish this differed as did

what it meant to "read the card." What also differed was how the

groups spent their "work" time. Group A spent the least amount of time

working on their own without the help of the teacher to keep them

focused. Group B was able to work for approximately 10 minutes (on

their own) constructing towers, counting the number of sides to be

painted, and recording the information. Group C worked the entire

time with the university researcher. They spent the majority of their

time (11 of 18 minutes) explaining the task and trying to understand it.

By examining how these groups spent their time, and how they

interacted, it is possible to see how they constructed opportunities for

learning. To determine what the students were able to understand

about patterns and how they used the practice of identifying patterns

(i.e., how they took up these opportunities for learning), further

analysis was conducted.

Determining the pattern. This analysis involved re-

examining the transcripts to show how each of these three groups

approached the identification and recording of the pattern at this

station. I chose to deliberately focus upon the take up of opportunities

for learning specifically related to the identification of patterns, as this is the practice being investigated in this chapter. The transcript segments that were used for this analysis are presented in Table 5.18). In group A, Mrs. T worked with an individual student (James) and helped him to identify the pattern (column one, lines 1453-1458). She assisted him in determining how to apply the rule of the pattern to determine the next number of squares to be painted on his tower without actually counting them (column one, lines 1458-1467). This excerpt shows that one student, James, was able to **determine the rule** of the pattern and **apply it.**

Prior to this excerpt, Mrs. T had suggested to the other group members that they pay attention to what she and James were doing, but they did not take up this opportunity. Consequently, when they were asked to record the pattern in their learning logs, they realized that they had not been able to determine the pattern for this station (column one, lines 1479-1485). As three of the students admitted, they had "messed up." James was able to tell them the pattern that he had previously identified with the teacher.

The transcript evidence from the second group (B) (see Table 5.18, column two) indicates that this group was able to **identify the rule** of the pattern and **apply this rule** when asked to do so by Mrs. T (lines 1615-1632). Excerpt Two shows that when asked to record the pattern in the learning logs, there was some confusion (lines 1713-

Table 5.18: Identifying the Pattern at the Interlocking Towers Station

Group A		Group B		Group C	
Excerpt One:		Excerpt One:		Excerpt One:	
1451 Mrs. T:	(working with James)	1615 Mrs.T:	what's the pattern you guys	2409 C:	do we know what the pattern is
1452	now	1616	what is it going up by on the squares side	2410	begins to write) I think the pattern is
1453	do you see a pattern				
1454 J:	ohhhh	1617 L:	by five	2411 L:	what did you write down C
1455 Mrs.T	what is it going up by	1618 Mrs. T:	look again		
1456 J:	four	1619	five to nine to thirteen is what	2412 C:	well look
1457 Mrs.T:	right			2414	and think about it
1458	nine plus four is thirteen	1620 L:	odd	2415	think about it
1459	and thirteen plus four is seventeen	1621 Mrs.T:	ya it's odd (leans over & points to L's log) but five plus what is nine	2416	ook at the numbers
1460	so if you have five here	1622		2417	every time you add how many to get to the next number
1461	put five (points to log)	1623 J:	fours	2418 C:	(whispers) four
		1624 Mrs. T:	nine plus what is thirteen	2419 L:	that's the pattern
1462	if you didn't know				
1463	if you didn't count	1625 J:	four		
1464	how would you figure that out	1626 Mrs.T:	thirteen plus what is seventeen		
1465 J:	add four	1627 J & L:	four		
1466 Mrs. T:	so	1628 Mrs. T:	seventeen plus what is twenty-one		
1467 J:	twenty one	1629 R:	four		
1468 Mrs.T:	good for you you're thinking	1630 Mrs.T:	twenty one plus four is twenty five		
		1631	so what's the pattern		
		1632 J:	it's going up by fours		

Excerpt Two:	Excerpt Two:	Excerpt Two:
1479 L: I think the pattern is (says each word as she writes it)	1712 R: I think the pattern is going by fours	2423: (C puts her cubes away)
1480 JC: Yo pienso que el patrón es	1713 L: I think the pattern is five squares	2424 A: what is the pattern
1481 E: I think the pattern is	1714 R: but it's going up by four	2425 I forgot what I was going to write
1482 I did it wrong	1715 L: one cube	2426 oh
1482 (overlaps) D: I say	1716 five squares	2427 I know the pattern
1483 I messed up	1717 (puts her cubes away)	2428 M: C
1484 L: I did it wrong too	1718 J	2429 what's the pattern
1485 E: I did the pattern wrong	1719 what did you write	2430 C: (closes her learning log)
1486 J: I did it right	1720 J: one cube five squares	
E: (looks over at Jon's log)	1721 L: huh	
1487 I think the pattern is	1722 cuz we're doing it by fours not by fives	
1488 J four	1723 J: (showing the cube) you count to top	
1489 It goes up by four		

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1716, 1720-1723). It is interesting to note how L switched her thinking from "I think the pattern is five squares" (line 1713) to "we're doing it by fours not fives" (lines 1721-1722) after this discussion. These excerpts also show that when working with Mrs. T, both J and L were able to see that the pattern was going up by fours (lines 1623, 1625, 1627, 1632). This suggests that it is important to consider multiple sources of information when examining how students take up opportunities for learning. If one were to simply look at the students' written records (i.e., their learning logs), it would not be possible to see that they had previously taken up various opportunities for learning. This raises questions about how to assess or evaluate opportunities for learning, which will be explored in Chapter 7.

As the students in group C began to record the pattern in their learning logs, there was a discussion between one of the students (C) and the university researcher (L) who was working with this group. C was not immediately sure of the pattern (lines 2409, 2412). After considering the question posed by L (lines 2413-2417), she is able to state the rule (line 2418). She wrote this in her log and then closed her log refusing to show it when asked by another member of the group to tell him the pattern (line 2430).

Summary of Taking Up Opportunities for Learning

Together, these analyses show that not all common tasks will be interpreted and acted upon by students similarly (Alton-Lee &

Nuthall, 1992). What is visible is how this common task was constructed differently by each of the three groups through their actions and interactions, and how they spent their time. It is also possible to see how the students took up (or did not take up) particular opportunities for learning at this station.

Through these analyses, it is possible to see the range of opportunities for learning that the students were provided in this classroom. By examining how the math events in the **"Looking for Patterns"** cycle of activity were intertextually tied, it was possible to see how the students were provided with opportunities to develop, expand, and refine their understandings of the literate practices of identifying and constructing patterns.

Identifying and Constructing Patterns in Writing

The previous analyses showed how the students utilized the practices of identifying and constructing patterns in math. To explore how these practices were developed across content areas, further analysis of the writing events ("A House Is a House for Me," "The Napping House," and "Fortunately"[6]) in the **"Looking for Patterns"** cycle of activity was conducted.

This analysis began by identifying the opportunities for learning that were provided in the writing event discussed earlier (see Table 5.7). The other events ("The Napping House" and "Fortunately") were

then examined to see how these opportunities for learning were similar and different across events. This analysis is presented in Figure 5.4. As this figure shows, a range of opportunities were provided across all three events. These included:

- Stories/books have patterns in them
- One needs to listen carefully to identify the pattern
- One can use a similar pattern to write his/her own story
- A pattern repeats itself
- In a story, the pattern may be in the words
- Writing involves thinking of ideas
- One can incorporate one's own ideas into the pattern from the book
- The same pattern can incorporate many ideas

The next step was to explore how the students took up these opportunities for learning in writing. To accomplish this, transcripts of these events were constructed. These transcripts, as well as other data sources (students' books) were examined for evidence of take-up. The results are presented in Table 5.19.

As indicated in this table, the students took up these opportunities for learning in various ways. They were able to verbally identify the patterns in the stories both in the words and in the illustrations. They also used these patterns to construct their own sentences (Day 1 - see Appendix H) and books (Day 10 - see Table 5.21). Further evidence of their take up of these opportunities for learning occurred on Day 19 of this cycle of activity when the students shared their Fortunately books with the class. During phase 5d of the sub-event "writing stories" (see Table 5.20), the students were

Stories/books have patterns

One needs to listen carefully to identify the pattern

Once can use a similar pattern to write his/her own story

A pattern repeats itself

In a story, a pattern may be in the words.

In a story, a pattern may be in the illustrations

Writing involves thinking of ideas

One's ideas do not have to be the same as those in the book

One can incorporate one's own ideas into the pattern from the book

The same pattern can incorporate many ideas

Books can be written in different languages

You may decide the language in which you want to write

A House Is a House for Me

The Napping House

Fortunately

Figure 5.4. Opportunities for Learning in Pattern Writing Events

Table 5.19: <u>Students' Take-Up of Opportunities for Learning - Writing</u>

Opportunities for Learning	Evidence of Take-Up	Line #	Discourse Samples/Other Data
Stories/books have patterns in them & one needs to listen to identify them	-Students are able to identify the patterns in each of the stories (Days 1, 5, 10)	1009 1010 1011 1012 1013 1014 1015 1016 1017	Mrs. T: raise your hand if you saw a pattern that you would like to share with the class (waits for hands) Isabel Isabel: um color grey Mrs. T: okay one pattern is that one picture is grey and the next picture is colored (shows page)
A pattern repeats itself	-Students are able to identify the aspects that repeat themselves (Days 1, 5, 10)	1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279	Mrs.T: what did you hear over and over what repeated itself Sts: (whisper to the person next to them) Mrs. T: I see Ignacio's hand he wants to tell me Sts: (other students raise their hands) Mrs.T: Ignacio Ignacio: the house the house Mrs.T: and the sentence went W/sts: and a house is a house for .me

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In a story, the pattern may be in the words	-Students are able to identify the sentence in the book that repeats itself (Day 1) -Students are able to identify the words that repeat themselves (Day 10)	1030 1031 1032 1033 1034 1035 1036 1037 1038	Mrs. T: Sts: Mrs. T: E:	did you notice any patterns with the words yes Elizabeth what did you notice um um I can't remember oh ya unfortunately fortunately
In a story, the pattern may be in the illustrations	-Students identify patterns in the pictures in the book (Days 5, 10)	1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139	Mrs.T: Jorge: Mrs.T: Jorge: Mrs.T: Sts: Mrs. T: Jorge:	Jorge do you see another pattern the chair what is the pattern in the chair white brown okay but does that repeat itself ya see white brown (one points to the chair) oh are you talking about the arms of the chair yaa

Writing involves thinking of ideas	-Students generate ideas for their own pattern stories (Days 1, 5)	1522	Mrs. T:	do you have some ideas for different kinds of houses we can do
		1523	Sts:	yaaaa
		1524	Mrs.T:	okay
		1525		Robert what's your idea
		1526	R:	a hamburger house
		1527	Mrs. T:	(records on board) a hamburger house
		1528		we're going to choose one
		1529		so we need to get all ideas up here first
		1530		Ignacio
		1531	Ignacio:	a pig house
		1532	Mrs. T:	(writes on board) a pig house
The same pattern can incorporate many ideas	-Students generate an extensive list of ideas for A House Is a house for Me (Day 1) -Students generate possible kinds of houses (Day 5)			-See Table 5.9 for a list of the ideas generated by students on Day 1, for the House Is a House for Me class book.
One can use a similar pattern to write his/her own story	-Students use the pattern to write a sentence (Day 1) -Students use the pattern to make their own books (Day 10)			-See Appendix H for the text of the class stories from Day 1. -See Table 5.21 for sample text of students' Fortunately stories from Day 10

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Table 5.20: <u>Event Map - Fortunately Pattern Stories</u>

Sub-Events	Phases	Interactional Spaces	Languages Available	Actions
1. Reading the story	1a-reading the story aloud 1b-discussing the story	T-WC Pairs-WC I-WC	English & Spanish	-listening to a story -discussing the story -sharing ideas -asking/answering questions
2. Identifying and discussing patterns	2a-patterns in words 2b-patterns in illustrations	Pairs-WC I-WC	English	-identifying patterns in the words -identifying patterns in illustrations -discussing possible reasons for the patterns
3. Demonstrating use of pattern to write story	3a-Mrs.T's story 3b-Spelling a word	T-WC I-WC	English	-listening and reading what Mrs.T is writing -discussing possible ideas -debating how to spell a word -using a dictionary -sharing information
4. Explaining directions	4a-explaining directions 4b-checking for understanding	T-WC I-WC	English & Spanish	-listening to directions -asking/answering questions

5. Writing stories	5a-drafting stories
	5b-editing stories
	5c-illustrating stories
	5d-publishing stories
		I-WC
		I-TG-WC
		Pairs-WC
		I-WC
		I-WC
			English &
			Spanish
				-generating ideas
				-using pattern to write
				  own story
				-incorporating own
				  ideas into pattern
				  from book
				-working together
				-drafting stories
				-editing stories
				-illustrating stories
				-reading stories

Table 5.21: <u>Taking-Up Opportunities for Learning -</u>
<u>Fortunately Stories</u>

Student	Story	Opportunities Taken Up
Paul	Fortunately I got a good report card Unfortunately I didn't like my new teacher Fortunately I could live with it Unfortunately it got badder and badder Fortunately she got sick and couldn't teach second grade until next year Unfortunately she started to teach third grade and guess who I was stuck with Fortunately she got sick and couldn't teach And fortunately I got a nice teacher for one And fortunately she was a good one	-A pattern repeats itself -In a story, the pattern may be in the words -One can use a similar pattern to write his/her own story -Your ideas do not have to be the same as those in the book
Silvia	Fortunately I went to stop and go Unfortunately it was closed Fortunately we went to eat Chinese food Unfortunately the restaurant moved somewhere else Fortunately we went to K-mart Unfortunately we did not get nothing Fortunately we went to Chuck E Cheese And Fortunately we had pepperoni pizza for lunch	-A pattern repeats itself -In a story, the pattern may be in the words -One can use a similar pattern to write his/her own story -Your ideas do not have to be the same as the ones in the book

Andrew	Fortunately I went to a slumber party	-A pattern repeats itself
	Unfortunately the slumber party was in (inaudible) and I live in Santa Barbara	-A story may have a pattern in the words
	Fortunately there was an airport nearby	
	Unfortunately within an hour the plane crashed	-A story may have a pattern in the illustrations
	Fortunately there was an ocean nearby	
	Unfortunately I didn't know how to swim	-One can use a similar pattern to write his/her own story
	Fortunately a dolphin carried me to shore	
	Unfortunately there were lions on the island	-One can use ideas from the book to generate their own ideas for writing
	Fortunately there was a cave to hide it	
	Unfortunately the lions had keen eyes and could see in the dark	
	Fortunately I knew how to dig	
	Unfortunately I busted in (inaudible) and made a hole in the floor	
	Fortunately (inaudible)	
	Fortunately the lions ran away	
	Fortunately there was cake for me	
	And fortunately there was ice cream for me too	
Marty	Fortunately I got a new bike	-A pattern repeats itself
	Unfortunately it was broken	
	Fortunately my dad fixed it	-A story may have a pattern in the words
	Unfortunately it broke again	
	Fortunately we returned it	
	Unfortunately (inaudible)	-One can use a similar pattern to write his/her own story
	Fortunately we found it	
	Unfortunately it was broken	
	Fortunately (inaudible)	
	Fortunately (inaudible)	-Your ideas do not have to be the same as the ones in the book
	And fortunately I got t ride my new bike	

provided with an opportunity to read their stories aloud to the class.

This phase was videotaped and transcripts were constructed from the

videotaped data. These were then analyzed for evidence of take-up of

the opportunities for learning previously discussed (Table 5.21).

As can be seen in this table, four students (Paul, Silvia, Andrew,

and Marty) elected to share their stories with the class. These

students demonstrated that they had taken up the following

opportunities for learning:

> - A pattern repeats itself
> - In a story the pattern may be in the words
> - One can use a pattern to write his/her own story
> - Your ideas do not have to be the same as those in the
>   book

Additionally, one student (Andrew) shared that his plans for his

illustrations included using color and black and white pictures in much

the same way the author of <u>Fortunately</u> had done.

Summary of Identifying and Constructing Patterns in Writing

These analyses show that the students in this classroom were

able to utilize the practices of identifying and constructing patterns in

Language Arts (as well as math). They were able to listen to three

different stories, and identify the pattern in each. In <u>A House Is a</u>

<u>House for Me</u>, they located the pattern in the words. In <u>The Napping</u>

<u>House</u> and <u>Fortunately</u>, they were able to identify patterns in both the

words of the stories and in the illustrations. They were then able to construct their own pattern stories using the ideas they generated as a class or by themselves.

Using These Practices Across the Year

To this point, analyses have focused on the use of identifying and constructing patterns within the **"Looking for Patterns"** cycle of activity. To see how the students used these practices across the school year, I used them as a "tracer unit" across the year (Tuyay et al., 1995). A tracer unit is an analytic unit that is held constant across time and events. In this case, the tracer unit was the use of the literate practices of identifying and constructing patterns. By using this tracer unit and forward mapping across the data from the school year, I was able to identify those instances where identifying and constructing patterns were the primary focus.[7]

Table 5.22 shows that the students were involved in identifying and constructing patterns in both math and language arts across the school year. In math, the students explored patterns in addition, subtraction, multiplication and division. In Language Arts, one additional pattern story was introduced to the students, The Important Book. The students used the pattern in this text[8] to construct their own books. In one book (The Important Things about Santa Barbara), the students researched various Santa Barbara landmarks and used the

Table 5.22: <u>Instances Across the School Year When Identifying and Constructing Patterns Were a Focus</u>

Math	Language Arts (Writing)
11/6-Identifying patterns in addition	11/23-The Important Book: Using the pattern in this story to construct books about Santa Barbara Landmarks
11/9-Identifying patterns in addition	11/24-Important Books continued
11/10-Identifying patterns in subtraction problems	11/25-Sharing Important Books
11/16-Identifying patterns in repeated addition (multiplication)	6/7-6/10-Important Books-Using the pattern in this story to reflect upon the school year
11/17-Identifying patterns in multiplication (rectangles)	
12/1-Identifying patterns in multiplication (beans and cups)	
4/27-Identifying patterns in division	
4/28-Identifying patterns in division	

pattern in the text to present their information about each landmark. In the other book (Important Things about Room 18), the students used this same pattern to reflect upon the school year and to identify what they considered to be the important aspects of this classroom (see Chapter 4).

What this analysis makes visible is that the students were able to use what they had learned about identifying and constructing patterns in the **"Looking for Patterns"** cycle of activity across the school year. Analysis of videotape data showed that the students were also expanding upon these understandings. For example, in math, the students were now looking for patterns that led to functions in addition, subtraction, multiplication, and division. They were also learning how these operations were related (for example multiplication is repeated addition).

In writing, the students were still identifying and using patterns from a story (The Important Book) to construct their own books. However, they were now incorporating factual information into the patterns. This suggests that the students were applying a "fiction" pattern to "non-fiction" material, providing evidence that they were beginning to expand their understandings of how to use patterns in writing.

Using These Practices Across Content Areas

The previous analyses explored how the literate practices of identifying and constructing patterns were developed and utilized in both mathematics and language arts (writing). To better understand how these practices were used similarly and differently in these content areas, I did a cross-case analysis comparing the two disciplines (math and writing) (Table 5.23). As this table shows, there were common opportunities for learning across the two content areas:

- Identifying patterns requires observation
- There is a logic or rule to a pattern
- There are different kinds of patterns
- Patterns involve working
- One can use previous experiences to help identify patterns
- There is a process for constructing patterns
- Identifying and constructing patterns requires practice
- Learning to identify patterns is an ongoing process

Through these common opportunities, the students were able to develop their understandings of how to use these practices across content areas. For example, while identifying patterns requires observation, the nature of that observation is different depending upon the content area. In math, observation meant watching the teacher and other students or looking around the classroom, while in writing it meant listening to the story being read aloud and looking at the illustrations. In both math and writing, there was a process for constructing patterns. In math, the process included observing to identify the pattern, constructing, extending and recording the pattern.

Table 5.23: Using Practices Across Content Areas

	Math	Language Arts (Writing)
-Identifying patterns requires observation	• Watching the teacher or other students • Looking around the classroom	• Listening to the story • Looking at the illustrations
-There is a logic or rule to a pattern	• A pattern repeats itself	• A pattern repeats itself
-There are different kinds of patterns	• Snap-clap • People • Tile • Cube • Stations	• Words in the text • Illustrations
-Patterns involve working	• by oneself • with others	• by oneself • with others
-One can use previous experiences to help identify and construct patterns	• Patterns from previous grades • Snap-clap patterns from previous days • Tile patterns from previous days • Cube patterns from previous days	• Patterns from previous stories
There is a process for constructing patterns	• Observe to identify • Construct pattern • Extend Pattern • Record Pattern	• Identify pattern in story • Generate ideas for own story using the pattern • Draft story • Edit story • Illustrate story • Publish story

Identifying and Constructing patterns requires practice	• With a variety of materials • Through a variety of activities	• Listening to a variety of stories • Editing is part of the process
Learning to identify patterns is an ongoing process	• Over time • Across activities	• Over time • Across stories

In writing, the process involved identifying the pattern in the story, generating ideas for one's own story and then using the writing process (drafting, editing, illustrating, and publishing) to construct a new pattern story.

This analysis shows that the students in this classroom were provided multiple opportunities for learning how to identify and construct patterns across content areas. Because of this, they were able to understand how these practices were utilized similarly and differently in math and writing.

Summary of Using Practices Across Content Areas

Together, these analyses showed how academic content from different content areas (i.e., math and language arts) was linked through the practices of identifying and constructing patterns. By using common practices across disciplines, the students were able to understand both the situated and general nature of these practices. They were able to use similar practices (identifying and constructing patterns) in particular ways for particular purposes in relationship to particular content areas (Brilliant-Mills, 1993; Tuyay et al., 1995). In this way, the students were becoming academically literate.

Chapter Summary and Discussion

The purpose of this chapter was to explore what counted as academic literacies in the classroom that is the focus of this study, and to compare and contrast that with what counts as academic literacy from the perspective of the national content standards. It also investigated the relationships between literate practices and opportunities for learning academic content to show how the students in this classroom were becoming academically literate.

The data presentation was done in two parts. The first part focused on identifying what counted as academic literacies from two perspectives: A national perspective and a classroom perspective. The second part examined the situated nature of academic literacies in this classroom by investigating the literate practices of **identifying** and **constructing patterns** and how these were developed in two content area (math and writing) in this third-grade bilingual classroom.

Data analyses in Part One were presented in two sections. The first analyses examined that national content standards for math, science, and social studies to identify the actions that were called for in each, and how these were linked to particular content knowledge in each discipline. Next, a cross-case analysis was conducted to identify the common actions across disciplines. A domain analysis of these actions revealed that six domains (ways of gathering information, analyzing information, making inferences, evaluating information,

demonstrating understandings, and sharing understandings) provided a way of framing what counts as academic literacies across content areas.

The second section in the first part of this chapter focused on what counted as academic literacies in the third-grade classroom being studied. A domain analysis of the literate actions from the first 3 weeks of school showed that these could also be categorized into the same six domains as the actions identified in the national standards. Further analysis of the literate actions and practices from three cycles of activity (math, science, and social science) across the school year indicated that these practices matched those called for by the national standards. It also provided a situated definition by showing that what counted as academic literacies in this classroom was being able to use a variety of literate practices across content areas.

In the second part of this chapter, two of these literate practices, **identifying** and **constructing patterns**, were further explored to investigate the relationships between these literate practices and opportunities for acquiring academic literacies and learning academic content. The first analysis in this part focused on identifying the **"Looking for Patterns"** cycle of activity and the opportunities for learning that were constructed in two events on the first day when the students were introduced to patterns in both writing and math. The next five analyses examined how the math events of this cycle of

activity were intertextually tied, and how, through these ties the students were provided further opportunities for developing their understandings of patterns and the practices of **identifying** and **constructing patterns**. It also showed how learning at one point in time was consequential for learning at other times.

After identifying the opportunities for learning that were constructed across math events, the analyses then focused on examining how these opportunities were taken up (or not) by the students. The analysis of two events, "identifying patterns in the classroom" and "pattern stations" showed how the students took up particular opportunities for learning and how a common task was constructed differently by three groups of students.

The final analyses in this chapter investigated how the literate practices of **identifying** and **constructing patterns** were developed in writing and were used across the school year in both writing and math. The first of these examined the opportunities for learning that were constructed in the writing events of the **"Looking for Patterns"** cycle of activity and how the students took up these opportunities for learning. The next showed how these practices were used across the school year in both math and language arts (writing). Finally, how these practices were used similarly and differently across these content areas was explored.

Together, these analyses showed that through the weaving of an intertextual web, and the linking of activities and events in this cycle of activity by the common practices of **identifying** and **constructing patterns**, the students were provided with multiple opportunities for learning how to use these practices. Additionally, they were developing an understanding of both the general and situated nature of these practices, thus showing how they were becoming academically literate.

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[1] I am not claiming that this is THE way to define academic literacies. Rather, I am suggesting that this is one way to see how this term is defined.

[2] Because this study was done in a third-grade classroom, the focus of this analysis was that grade level. While the standards are not organized by discrete grade levels (e.g., K,1, 2, 3 etc.) they do consider all of the grades K-12. For this analysis, the following were used:
Mathematics: Grades 3-5
Science: Grades K-4
Social Studies: Grades K-4

[3] These cover terms were based on prinicipled theoretical decisions during the analysis of the standards. They are not the sole way to categorize these terms.

[4] Snap-clap and people patterns were two types of patterns that were introduced in previous grades. Snap-clap patterns consisted of using snapping of the fingers, clapping of the hands and slapping of the lap to create a pattern. For example, the teacher might create a pattern by snapping twice and then clapping once and repeating this. People patterns were constructed by calling the names of students to line up in a particular location of the classroom. They were arranged according to particular attributes (e.g., kinds of shoes worn, color of eyes, hair length, etc.).

[5] I recognize that it is theoretically possible for recognition and acknowledgment to be signaled separately or for recognition to not be followed by acknowledgment.

[6] These events are named after the titles of the books that were used in them. Instead of underlining the title, it is in quotation marks to signify that it is the name of the event rather than the title of the text. All texts are included in the references (see Children's Books).

[7] It is important to recognize that these were not the only instances where these practices were used across the school year. Rather, I elected to include those where these practices were the focus of instruction.

[8]The pattern in <u>The Important Book</u> (which the students utilized) is:
The important thing about _____ is _____.
It is _____. It is _____. And it is _____.
But the important thing about _____ is _____.

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CHAPTER SIX

LOCATING ACADEMIC LITERACIES THROUGHOUT DAILY LIFE

Overview

Chapter 5 investigated what counted as academic literacies from the perspectives of the national content standards and the third-grade classroom, which is the focus of this study. By doing content analyses of each of the national documents (math, science, and social studies), it was possible to see what counted as being literate in each of these disciplines. Through a cross-case analysis of these actions, what became visible was what counted as academic literacies from this particular national perspective. The literate actions and practices from the third-grade classroom were then examined and compared to the domains from the standards. This comparison of analyses showed that the literate actions and practices in this third-grade classroom matched those called for in the national standards. Finally, Chapter 5 explored the relationships between two literate practices (**identifying** and **constructing patterns**) and the opportunities for acquiring academic literacies and learning academic content available in the third-grade classroom. Specifically, how these literate practices were developed in math and in writing was investigated. The results of these analyses argued that what counted as being academically literate in this classroom was understanding both the general and

situated nature of literate practices and being able to use them within and across academic content areas.

In this chapter, I develop this argument further by investigating two additional literate practices that were constructed in this classroom: **Making predictions** and **using evidence**. These literate practices were selected for examination because they were introduced in the first 3 weeks of school and developed across the school year. However, unlike the previous literate practices of identifying and constructing patterns, these were not introduced within a particular cycle of activity. Rather, they were introduced over time and across cycles of activity. For these reasons, they were selected as the focus of this chapter. The goal of this chapter is to examine how these literate practices were constructed and developed across academic content areas (i.e., science and social science) different from those explored in Chapter 5 (math and writing). This chapter also makes visible how the students in this classroom continued to work together and to use two languages (English and Spanish) as resources for learning academic content, as was introduced and discussed in Chapter 4.[1]

The guiding questions for this chapter were: How are literate practices that are not the focus of a particular cycle of activity (as identifying and constructing patterns were) introduced and developed? What are the relationships between these literate

practices (specifically making predictions and using evidence) and opportunities for acquiring academic literacies and learning academic content? How do the students take-up (or not) these opportunities for learning? How do these literate practices support and/or constrain access to academic content, particularly science and social studies?

The analyses in this chapter are presented in five sections. The first section locates the literate practices of making predictions and using evidence across events during the school year. The next three sections examine how these practices are introduced and developed in science and social studies. Four events are analyzed and the opportunities for learning that are constructed in each identified. In the final section, how these practices are used similarly and differently across content areas is explored.

Locating The Practices

The first step in this analysis was locating the instances of making predictions and using evidence across the school year. In order to accomplish this, these practices (making predictions and using evidence) were used as a tracer unit (Tuyay et al., 1995) across the data (i.e., running records, videotape data, event maps, transcripts, teacher plan book, teacher journal) from the school year. By using this tracer unit and forward and backward mapping, I was able to identify instances when these practices were used (see Table 6.1). As

Table 6.1: <u>Locating the Practices of Making Predictions and Using Evidence</u>

Date	Activity/Event	Cycle of Activity and Content Area	Actions/Practices
9-11-92	Counting Stars[a]		**-using evidence** (stars on board) **-making predictions** -writing numbers -ordering numbers
9-14-92	Tile Patterns[b]	Looking for Patterns (Math)	-identifying patterns -determining rule/logic of patterns **-using evidence** (the pattern) to **predict** what would come next
9-15-92	Introduction to the Story	"El Pescador y Su Mujer" (The Fisherman and His Wife)* (Language Arts)	**-using evidence** (tea party cards) **-making predictions** -listening to/reading story -supporting/refuting predictions

9-18-92	Counting Stars		**-using evidence** **-making predictions** -writing numbers -ordering numbers
9-23-92	Read Aloud: <u>Family Picturesc</u>[c]	Learning about Self and Others (Social Studies/Science)	**-using evidence** (illustrations) **-making predictions** -listening to story -supporting/refuting predictions
10-6-92	Five Senses/Mystery Boxes	Learning about Self and Others (Social Studies/Science)	-gathering data -recording data -working together **-using evidence** **-making predictions**
11-19-92	Partner Prediction	<u>La Calle Es Libre (The Streets are Free)</u>*[d] (Language Arts)	-working together **-making predictions** -reading text -supporting/refuting predictions **using** text **evidence**

12-1-92	What's in the Bag? (compass activity)	Santa Barbara (Social Studies)	**-making predictions** **-using evidence** (clues) to modify predictions -reading text aloud
1-4-93	Partner Prediction	"El Perro y El Bosque Frondoso" ("The dog and the dark forest")* (Language Arts)	-working together **-making predictions** **-using** text **evidence** to support/refute predictions
1-29-93	Gravity Experiments	The Solar System (Science)	-working together -setting up investigations -asking questions **-making predictions** -gathering data -recording data **-using evidence** (data) to support /refute predictions -reading text -revisiting predictions and findings -generating plausible explanations

2-8-92	Introduction to Kwakiutl+[e]	Native Americans (Social Studies)	-using evidence (tea party cards) **-making predictions** based on evidence
2-9-93	Introduction to Social Studies Text+	Native Americans (Social Studies)	-comparing/contrasting texts -sharing ideas -working together -reading text **-using evidence** to support/refute predictions
2-17-93	The Chumash Territory	Native Americans (Social Studies)	**-using evidence** **-making predictions**
2-23-93	Anticipation/Reaction Guide	Native Americans (Social Studies)	-working together **-using** prior knowledge **(evidence)** **-making predictions** (in the forms of agreement/ disagreement) -reading text -revisiting predictions

3-16-93	Chumash Food	Native Americans (Social Studies)	-working together **-making predictions** -using evidence (clues) to modify predictions **-using text evidence** to support/refute predictions
4-28-93	Where Do the Animals Live?	The Rainforest (Science/Social Studies)	-working together **-making predictions** **-using text evidence** to support/refute predictions
4-29-93	Introduction to <u>Salven Mi Selva</u>+	The Rainforest (Science/Social Studies)	**-using evidence** (tea party cards) **-making predictions** -working together
4-30-93	Smells of the Rainforest	The Rainforest (Science/Social Studies)	**-making predictions** -gathering data **-using evidence** to support/refute predictions -working together

5-6-93	Jungle In The Pantry	The Rainforest (Science/Social Studies)	**-making predictions** **-using evidence** to support/refute predictions -working together
5-11-93	Tree Top Explorers	The Rainforest (Science/Social Studies)	**-making predictions** **-using evidence** (video) to support/refute predictions -working together -watching/discussing video
6-1-93	The Water Cycle/Terrariums	The Rainforest (Science/Social Studies)	-working together **-making predictions** -observing over time -gathering data -recording data -supporting/refuting predictions **based upon evidence (data)**

[a]This activity, counting stars, occurred each Friday. The students were asked to use the evidence (stars on the board) to predict who had won for that week. This was an informal introduction and use of the practices of using evidence and making predictions.

[b]While the focus of tile patterns was upon the identification of patterns, being able to extend the patterns meant that students had to use the rule/logic of the pattern already constructed to predict what would come next. This was also the case for the cube patterns which were a part of the "Looking for Patterns" cycle of activity from 9/22-9/29.

[c]This was the first introduction of predictions during read aloud. While this was a "formal" introduction, the practices of making predictions and using evidence were then incorporated into read aloud stories across the school year.

[d]Those events or activities marked with a star, were part of cycles of activity that happened during Spanish reading (see Chapter 3), and were therefore not included in the discussion of cycles of activity across the school year in Chapter 4 (see Figure 4.7). They were included here to show that the students were being formally introduced to these practices during this time.

[e]Those events or activities marked with a + also occurred during Spanish reading. However, these events were linked to others that were occurring during the rest of the school day and were a part of the cycles of activity that were constructed by the members of Room 18.

indicated on this table, the practices of making predictions and using evidence were used across a variety of activities, content areas and cycles of activity over the school year. They were introduced both informally (not as part of the academic content) and formally (as part of the planned academic curricula). Through this analysis, 21 instances of making predictions and using evidence were identified for examination.

Informal Uses of Making Predictions and Using Evidence

The instances of informal use of the practices making predictions and using evidence occurred while counting team stars, identifying and constructing patterns, and reading aloud. During the first week of school, on Friday (9-11-92), Mrs. T introduced the students to two events that would take place each Friday (see Table 6. 2, lines 1000-1002). One of these was counting stars:

1092	Mrs. T:	the next thing we need to do is count (moves to location of stars on front chalkboard)
1093		stars
1094		alright
1095		raise your hand if you think the 49ers are going to win
1096		(Two students raise their hands)

In this excerpt, Mrs. T names one of these events as "counting stars" (lines 1092-1093). She asked the students to consider the stars and guess which team had earned the most (line 1095). She did this for

Table 6.2: Transcript Excerpt from Counting Stars

Line Number	Speaker	Discourse
1000	Mrs. T	every Friday
1001		about the end of the day
1002		we are going to do a couple of things
		----Break in Transcript----
1092	Mrs.T	the next thing we need to do is count (moves to location of stars on board)
1093		stars
1094		alright
1095		raise your hand if you think the 49ers are going to win
1096	Two students	(raise their hands)
1097	Mrs.T	raise your hand if you think the Raiders are going to win
1098		(can see no hands in video)
1099		raise your hand if you think the Blue Dolphins are going to win
1100	Eight students	(raise their hands)
1101	Mrs. T	raise your hand if you think the WildCats are going to win
1102	Six students	(raise their hands)
1103	Mrs.T	raise your hand if you think the no name team

1104	SNI	it's the White Sox
1105	Mrs.T	the what
1106		when did that happen
1107	SNI	I don't know
1108		it just did
1109	Mrs.T	okay
1110		(writes White Sox on board)
1111		eyes up here
1112		you need to count with me
		-----break in transcript-----
1265	Mrs.T	that means
1266		which team won
1267	Students	the Blue Dolphins

every team (see Table 6.2; lines 1097, 1099, 1101, 1103). The

majority of the students (visible on videotape) predicted the Blue

Dolphins would win (eight students, line 1100). Mrs. T and the

students counted the stars for each team and discussed how to write

each of the numbers. Two students (Linda and Lesley) then

volunteered to put the five numbers in order from smallest to largest.

Upon reviewing the numbers, the class determined that the Blue

Dolphins had won (lines 1265-1267). This was the first occasion

when students were using evidence (the stars) and making

predictions (guessing which team had the most).

During the second week of school, on Friday (9-18-92), at the

end of the day, Mrs. T proposed an intertextual tie (see Chapter 2 for a

complete discussion) when she walked over to the stars on the board

and said:

```
1000  Mrs. T:      kay
1001               predictions
1002               which team do you think won this
                   week
```

The students recognized and acknowledged this tie by immediately

raising their hands and offering their predictions when called upon by

the teacher. Each time Mrs. T called on a different student, she asked

the question "what do you predict?" This tie was socially significant

because it confirmed that this was an event that would happen each

Friday and signaled counting stars as a way to end the week. It also

signaled "predicting" as an important and ongoing classroom practice. Additionally, it was consequential because Mrs. T named the practice of making predictions explicitly, which as analysis of the videotape data and the teacher's plan book indicated, was a practice that was used across the school year.

Making predictions and using evidence were also informally introduced during the **"Looking for Patterns"** cycle of activity (see Chapter 5 for a complete discussion). While the focus of the events in this cycle of activity was identifying and constructing patterns, the students were also using evidence and making predictions. For example, on Day 6 of this cycle (see Table 5.6), the students were constructing tile patterns. To successfully extend these patterns, they had to use what had already been constructed (evidence) to predict what would come next.

During read-aloud time across the school year, the students were often asked to make predictions and support and/or refute them based upon evidence from the text to which they were listening. This was explicitly introduced on Day 11 (9-23-92) during read aloud time. On this day, Mrs. Alexander, the student teacher in this room described to the students what they would be doing:

1032	Mrs. A:	what we're going to be doing
1333		is looking at the pictures
1334		and trying to guess
1335		what the story
1336		about the picture

1337		could be about
1338		kay
1339		then
1340		we'll check our guesses
1341		by reading the story

----Break in Transcript----

1046	Mrs. A:	then
1047		we'll either prove
1048		or disprove
1049		our guesses

Next, the students were then asked to talk with a partner and discuss what they saw on the cover and to predict what this book (Family Pictures/Cuadros de Familia) was going to be about. They then shared their predictions with the class:

1076	Mrs. A:	okay
1077		everybody have their guesses
1078		about what this could be about
1079		kay
1080		let's hear it
1082	Manuel:	tamales
1083	Mrs. A:	I'm looking for hands
1084	Jennifer	Carmen's life
1085	Mrs. A:	(recording on board) Carmen's life
1086		okay
1087		and who (looks at a student)
1088		and who is Carmen
1089		in this story
1090		who's Carmen
1091	Jennifer:	the author (inaudible)
1092	Mrs. A:	she's the author
1093	Mrs. A:	and the illustrator

In this excerpt, Mrs. A asked the students to share their "guesses" for what they thought this book was going to be about based upon the

cover illustration (lines 1077-1081). Jennifer offered her prediction

(1084) and the evidence that she was using to make this prediction

(line 1091). Three other students offered their predictions as well

(tamales, tacos, Mexican food). After seeing that most of the

predictions were about food, Mrs. A asked the students to also

consider the title of the book as evidence and how they might use this

information:

1126	Mrs. A:	if you know the title
1127		raise your hand and let me know
1128		(students raise hands)
1129	Mrs. A:	(calls on a student who is not identifiable)
1130	SNI:	family pictures
1131	Mrs. A:	so do you think you could use the title
1132		what does the title have to do with the book

After recording the students predictions, Mrs. A read the introduction to

the text. For the remainder of the read aloud time, Mrs. A asked the

students to make predictions about the illustrations in the text and then

she read aloud the information that accompanied each illustration.

She then returned to the predictions made by the students and asked

them to decide if they were supported or refuted using the evidence in

the text. After this process had been explicitly introduced, the implied

expectation was that the students would be able to make predictions

and support and/or refute them by using text evidence during future

read-aloud times.

These informal uses of making predictions and using evidence were visible across the school year. While they were not the only times that the students were asked to use these practices, they are representative of the kinds of informal uses that occurred. What was made visible in this analysis was that Mrs. T typically introduced the practices with words that the students already used and understood. For example, on the first Friday (9-11), students were asked to "guess" who had the most team stars for that week. After this introduction, the practice (i.e., predicting) was explicitly named and the students were expected to be able to use it thereafter.

Constructing Opportunities for Learning

Analyses of instances of informal uses of these literate practices are informative because it showed the integration of these practices across all areas of classroom life. However, I elected not to focus on them for subsequent analyses. Rather, I chose to examine the opportunities for learning that were co-constructed when the practices of making predictions and using evidence were developed as part of the planned academic curricula. Specifically, I focused on four events (see Tables 6.3-6.6):

- Introduction to "El Pescador y Su Mujer" (Language Arts; "El Pescador y Su Mujer")
- The Five Senses Mystery Boxes (Science; Learning about Self and Others)

Table 6.3: <u>Event Map - Introduction to "El Pescador y Su Mujer"</u>

Sub-Events	Phases	Interactional Spaces	Actions
1. Tea Party	1a. Explaining activity 1b. Reading/Sharing cards	-T-Whole class -Individual-Whole class	-listening to directions -answering questions -reading/sharing tea party cards -listening to others' cards -discussing cards
2. Making Predictions	2a. Sharing ideas 2b. Recording predictions	-Pairs-whole class -Individual-whole class	-recalling ideas heard in tea party -sharing ideas -making predictions based upon what was heard/seen in the tea party
3. Listening to and discussing first part of story		-T-whole class -Individual-whole class	-listening to text -asking/answering questions -discussing text
4. Listening to and discussing second part of story		-T-whole class -Individual-whole class	-using text evidence -supporting/refuting predictions -rereading text -agreeing/disagreeing -discussing ideas

Table 6.4: <u>Event Map - Five Senses Mystery Boxes</u>

Sub-Events	Phases	Interactional Spaces	Actions
1. Introduction	1a. Gravity experiment 1b. Images of a scientist 1c. Being a scientist	-Pairs-Whole Class -Individual-Whole Class -T-Whole Class	-recalling previous experiences -sharing ideas -talking with others
2. Read Aloud	2a. Reading text 2b. Recalling senses	-T-Whole Class -Table Group-Whole Class	-listening to story -recalling ideas from the text -working together
3. Explaining the Activity	2a. Discussing roles 2b. Recording process 2c. Showing mystery boxes 2d. Checking for understanding 2e. Distributing materials	-T-Whole Class -Individual-Whole Class	-listening to directions -identifying roles -answering questions

4. Exploring Mystery Boxes		-Table Groups-Whole Class -Individual-Table Group	-using senses -exploring contents of boxes -discussing contents of boxes -working together -sharing ideas -making predictions -recording predictions -writing descriptions -explaining thinking
5. Sharing Predictions	5a. Sharing predictions 5b. Finding out contents of boxes	Individual-Table Group-Whole Class T-Whole class	-reporting predictions for table groups -listening to others
6. Reflecting		Individual-Whole Class	-reflecting on activity -writing thoughts about being a scientist -writing thoughts about doing science

Table 6.5: <u>Event Map - Introduction to the Kwakiutl</u>

Sub-Events	Phases	Interactional Spaces	Actions/Practices
1. Tea Party	1a. Explaining directions 1b. Reading tea party 1c. Doing tea party	-T-Whole Class -Individual-Whole Class -Individual-pair-Whole class	-listening to directions -answering questions -recalling previous experiences -restating directions -reading silently -reading aloud -sharing/discussing cards
2. Roundtable	2a. Getting ready 2b. Explaining activity 2c. Doing roundtable 2d. Deciding what to share 2e. Reporting to class	-T-Whole class -T-Whole class -Table group-Whole class -Table group-whole class -Individual-table group-whole class	-listening to directions -recalling previous experiences -restating directions -recalling information heard during tea party -re-reading cards -recording/writing ideas -working together -sharing information -making decisions -reporting to class

3. Making Predictions	3a. Discussing with a partner 3b. Making predictions	-Pairs-Whole class	-working together -sharing ideas -using evidence from tea party -making predictions
4. Textbook Analysis	4a. Examining reading text 4b. Reporting information 4c. Examining social studies text 4d. Reporting information	-Partners-Whole class -Individual-Whole class	-working together -examining contents of textbooks -sharing ideas -reporting information -comparing and contrasting
5. Reading Social Studies Text	5a. Finding unit 5b. Finding page 5c. Reading text	-Individual-Whole class	-using table of contents -skimming text -locating information in text -examining unit -reading silently
6. Discussing Text	6a. Discussing with partner 6b. Reporting decisions	-Partners-Whole Class -Individual-partner-whole class	-working together -using information in text to support/refute predictions -discussing information in text

Table 6.6: <u>Event Map - Chumash Food</u>

Sub-Events	Phases	Interactional Spaces	Actions
1. What's in the Bag?	1a. Making Predictions 1b. Using evidence to modify predictions 1c. Revealing the contents	-Table Groups-Whole Class -Individual-Table Groups	-making predictions -talking with others -using evidence -modifying predictions -asking questions -explaining one's thinking -discussing ideas
2. How the Chumash Prepared Acorns	2a. Making Predictions 2b. Reading Text 2c. Supporting/refuting predictions 2d. Sharing findings	-Table Groups-Whole Class -Individual-Table Groups -Individual-Table group-whole class	-making predictions -talking with others -writing/recording ideas in English and Spanish -making choices -using prior knowledge -reading text silently -reading text aloud -using evidence -supporting/refuting predictions -asking questions

			-defending one's thinking/reasoning -providing reasons -discussing ideas -sharing opinions

- Introduction to Native Americans: The Kwakiutl
  (Social Studies; Native Americans)
- Chumash Food (Social Studies; Native Americans)

These events were purposefully selected because they represented

different content areas and different cycles of activity (see Figure 6.1 to

locate in time across the school year and Tables 6.7-6.9 for activities

comprising each cycle). The next step in this analysis was to

transcribe these events and to examine the transcripts for the

opportunities for learning that were constructed within and across

events and how those opportunities were taken up (or not) by the

students.

"El Pescador y Su Mujer": An Introduction to Making Predictions and Using Evidence

As can be seen in Figure 6.1 and Table 6.7, this event occurred

on the fifth day of school (9-15-92). It was the second day of Spanish

reading. While I recognize that not all of the students in Spanish

reading were members of the Room 18 community, I deliberately

chose to examine this event for the following reasons. Analysis of Mrs.

T's notes from the third-grade planning meeting (which happened on

9-8-92 before school started) indicated that the third-grade teachers

had tentatively decided how to place students for reading and to

address making predictions, as well as sequencing events (third-

grade objectives) during instruction for the first 2 weeks of

Reading/Language Arts. While no data was collected from the other

Timeline of School Year	Cycles of Activity	Key events
September	El Pescador Y Su Mujer (The Fisherman and His Wife)	Introduction Day 1-9/15
October		
November December		Five Senses Mystery Boxes Day 19-10/6
January	Learning About Self and Others	
February		Introduction Days 1 & 2 2/8 & 2/9
March		
April		
May June	Native Americans	Chumash Food Day 22-3/16
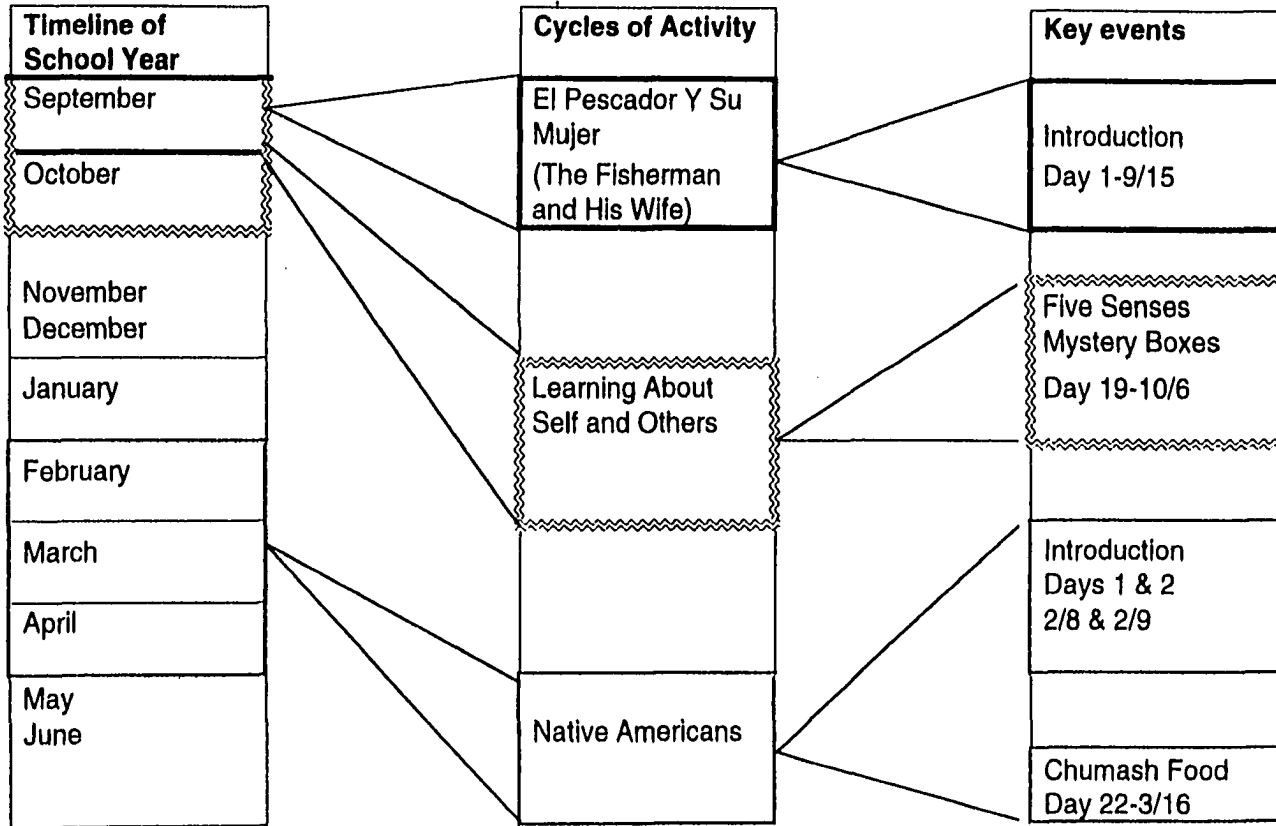
Figure 6.1. Locating Cycles of Activity and Key Events

Table 6.7: "El Pescador y Su Mujer" Cycle of Activity

Monday	Tuesday	Wednesday	Thursday	Friday
	Day 1 (9/15) Introduction to story: Tea Party DLTA -predictions -listen to story -support and refute predictions	**Day 2 (9/16)** Read Story	**Day 3 (9/17)** Sequence of events Activity Sequence illustrations	**Day 4 (9/18)** Finish sequence of events illustrations
Day 5 (9/21) Pescador Tableaux				

Table 6.8: <u>Learning About Self and Others: A Community Building Cycle of Activity</u>

Monday	Tuesday	Wednesday	Thursday	Friday
		Day 1 (9/9) Introductions: Importance of a name Scavenger Hunt Interest inventories	**Day 2 (9/10)** Letter from teacher Begin dialogue journals	**Day 3 (9/11)** Giving Graph Team Names Self Collage)
Day 4 (9/14) Begin Personal Timelines	**Day 5 (9/15)** Personal Timelines	**Day 6 (9/16)** Personal Timelines	**Day 7 (9/17)** Personal Timelines	**Day 8 (9/18)** Finish Timelines
Day 9 (9/21) Share Timelines	**Day 10 (9/22)** Begin cooperative timeline for Mrs.Raddue	**Day 11 (9/23)** Mrs. Raddue's timeline	**Day 12 (9/24)** Mrs.Raddue's timeline	**Day 13 (9/25)** Finish timelines
Day 14 (9/28) Listening Activity: How to listen to someone	**Day 15 (9/29)** What Bugs you? Dealing with Conflicts	**Day 16 (9/30)** A Friend in someone who...activity		**Day 17 (10/2)** Choose new teams Create team logos
Day 18 (10/5) Color Coded Squares: Introduce group roles	**Day 19 (10/6)** Five Senses Mystery Boxes	**Day 20 (10/7)** Finish Mystery boxes: Compare predictions with actual contents	**Day 21 (10/8)** Testing your Senses-activity	**Day 22 (10/9)** Five senses collages and class book

Table 6.9: <u>Native Americans Cycle of Activity</u>

Monday	Tuesday	Wednesday	Thursday	Friday
Day 1 (2/8) Introduction to Native Americans: -Tea Party (Kwakiutl) -Roundtable -Predictions	**Day 2 (2/9)** Intro to Social Studies texts: -compare to reading texts -Read to support and/or refute predictions	**Day 3 (2/10)** -ReQuest Read section from Social Studies text and develop questions	Assembly	Holiday (2/12)
Holiday (2/15)	**Day 4 (2/16)** Kwakiutl Graphic organizer in partners	**Day 5 (2/17)** Kwakiutl "El arte y La Madera" limited prior knowledge activity ●●●●●●●●●●●●●●● Modified DRTA w/Chumash territory map Choose new team names	**Day 6 (2/18)** Chapter Review Kwakiutl ●●●●●●●●●●●●●●●● Chumash People-Activity #1	**Day 7 (2/19)** Kwakiutl: Totem Poles ●●●●●●●●●●●●●●● Read: <u>Everybody Needs a Rock</u> Chumash Rock Art: Make pictures to reprresent teams
Day 8 (2/22) Create totem poles to represent own familes ●●●●●●●●●●●●●● Finish team rock paintings	**Day 9 (2/23)** Totem Poles ●●●●●●●●●●●●●●● Chumash Villages: Anticipation/R eaction Guides	**Day 10 (2/24)** Totem Poles ●●●●●●●●●●●●●●● Chumash Houses	**Day 11 (2/25)** Totem Pole Raising Ceremony: Family Stories ●●●●●●●●●●●●●●●	**Day 12 (2/26)** Continue Family Stories ●●●●●●●●●●●●●●● Venn Diagrams: My house/ Chumash House
Day 13 (3/1) Introduction to Navajo: Partner Reading	**Day 14 (3/2)** Navajo: Modified Request	**Day 15 (3/3)** Navajo: Request Continued	**Day 16 (3/4)** Navajo: Read next section	Inservice Day

Day 17 (3/8) Canto Del Navajo: Cloze Choral Rdg. •••••••••••••••• Read: Knots on a Counting Rope HW: Learn a Family Story Chumash Houses and Villages	Day 18 (3/9) Navajo: Make poem books •••••••••••••••• Storytelling: Counting Ropes-Tell story to two people Chumash Villages: Construct team village for bulletin bd.	Day 19 (3/10) Navajo: Desert Homes Constructing homes in the desert •••••••••••••••• Storytelling Chumash villages	Day 20 (3/11) Venn Diagrams: My House/ Chumash House/ Navajo House/ Kwakiutl House •••••••••••••••• Storytelling Chumash Villages	Day 21 (3/12) Continue Venn Diagrams •••••••••••••••• Storytelling Chumash Villages
Field Trip to UCSB	Day 22 (3/16) Navajo: Finish reading section •••••••••••••••• Chumash Food: What's in the bag? Acorn Preparation	Day 23 (3/17) Navajo: Partner Reading and Questioning •••••••••••••••• Finish Discussing Food Begin Transportation	Day 24 (3/18) Navajo: Finish partner reading •••••••••••••••• Transportation: Construct Model Canoes	Inservice Day
Assembly	Day 25 (3/23) Field Trip to Natural History Museum: Chumash Hall	Day 26 (3/24) Navajo: Sand Painting •••••••••••••••• Discuss Field Trip Continue Canoes	Day 27 (3/25) Make sand painting pictures •••••••••••••••• Canoes Continued)	Day 28 (3/26) Sand Paintings continued •••••••••••••••• Canoe Launch
Day 29 (3/29) Introduction to Cheyenne •••••••••••••••• Begin Native American Stories	Day 30 (3/30) Cheyenne: Modified Request •••••••••••••••• Native American Stories	Day 31 (3/31) Cheyenne: Request Continued •••••••••••••••• Native American Stories	Day 32 (4/1) Cheyenne: Finish chapter •••••••••••••••• Native American Stories	Day 33 (4/2) Card Sort from all three tribes •••••••••••••••• Share Stories
Day 34 (4/12) Read Aloud: Brother Eagle Sister Sky- Begin to shift to Rainforests and protecting environment				

two third-grade classes, it was assumed that students would also be introduced to these "skills"[2] during the official reading time. Since this was the first formal introduction to the practices of making predictions and using evidence, it was selected for this analysis.

The "Introduction to El Pescador y Su Mujer" event (see Table 6.3) was comprised of four sub-events: A tea party, making predictions, listening to and discussing the first part of the story, and listening to and discussing the second part of the story. In the first sub-event, the tea party, the students were given cards that had a line from the story and a picture that corresponded to that line. For example, on one card was the line "Pero la mujer no estaba contenta (but the woman wasn't happy)" and a picture of a woman with her hands on her hips and a frown. The students were asked to read and share their cards with each person in the classroom. This served to familiarize the students with the text prior to listening to and reading it. In the next three sub-events, the students were making predictions, listening to the story, and supporting and refuting their predictions. Because these are the sub-events in which the practices of making predictions and using evidence were introduced and used, they were the ones I selected to transcribe. As in Chapter 5, the transcripts were created at the level of message unit. This transcript (included in Table 6.10) then became the basis for subsequent analyses.

Table 6.10: <u>Opportunities for Learning - "El Pescador y</u> <u>Su Mujer"</u>

Sub-Event	Transcript Excerpts	Opportunities for Learning Available
Making Predictions	Mrs. T: 1000 okay 1001 ustedes han oido *(you have heard)* 1002 muchas *(many)* 1003 cosas *(things)* 1004 de un cuento*(about a story)* 1005 ahora *(now)* 1006 vamos a adivinar *(we are going to guess)* 1007 que creen uds. *(what do you think* 1008 de que se va a tratar este cuento *(this story will be about)* —break in transcript— Mrs. T: 1014 kay 1015 con una persona que está sentada cerca de ti *(with the person sitting next to you)* 1016 hablan de dos cosas que uds. creen que van a pasar en el cuento *(talk about two things that you think are going to happen in the story)* —break in transcript—	-making predictions involves using what you have already heard -you can work together to make predictions -making predictions involves thinking about what will happen in the story

	Mrs. T:	-shrugging one's shoulders is not a response...one needs to be thinking about what might happen in the story
	1079 Manuel	
	1080 que crees (*what do you think*)	
	Manuel:	
	1081 (shrugs his shoulders)	
	Mrs. T	
	1082 que va a pasar en el cuento (*what will happen in the story*)	-making predictions involves using your card...both the words and the pictures
	1083 que dice tu tarjeta (*what does your card say*)	
	1084 de que es el dibujo en tu tarjeta (*what is the picture on your card*	
	—Break in Transcript—	
	Mrs.T:	
	1130 kay	
	1131 tenemos muchas predicciones aquí (*we have a lot of predictions here*)	-there can be many predictions for the same story
-	1132 (begins reading the list with the students)	
	—Break in transcript—	
	1310 vamos a ver *(we will see)*	
	1311 vamos a ver (*we will see)*	
Listening and Discussing Part One	Mrs.T:	
	1330 a ver *(let's see)*	
	1331 uds. oyeron una parte del cuento *(you heard part of the story)*	
	1332 aquí tenemos nuestras predicciones (*here we have our predictions)*	-recording predictions allows us to return to them during the story

	1333	(points to board) uds.van a decirme *(you are going to tell me)*	-some of you have already done this in summer school
	1334	como los que estan en mi clase del verano recuerdan *(as those in my summer school class remember)*	
	1335	si la preddición esta *(if the prediction is)*	-one needs to decide if the prediction is proved or disproved
	1336	a	
	1337	probada *(proved)*	-proved means that it
	1338	o *(or)*	happened in the story
	1339	desaprobada *(disproved)*	
	1340	pueden decirme una a *(you can tell me a)*	-disproved means it didn't happen in the story
	1341	o una d *(or a d)*	
	1342	recuerdan *(remember)*	
	1343	una a significa *(an a means)*	
	1344	que este evento ocurrió en el cuento *(that this event happened in the story)*	
	1345	d significa *(d means)*	
	1346	que *(it)*	
	1347	no *(didn't)*	
	1348	ocurrió (happen)	
	1349	en el cuento (in the story	
	1350	entonces *(then)*	
	1351	a ver *(let's see)*	
	1352	(reading from board) una viejita en una casa *(an old woman in a house)*	

	1353 aprobada o desaprobada (*proved or disproved*)	
	Students:	
	1354 aprobada (*proved*)	
	Mrs.T:	
	1355 tenemos una viejita (*do we have an old woman*)	
	1356 quien tenemos en la casa (*who is in the house*)	-proving predictions means finding evidence in the text
	SNI:	
	1357 (inaudible)	
	—break in transcript—	
	Mrs.T:	
	1360 okay	
	1361 pero (*but*)	
	1362 aquí dice (*here it says*) (points to text and reads) 1	
	1363 un pescador muy pobre vivía con su (*a poor fisherman lived with his*)	-the text may not indicate something about a character
	Cici	
	1364 mujer (*wife*)	
	Mrs.T:	
	1365 sabemos si es viejita o no (*do we know if she is old*)	
	1366 sabemos (*do we know*)	
	—break—	
	Mrs.T	
	1369 como sabes (*how do you know*)	
	1370 que dice aquí (*what does it say here*)	
	SNI:	
	1371 es su esposa (*it's his wife*)	

	1372 esposa *(wife)* Mrs.T: 1373 pero las mujeres no tienen que ser viejas *(but wifes don't have to be old)* 1374 yo no soy vieja *(I'm not old)* 1375 y yo tengo un esposo *(and I have a husband)* —break in transcript—	-a wife doesn't have to be old
	Mrs.T 1381 entonces sabemos si ella es vieja o no *(so do we know if she is old or not)* Students: 1382 no Manuel: 1383 sí	-there is no evidence that the character in this story is old
	Mrs.T: 1384 entonces Manuel 1385 muestrame exactamente donde dice que es vieja *(show me exactly where it says she is old)* 1386 lo leiste en las palabras *(did you read it in the words)* Manuel: 1387 (shakes head no) —Break in transcript—	-in order to claim that the wife is old, one needs to be able to find proof in the words of the text
	Mrs. T: 1394 entonces 1395 talvez vamos a encontrar *(maybe we will find)* 1396 más información *(more information)*	-the text may reveal more information in the future

	1397 necesitan más información aquí (*do you need more information here*) Students: 1398 sí	-one may not be able to decide if a prediction is proved/disproved based upon the available information
Listening and Discussing Part Two	Mrs.T: 1668 vamos a ver (*let's see*) 1669 tenemos que terminar la lista (*we need to finish the list*) 1670 para decidir si estan aprobadas o desaprobadas (*to decide if they are proved or disproved*) ---Break in transcript--- Mrs.T: 1697 okay 1698 (reading from board) un pescador va a regresar a su cabaña (*a fisherman is going to return to his house*) 1699 aprobada o desaprobada (*proved or disproved*) Students: 1700 aprobada (*proved*) Mrs.T: 1701 y Alex 1702 como sabes que está aprobada (*how do you know it is proved*)	-this process means making decisions about each prediction -proving predictions requires the use of evidence

	Alex: 1703 pasó en el cuento *(it happened in the story)* Mrs.T: 1704 cuando pasó en el cuento *(when did it happen in the story)* 1705 al principio o al fin *(at the beginning or at the end)* Students: 1706 al fin *(the end)* Mrs.T 1707 (writes A on the board next to the prediction) —Break in transcript— Mrs.T: (reviewing predictions on board) 1718 una reina y un rey van a recibir un castillo *(a queen and king are going to get a castle)* 1719 aprobada o desaprobada Students: 1720 (calling out both aprobada and desaprobada) Mrs. T: 1721 kay 1722 aprobada 1723 thumbs up 1724 desaprobada 1725 thumbs down 1726 kay 1727 Luciano 1728 porque crees	-everyone needs to make a decision about whether the prediction is proved or disproved -disproving predictions requires the use of evidence

		que está desaprobada *(why do you think it's disproved)*	
		Luciano	
		1729 porque ya no era reina *(because she isn't still the queen)*	-one does not have to be in agreement with the evidence cited or the rationale provided
		Mrs.T:	
		1730 quién no era reina *(who isn't the queen)*	
		Luciano	
		1731 la mujer *(the woman)*	-it's okay to disagree
		Mrs. T:	
		1732 okay	
		1733 estas de acuerdo con Luciano *(do you agree with Luciano)*	
		1734 Isabel	
		Isabel:	
		1735 no	
		1736 porque fue la reina en alguna parte *(no because she was the queen in one part)*	
		---break in transcript---	
		Mrs.T:	
		1745 a ver *(let's see)*	-one needs to use the text evidence to help make decisions
		1746 (turns on overhead)	
		1747 lo vamos a encontrar *(we're going to find it)*	
		1748 miren (points to sentence)	
		1749 quién quiere leer esta linea *(who wants to read this line)*	

	Students:	
	1750 (raise hands)	
	Mrs.T:	
	1751 Cici	
	Cici:	
	1752 (goes to board and points as she reads)	
	1753 necesitamos *(we need)*	
	1754 un castillo porque ambos queremos ser rey y reina *(a castle because we want to be king and queen)*	
	Mrs.T:	
	1755 entonces *(then)*	
	1756 qué creen *(what do you think)*	

Analysis of the transcript for these three sub-events showed that the students were provided a range of opportunities for learning about the literate practices of making predictions and using evidence (see Table 6.10) during this event. In the second sub-event, making predictions, the students were provided with an opportunity to work together (Table 6.10, lines 1014-1016) to generate a prediction or a guess about what was going to happen in the story that they would be reading:

```
1000  Mrs. T:        okay
1001                 ustedes han oido (you have heard)
1002                 muchas (many)
1003                 cosas (things)
1004                 de un cuento (about a story)
1005                 ahora (now)
1006                 vamos a adivinar (we're going to
                     guess)
1007                 que creen ustedes (what do you
                     think)
1008                 de qué se va a tratar este cuento
                     (this story will be about)
```

In this excerpt, Mrs. T reminded the students that they had already heard information about the story in the previous sub event, the tea party, and to use that information in making their predictions (lines 1001-1004). She reminded one student again to consider the evidence that he had:

```
1079  Mrs. T:        Manuel
1080                 qué crees (what do you think)
1081  Manuel:        (shrugs his shoulders)
1082  Mrs. T:        qué va a pasar en el cuento (what
                     will happen in the story)
```

1083	qué dice tu tarjeta (what does your card say)
1084	de qué es el dibujo en tu tarjeta (what is the picture on your card)

The students continued to generate predictions and these were recorded on the board, suggesting that many predictions for one story are possible and acceptable (lines 1130-1132).

In the next two sub-events, <u>listening to and discussing the story</u>, the students were provided opportunities to decide whether or not each of the predictions from the previous sub-event were proved or disproved and to provide the evidence for their decisions:

1331 Mrs. T:	ustedes oyeron una parte del cuento (*you heard a part of the story*)
1332:	(pointing to the board) aquí tenemos nuestras predicciones (*here we have our predictions*)
1333	ustedes van a decirme (*you are going to tell me*)
1334	como los que estan en mi clase de verano recuerdan (*as those in my summer school class remember*)
1335	si la predicción está (*if the prediction is*)
1336	a
1337	probada (*proved*)
1338	o (*or*)
1339	desaprobada (*disproved*)

Mrs. T began by returning to the predictions recorded on the board and asking the students to make their decisions about whether or not they were supported or refuted:

1351 Mrs. T:	a ver (let's see)
1352	(reading from board) una viejita en

		una casa (an old woman in a house)
1353		aprobada o desaprobada (proved or disproved)
1354	Students:	aprobada (proved)

She then asked the students to provide the evidence for their

decisions:

1355	Mrs. T:	tenemos una viejita (*do we have an old woman*)
1356		quién tenemos en la casa (*who do we have in the house*)
1357	SNI:	(inaudible)

----Break in Transcript----

1361	Mrs. T:	pero (*but*)
1362		(points to text) aquí dice (*here it says*)
1363		(reading) un pescador vivía con su (*a fisherman lived with his*)
1364	Cici:	mujer (*wife*)
1365	Mrs. T:	sabemos si es viejita o no (*do we know whether or not she is old*)

----Break in Transcript----

1369	Mrs. T:	como sabes (*how do you know*)
1370		qué dice aquí (*what does it say here*)
1371	SNI:	es su esposa (*it's his wife*)
1372		esposa (*wife*)
1373	Mrs. T:	pero las mujeres no tienen que ser viejas (*but wives don't have to be old*)
1374		yo no soy vieja (*I'm not old*)
1375		y yo tengo un esposo (*and I have a husband*)

In this excerpt, the students were provided opportunities to state their rationale (evidence) for their decision that the prediction about the story having an old woman was supported (lines 1354-1356). She called their attention to the text (lines 1361-1363) and asked them if it was possible to determine whether or not the woman was old (lines 1365-1370). One student (who was not identifiable) suggested that it was supported because she was his wife (providing evidence), and emphasized wife (lines 1371-1372). Mrs. T then offered counter evidence (1373-1375) for the students to consider.

Throughout their listening and discussing the story, the students were provided opportunities to return to the text and to use the text as evidence to support and/or refute their predictions (Table 6.10; lines 1385-1386, 1701-1705, 1726-1728). They were also given opportunities to disagree with each other and the text, provided they could cite their reasons (Table 6.10; lines 1381-1387, 1729-1736).

In each of these sub-events, it is possible to see the opportunities for learning that were available to the students. Further analysis of the transcripts was then conducted to see how the students took-up and used these opportunities. In the first sub-event, the students were able to generate a list of 13 predictions. That list, and their final decisions are included in Table 6.11. As this table shows, the students worked together to make various predictions about this story and to prove or disprove those predictions.

Table 6.11: "El Pescador y Su Mujer" - Predictions and Final Decisions

Predictions	Students' Final Decisions
-una viejita en una casa (an old woman in a house)	-disproved
-un castillo (a castle)	-proved
-la cabaña (a shack)	-proved
-un príncipe (a prince)	-proved
-un pez (a fish)	-proved
-un pescador va a regresar a su cabaña (a fisherman is going to return to his shack)	-proved
-una casa grande (a big house)	-proved
-el pescador se encontró un pez de oro en el mar (a fisherman found a gold fish in the ocean)	-disproved
-una reina y un rey van a necesitar un castillo (a queen and king are going to need a castle)	-proved/disproved
-un pez va a decir que el pescador tiene 3 deseos (a fish is going to tell the fisherman that he has three wishes)	-disproved
-un pescador se encontró un pez muy grande (a fisherman found a very big fish)	-proved
-un pescador pescó un pez de oro (a fisherman caught a fish of gold)	-disproved
-el pescador dijo al pez que su esposa quería pan (the fisherman said to the fish that his wife wanted bread)	-disproved

The transcript evidence also shows that the students took-up

other opportunities for learning during the sub-events of listening to

and discussing the story. As indicated in the previous excerpts (and

Table 6.10), there was a discussion after reading the first part of the

story about whether or not the woman was old (lines 1352-1387). In

this excerpt, one of the students who was not identifiable on the

videotape (SNI), suggested that the prediction that the woman was old

was supported because she was his wife (lines 1371-1372), indicating

that s/he realized that proving predictions meant providing evidence.

Mrs. T then suggested that not all wives were old, referring to herself

(lines 1373-1375), offering different evidence. One of the students

(Manuel) did not consider this as sufficient and still suggested that this

prediction was proved (line 1383):

1381	Mrs. T:	entonces sabemos si ella es vieja o no (*so do we know whether or not she is old*)
1382	Students:	no
1383	Manuel:	sí (*yes*)
1384	Mrs. T:	entonces Manuel *(then Manuel)*
1385		muestrame exactamente donde dice que es vieja (*show me exactly where it says she is old*)
1386		lo leiste en las palabras (*did you read that in the words*)
1387	Manuel:	(shakes his head no)

Mrs. T asked him to find the line where it stated this (line 1384-1386),

but he was unable (or chose not) to do so (line 1387). In this case,

Manuel did not take-up the opportunity to provide the evidence that he was using to make his decision.

The students agreed at this point that they needed more information before making a decision about this prediction:

1394	Mrs. T:	entonces (*then*)
1395		talvez vamos a encontrar (*maybe we are going to find*)
1396		más información (*more information*)
1397		necesitan más información (*do you need more information*)
1398	Students:	sí (*yes*)

This shows that the students realized that they needed to be able to find evidence in the text to support their decisions/claims, showing how they had taken up this particular opportunity.

During the discussion of the second part of the story (see Table 6.10), one of the students, Alex was able to provide evidence for why he thought that the prediction about the fisherman returning to his house (line 1698) was proved (lines 1700, 1702). In discussing another prediction (the queen and king are going to get a castle) there was some disagreement. Luciano thought the prediction was disproved and offered his evidence, that the woman wasn't still the queen (lines 1728-1731). Another student, Isabel, disagreed with Luciano and suggested different evidence (that she was the queen in one part of the story) (lines 173-1736). This conversation shows how the students took up the use of evidence to provide a rationale for their position, and that they were comfortable disagreeing.

Summary of "El Pescador y Su Mujer"

This analysis indicated that there was a range of opportunities for learning about making predictions and using evidence that were constructed by the teacher and students in this introductory event. The students took up these opportunities for learning in various ways as indicated by their list of predictions and their reasoning during the discussion of the story. As the year progressed, the students were provided further opportunities to develop their understandings of these practices as will be explored in subsequent analyses.

Making Predictions and Using Evidence in Science

The Five Senses Mystery Boxes

The previous analysis focused on how the practices of making predictions and using evidence were formally introduced. The analyses in this section investigate how these practices were introduced in science and used in this particular content area across the school year. To examine the introduction of these literate practices in science, I analyzed the Five Senses Mystery Box event, which was the first science event involving both the teacher and the students in this classroom.[3] This event was comprised of six sub-events (see Table 6.4). I deliberately chose to focus on sub-events three (explaining the activity), four (exploring mystery boxes), and five (sharing predictions), as they were the sub-events that involved

making predictions and using evidence. The transcripts from these sub-events were analyzed to identify the opportunities for learning that were available to the students (see Table 6.12).

Table 6.12 shows the opportunities for learning that were available to the students in each of these sub-events. In sub-event three (explaining the activity), Mrs. T explained to the students that they would be trying to guess the contents of the boxes by using a different sense (sight, hearing, smell, touch, taste) for each set of two boxes. An excerpt of these directions is provided in lines 3152-3158. The students were instructed to use their five senses to gather information and to record this information in their learning logs (lines 3176-3180). Then, after they had completed this part of the activity, they were to work as a group to generate a group prediction about the contents of each of the boxes (lines 3181-3182).

During their exploration of the mystery boxes (sub-event four), Mrs. T introduced a new term:

```
4028  Mrs. T:      remember
4029               that part of being a scientist
4030               is making a hypothesis
4031               or making a guess
```

She suggested to the students that one of the practices used by scientists was that of making hypotheses (lines 4028-4031). She did so by using the now familiar idea of making predictions or "making guesses" to introduce the new scientific term, hypothesizing. She also

Table 6.12: Opportunities for Learning - Five Senses Mystery Boxes

Sub-Event	Transcript Excerpts	Opportunities for Learning Available
Explaining the Activity	Mrs. T: 3152 You need to just hear 3153 (puts box to ear) 3153 and you need to see 3154 if you can guess what it is 3155 and then 3156 you write down 3157 what you think is in box one 3158 and what you think is in box two —break in transcript— Mrs. T: 3173 you may only smell 3174 then 3175 Manuel 3176 what do you write here Manuel 3177 you write it 3178 smell 3179 and what you think it is 3180 for the boxes Mrs. T: 3181 then you decide as a group 3182 what you think it is	-one can make a prediction based on evidence...in this case, what you hear -one needs to record his/her predictions -you need to make individual and group predictions

Exploring Mystery Boxes	Mrs. T:	In science, scientists make hypotheses
	4028 remember	
	4029 that part of being a scientist	
	4030 is making a hypothesis	
	4031 or making a guess	
	4032I heard this team	
	4032 saying	
	4033 we don't know what this is	
	4034 but they have words to describe it	-Scientists use words to describe their evidence
	4035 and scientists will write down those words	
	4036 they may not have the name for it right now	-Scientists may not have name for what they are observing, but they can describe it
	4037 and that's okay	
	—break—	
	Mrs. T:	
	4053 lots of times	
	4054 science is about	
	4055 trying to solve a puzzle	
	4056 and that's what we're trying to do today	-Part of doing science is solving puzzles
	—break—	
	Mrs. T:	-one needs to record his/her evidence and use this evidence to make a group prediction
	4095 you have until 2:05	
	4096 to get everything written down	
	4097 and to make a group prediction	

Sharing Predictions	Mrs. T:		-Group predictions will be shared with the class
	5005	and the reporter	
	5006	is going to come	
	5007	and share with the class	
	5008	what your team thought was in each box	
	——break——		
	Mrs. T:		
	5015	okay	
	5016	so you need to listen	
	5017	to see if you agree with them	-You may disagree with others predictions
	5018	about what they think	
	5019	is in the mystery boxes	

explained to the students that part of hypothesizing and being a scientist involves not knowing:

4032	Mrs. T:	I heard this team saying
4033		we don't know what this is
4034		but they have words to describe it
4035		and scientists will write down those words
4036		they may not have a name of it right now
4037		and that's okay

In this excerpt, Mrs. T indicated that scientists may not have a name for what they are observing (line 4036), but that they use words to describe their evidence (line 4034) and they record those words (line 4035). She then reminded the students that they needed to use their evidence to make and record group predictions about the contents of each of the boxes (lines 4095-4097).

Through the analysis of these sub-events, it is visible that the students were provided with opportunities for learning how to make predictions and use evidence in science. They used their five senses to gather information about the contents of the mystery boxes and recorded this information in a systematic way in their learning logs. They worked together to generate a group prediction for each of the boxes, and to share these with the rest of the community. Finally, they compared their findings with the actual contents of the boxes. Mrs. T suggested to the students that these were practices that scientists used, and that they were learning how to be scientists.

As the students worked together, they demonstrated how they were taking up these opportunities for learning (Table 6.13). They used their five senses to make predictions about the contents of each of the boxes (lines 225-231). They recorded their guesses in their individual learning logs (lines 200-210), and they generated group predictions (lines 100-117). They were also able to add description to their list of contents for the sight box (line 152-157; 164-167). In addition to this, each group shared their predictions with the class (see Table 6.14). As indicated in this table, each of the groups was able to make a prediction for each of the mystery boxes. This table also shows the actual contents of the boxes, and as can be seen, the students' predictions were quite close to the actual contents. What is not recorded on videotape, but is evident in the record of the cycle of activity (Table 6.8), is that the students were asked to compare and contrast their findings with the actual contents of the boxes on the next day of school (10/7).

Together, these analyses showed how the practices of making predictions and using evidence were formally introduced in science. The students were provided with multiple opportunities to "be scientists" and to use the practices of scientists (e.g., observing, gathering data, making predictions/hypotheses, recording data, reporting findings and comparing and contrasting their findings with

Table 6.13: <u>Students' Take-Up of Opportunities for Learning - Science</u>

Opportunities for Learning	Evidence of Take-Up	Line #	Discourse Samples/Other Data
One can make a prediction using evidence	-The students were able to make guesses about the contents of the mystery boxes after using their five senses	225 226 227 228 229 230 231	Ignacio: (puts hand in box and feels) this is a hard one Cynthia: I know it's flour I guessed it's flour Ignacio: (feeling inside of box) it is flour Cynthia: I know I saw white on my hand
One needs to record his/her own predictions and evidence	-The students recorded their individual predictions in their learning logs	200 201 202 203 204 205 206 207 208 209 210	Jorge: (puts hand in box) it's a ball it's a ball right here I got it It's a ball Jennifer: Write it down Silvia: Its' soft It's soft Jorge: (writing in log) It's soft

| One needs to use evidence and individual predictions to make a group prediction | -The students made individual predictions in their learning logs and group predictions on a separate sheet | 100
101

102

103
104

105

106

107

108

109
110

111

112
113
114

115

116
117 | Jennifer:
We have to write what we think
(points to paper)
Silvia:
What we think
Ignacio:
What all of us think
(makes a circle motion with hand around the group)
SNI:
I see a circle
Jennifer:
Wait
Manuel:
I see a chalk
Ignacio:
I see a marker
Silvia:
(writing) wait
wait
Ignacio:
Just name one thing
Jennifer:
I see a pencil
Wait (looks at paper)
Don't write their name
Ignacio:
She's not
Silvia:
((looks up)
alright |

417

Scientists use words to describe their evidence	-The students were able to describe the contents of their boxes		
		152 153 154	Mrs. T: Describe it Say what color it is For example (leaves group)
		155 156	Ignacio: Color What's the cube
		157	Silvia: Yellow (records on paper) -----Break in transcript-----
		164 165 166	Silvia: The button SNI: red Red
		167	Silvia: With holes

Table 6.14: <u>Students' Predictions - Five Senses Mystery Boxes</u>

Reporters	Smell	Hearing	Touch	Taste
Silvia	Onions, gum	Bell, alarm clock	Tennis ball, sandpaper; flour, beans	Lemon-sour, sweet water, apple juice
Robert	Onions, Peppermint gum	Bell, alarm clock	Tennis ball, sandpaper; powder, rice	Sour, Gatorade, apple juice
Lourdes	Onion, Trident gum	Bell, clock	Sand paper, tennis ball; flour, rocks	Wine, soda, Gatorade
Ramon	Onion, mint ice-cream	Bell, alarm clock	Tennis ball, cardboard; rice	Sour, Gatorade, Hi-C
Linda	Onion, mint	Bell, alarm clock	Sand paper, tennis ball; rice, slime	Lemon juice, sweet water, Gatorade
Actual Contents	Onion, Sponge with mint extract	Bell, alarm clock	Sand paper, tennis ball; brown rice, flour	Lemon juice, sugar water, Apple juice

<u>Note.</u> Sight was not included in this table, as the students were not asked to report the contents of this box to the class.

those of others and the evidence). The students took-up these opportunities in various ways through their work together.

Using These Practices in Science Events Across the School Year

Across the school year, the students were provided further opportunities to develop their understandings of making predictions and using evidence in science. As indicated in Table 6.1, the students were engaged in using these practices during an exploration of gravity (1-29), and multiple activities related to the rainforest (4-28, 4-30 5-6, 5-11). Analysis of the teacher's notes indicated that during the culminating science event for the school year (The water cycle/terrariums) which began on June 1st the students worked in their teams to construct a terrarium. Given the materials (e.g., various containers, soils, sands, rocks, plants, etc.) the students determined which materials they would use and how to construct their terrariums. They formulated hypotheses about what would happen in their terrariums, and observed on a regular basis to collect and record data. They used this evidence, in addition to the research they had been doing on the water cycle and plants of the rainforest, to propose explanations for what they were observing. Each team then created a poster explaining this process and presented it during the class rainforest tours given to the rest of the school. By the end of the year,

the students had developed and refined their use of the practices of making predictions and using evidence in science.

Summary of Making Predictions and Using Evidence in Science

These analyses suggest that the students in this classroom had multiple opportunities to make predictions and to use evidence throughout various science activities during the school year. The uses of these practices in science built upon those previously introduced. This analysis also demonstrates that the use of these practices was ongoing, indicating that they were becoming patterns of practice (Tuyay et al., 1995).

Making Predictions and Using Evidence in Social Studies

The analyses in this section explore how making predictions and using evidence were developed in the content area of social studies. Specifically, I focus upon two events: "The Introduction to Native Americans (The Kwakiutl)," and the "Chumash food event." Both of these events were a part of a larger cycle of activity called Native Americans (see Table 6.9). As is visible in this table, the events in this cycle of activity occurred both during Spanish reading and during the regular classroom day (see Chapter 3 for a discussion of the distinction). Analysis of the teachers' notes indicated that this cycle of activity was unique in that way. The teachers on the third-

grade team had elected to introduce the social studies textbooks during reading time, and to teach the required social studies curriculum (local Native Americans) during the months of February and March (see Figure 6.1). Mrs. T decided to broaden the scope of the unit, since the textbook dealt with various North American tribes.

An Introduction to Native Americans: The Kwakiutl

The first event, "an introduction to the Kwakiutl", was selected for analysis because it represented the beginning of this cycle of activity. Making predictions and using evidence were also visible in this event. The event was composed of six sub-events (see Table 6.5): Tea party, roundtable, making predictions, textbook analysis, reading social studies text, discussing text. In the first two sub-events, the students participated in a tea party activity, similar to that of the tea party of the story "El Pescador y Su Mujer" discussed previously. The information on these tea party cards however, came from the third-grade social studies texts to which the students had not yet been introduced. Next, they worked as a team to recall what they had read and heard during the tea party (roundtable). After sharing their ideas, Mrs. T asked the students to use this information (what they remembered from the tea party) and to work in pairs to make a prediction:

1000	Mrs. T:	okay
1001		lo que vamos a hacer ahora *(what we're going to do right now)*
1002		antes que salgan *(before you leave)*
1003		y no vamos a salir hasta que tenemos todos *(and we're not going to leave until we have them all)*
1004		con una persona *(with one person)*
1005		ustedes *(you)*(points to two students)
1006		ustedes (points to two students)
1007		ustedes (points to two students)
1008		ustedes (points to two students)
1009		en la mesa *(at your table)*
1010		tienen que decirme *(you have to tell me)*
1011		una predicción *(a prediction)*
1012		quienes son los Kwakiutl *(who are the kwakiutl)*
1013		quienes son *(who are they)*
1014		hablen con su pareja *(talk with your partner)*

In this excerpt, Mrs. T began by proposing an intertextual tie by telling the students that they were going to be making predictions (lines 1001-1012). The students recognized and acknowledged this tie by immediately discussing their ideas for predictions and raising their hands to share them with Mrs. T. This tie is significant because it shows how making predictions had become an established pattern of practice.

In this sub-event, there were multiple opportunities for learning available to the students (see Table 6.15). For example, the students were once again provided with an opportunity to use what they had heard during the tea party (evidence) to generate a prediction. As the

Table 6.15: <u>Opportunities for Learning in the Introduction</u>
<u>to the Kwakiutl Event</u>

Sub-Events	Phases	Opportunities for Learning
3. Making Predictions	3a. Discussing with a partner 3b. Making Predictions	-Making predictions involves working together -One may use what s/he heard (evidence) to generate a prediction -There can be many predictions for the same topic -Recording predictions allows us to revisit them
5. Reading Social Studies Text	5a. Finding unit 5b. Finding page 5c. Reading Text	-One can read keeping his/her predictions in mind
6. Discussing Text	6a. Discussing with a partner 6b. Reporting decisions	-Recording predictions allows us to revisit them to make decisions about them -Proving/disproving predictions requires the use of evidence -One needs to share his/her decision and rationale for that decision with the class

<u>Note.</u> While there were a total of six sub-events in this particular event, only those sub-events where making predictions and using evidence were included in this table.

students stated their predictions, Mrs. T recorded them on chart paper (see Table 6.16). As indicated in Table 6.16, the students took up this opportunity and created various predictions about the Kwakiutl.

The next day, after comparing and contrasting their two textbooks (reading and social studies) as a way to introduce the format and organization of their social studies textbook, the students read the section of their social studies text that explained and discussed the Kwakiutl. After reading this section, Mrs. T asked the students to decide if their predictions from the previous day were supported or refuted:

1008	Mrs. T:	van a leer en *silencio (you are going to read silently)*
1009		sesenta y cuatro *(64)* (shows page in book)
1010		y sesenta y cinco *(and 65)*
1011		hasta aquí *(to here)* (shows in book)
1012		hasta el medio de la página *(to the middle of the page)*
1013		y lo que están *(and what you are)*
1014		tratando de hacer *(trying to do)*
1015		es aprobar *(is prove)*
1016		o desaprobar *(or disprove)*
1017		sus predicciones *(your predictions)*
1018		de ayer *(from yesterday)*

The students took up this opportunity as they told Mrs. T their decisions:

1506	Mrs. T:	quién quiere decirme *(who wants to tell me)*
1507	Sts:	(raising hands)
1508	Mrs. T:	JC

Table 6.16: <u>Kwakiutl Predictions</u>

Quienes Son Los Kwakiutl (predicciones)
-Un tribu de Indios -Indios de Canada -Indios de China -Indios de China -Indios de China -Indios de China -Indios de América -Indios de China -Indios de China -Indios de México -Indios de México -Indios de Guatemala

1509	JC:	no eran de China *(they weren't from China)*
1510	Mrs. T:	entonces *(then)*
1511		aprobada o desaprobada *(proved or disproved)*
1512	JC:	desaprobada *(disproved)*
1513	Mrs. T:	(writes D by the prediction)

In this excerpt, JC was able to tell Mrs. T that the prediction that he and his partner made was disproved because the Kwakiutl were not from China (lines 1509, 1512). The other students who predicted that the Kwakiutl were from China made the same decision:

1530	Mayra/ Cynthia:	(overlapping) desaprobada *(disproved)*
1531	Mrs. T:	como saben *(how do you know)*
1532	Cynthia:	no son de China *(they are not from China)*
1533		son de Canada *(they are from Canada)*

In this segment, Cynthia and Mayra both stated that their prediction was disproved (line 1530). When asked by Mrs. T how they knew this (line 1531), they replied that it was because they [the Kwakiutl] were not from China, they were from Canada (lines 1532-1533).

Throughout the discussion of the reading, Mrs. T asked the students to report their decisions about their predictions (whether they were proved or disproved) and to provide the evidence for their decisions:

1514	Mrs. T:	quién más *(who else)*
1515		Benito y Alejandro
1516		(reading from chart) Indios de Guatemala

1517	Benito:	desaprobada *(disproved)*
1518	Mrs. T:	como saben *(how do you know)*
1519	Alej.:	porque no *(because they are not)*
1520		no (inaudible)
1521	Mrs. T:	son de donde *(where are they from)*
1522	Alej:	Norte América *(North America)*
1523	Mrs. T:	cuál parte *(which part)*
1524	Benito:	Canada
1525	Mrs. T:	entonces *(then)*
1526		desaprobada or aprobada *(disproved or proved)*
1527	Alej:	desaprobada *(disproved)*

In this segment, Benito and Alejandro worked together to provide evidence that their prediction was disproved. Benito began by stating that their prediction was disproved (line 1517). When asked by Mrs. T how they knew this (line 1518), Alejandro provided a response (lines 1519-1520). Mrs. T then asked Alejandro to elaborate on this response by asking him where the Kwakiutl were from (lines 1521). He responded with North America (line 1522). When asked by Mrs. T to specify which part of North America (line 1523), Benito responded with Canada (line 1524). Finally, Alejandro restated their decision (line 1527).

This analysis showed how the students were able to take-up the opportunities for learning that were constructed and available during this event. They were able to use what they had heard during the tea party to generate predictions about the Kwakiutl. They were able to successfully use information in the text as evidence to support and/or refute their predictions. Finally, they were also able to

articulate their decisions and their reasoning when asked to do so by the teacher. What is also visible from this analysis is how the students were becoming more sophisticated in their understandings of how to use these practices. They were now able to immediately generate predictions and to use text evidence to construct and publicly articulate the rationale for their decisions about their predictions.

The Chumash Food Event

The analyses in this section focus upon the Chumash Food Event (see Table 6.6) which occurred on Day 22 of the Native Americans cycle of activity (see Table 6.9). This event consisted of two sub-events: What's in the bag? and How the Chumash prepared acorns. In each of these sub-events, the students were utilizing the practices of making predictions and using evidence. For this reason, this event was selected for analysis and the sub-events were transcribed. The transcripts were examined to identify the opportunities for learning that were constructed and available (see Table 6.17) and how these were taken up and used by the students.

What's in the bag?. This sub-event began with Mrs. T walking to the front of the classroom:

1000	Mrs. T:	(shakes a bag)
1001	Ramón:	food
1002	Sts:	(laugh)
1003	JC:	you have to figure out what's inside
1004	Mrs. T:	(shakes the bag)

Table 6.17: <u>Opportunities for Learning in the Chumash Food Event</u>

Sub-Events	Phases	Opportunities for Learning
1. What's in the Bag?	1a. Making predictions 1b. Using evidence to modify predictions 1c. Revealing the contents	-Making predictions involves using evidence -Making predictions involves working together -One can use evidence to modify predictions -Modifying predictions requires thinking -One needs to be able to articulate the change and the evidence (reasons) for making it -One's use of evidence and reasoning (argument) may be challenged by others -One may decide to wait for more evidence before changing a prediction -One needs to be able to defend publicly one's position (argument and reasons)
2. How the Chumash Prepared Acorns	2a. Making predictions 2b. Reading text 2c. Supporting and/or refuting predictions 2d. Sharing findings	-Making predictions involves using prior knowledge and experiences (evidence) -Supporting and refuting predictions requires the use of evidence -One may use text evidence to support and/or refute predictions -One needs to share his/her decisions

```
1005                 (shakes the bag)
1006  SNI:           a clock
1007  SNI:           a rock
1008  SNI:           a ball
1009  Mrs. T:        (hands bag to student in front team)
1010  Sts:           (pass the bag around)
1011  SNI:           a dice
1012  SNI:           how do you know
```

This excerpt shows that Mrs. T began this sub-event by proposing an intertextual tie (line 1000) to students' previous experience with a similar activity involving a compass (12-1). Ramón and JC immediately recognized and acknowledged this tie. Ramón made a guess about the contents of the bag (line 1001) and JC reminded the students what they were supposed to do (line 1003). Other students also showed their recognition and acknowledgment by providing their guesses (lines 1006-1009; 1011). This tie is significant because it shows that the students recognized that this activity involved making predictions, a pattern of practice that was becoming well established in this classroom by this time of the year (March). It also demonstrates how the students' previous learning was consequential for their experiences in this event.

After the bag had circulated throughout the classroom, Mrs. T asked the students to use the evidence (what they had heard when shaking the bag) to generate a group prediction. She reminded the students that they needed to be in agreement about this prediction. Table 6.18 shows the predictions that were generated by each group.

Table 6.18: <u>Predictions From What's in the Bag?</u>

Team	Prediction #1	Prediction #2	Prediction #3	Prediction #4	Prediction #5	Prediction #6	Prediction #7
Hilo	One die	One die	Not sure yet	Wait for more evidence	Snail	Walnut	Walnut
Lompo	One die	One die	One rock	One rock	Snail	Walnut	Walnut
MuWu	One die	One die	A rock	Wait for more evidence	Snail	Walnut	Walnut
Nahui	One die	One die	A rock	Wait for more evidence	Snail	Walnut	Walnut
Stuk	Un dado (one die)	Un dado (one die)	Wait for more evidence	A rock	Peanut	A fig	Acorn
Wi'ma	Un dado (one die)	Un dado (one die)	Wait for more evidence	One rock	Peanut	Walnut	Walnut

Clues: #1=I am small   #2=You can find me outside   #3=I am usually brown
       #4=I can be eaten   #5=I grow on trees   #6=Chumash Indians used
                                                                  me for food

The first column of this table shows the team names. The students

had selected these team names from a territory map of the Chumash

Indians (i.e., Hilo, Lompo, MuWu, Nahui, Stuk, and Wi'ma). The next

column of this table shows the predictions that each group made after

hearing the bag. Each of the teams predicted that there was a die in

the bag, suggesting that they were using an idea that was proposed

by a student in the previous excerpt.

After the students made their first predictions, Mrs. T reminded

them of the procedures for the rest of the activity:

1055	Mrs. T:	alright
1056		on these cards (shows cards)
1057		I have clues
1058		each team will be able to read one clue
1059		we will come back
1060		and if you would like
1061		to change your prediction based on the clue
1062		you may
1063		but in order to change it
1064		you need to tell me the evidence
1065		and the evidence is on
1066	Sts:	the card
1067	Mrs. T:	so you need to
1068	Sts:	think

In this excerpt, Mrs. T told the students that they would be given an

opportunity to change their predictions (lines 1060-1062), but in order

to do so they needed to be able to provide their evidence (lines 1063-

1066). Given that the students were able to complete lines 1065 and

1068 is evidence that a pattern of practice has been established. As

the activity progressed, the students demonstrated how they took up these opportunities. After hearing the first clue (I am small), all of the groups decided to keep their original predictions (see Table 6.18, column 2), arguing that dice are small.

The second clue, "you can find me outside," prompted four of the groups to change their predictions. Each of these groups reported that they were changing their prediction because dice aren't found outside. A sample of their reasoning is provided in the excerpt below:

2017	Mrs. T:	Wi'ma (name of one of the teams)
2018	Robert:	because
2019	Mrs. T:	hold on
2020		I can't hear
2021		because some people are still talking
2022	Robert:	(waits)
2023		because
2024		because
2025		you can find rocks
2026		and you can't find dice
2027	Mrs. T:	are you telling me
2028		that you want to change it to rock
2029	Robert:	yes
2030	Mrs. T:	(to group members) están de acuerdos todos (do you all agree)
2031	Sts:	(nod heads yes)
2032	Andrew:	(a member of Stuk) some rocks are big

In this excerpt, Robert told Mrs. T that his group wanted to change their prediction to a rock because rocks are found outside and dice are not (lines 2023-2026). When Mrs. T asked if all of the group members agreed, they replied yes (line 2031). However, Andrew, a student of a

different group suggested that in making this change, this group had overlooked the first piece of evidence (I am small) (line 2032). The members of Robert's team ignored this suggestion, and kept their prediction of rock. Three of the groups (Hilo, Stuk, and Wi'ma) decided that they needed more evidence before they changed their prediction. After clue number three (I am usually brown), two of these groups changed their predictions (see Table 6.18, Prediction #4). Stuk and Wi'ma decided to change to rock. It is not possible to determine from the videotape data how and why Andrew changed his mind, but it is interesting to note the change that this group (Stuk) made. One group, Hilo decided to keep waiting for more evidence.

After hearing clue number four (I can be eaten), the students began proposing changes and discussing their reasons in their groups. One group, Hilo, began this way:

403	Linda:	what can you find outside
404		that's brown
405		and can be eaten
406		a snail
407	Paul	a snail
408		yeah
409	María:	un venado (a *deer*)
410	Daniel:	that's not small
411	Linda:	come on
412		let's just wait
413		let's wait till all the clues
414		cuz then we'll know what it is
415	Paul:	a snail
416	Daniel:	a rabbit
417	Paul:	nooooo

In this brief excerpt of their conversation, it is possible to see that the students were aware of and were using the evidence that had been presented thus far (lines 403-406). Linda had seen that they had so far been able to successfully argue that they needed more evidence and she proposed that they use this strategy until the very end (lines 411-414). As Mrs. T called the groups back together to share their changes, Hilo attempted to use this strategy:

2167:	Linda:	uh
2168		we're gonna wait
2169	Mrs. T:	you're going to wait
2170	Paul:	ya
2171	Mrs. T:	wait a second
2172		based on that last piece of evidence
2173		you have
2174		you're going to wait
2175	Linda:	yaa
2176	Paul:	oh
2177		that's the last piece of evidence
2178		a snail
2179	Mrs. T:	what was the last piece of evidence
2180	Paul:	right there (points to person who read
2181		the card)
2182		you can eat it
2183	Daniel:	a bird
2184	Linda:	no
2185		I don't get it
2186	Mrs. T:	es posible comerme (*it is possible to eat me*)
2187		Hilo
2188		can you eat a die
2189	Paul:	no

In this excerpt, it is possible to see that Mrs. T questioned Hilo's

decision to wait for more evidence (lines 2167-2170). She redirected

their attention to the last clue (line 2179) and asked them if it was

possible to eat a die. Paul responded that no, this was not possible

(line 2189). The members of this team began revised their plan and

changed their prediction to snail (see Table 6.18, Prediction #5).

Other teams also changed their predictions:

```
2153  Mrs. T:      alright
2154               what would you like to say
2155  Andrew:      peanut
2156  Mrs. T:      what's your evidence
2157  Andrew:      well
2158               it's small
2159               it's brown
2160               and it can be eaten
2161  Mrs. T:      okay
2162  María:       but it's not outside
2163  Paul:        it's outside
2164  Andrew:      well
2165               they grow on plants
2166  Paul:        outside
```

In this excerpt, a member of Stuk (Andrew) told the class that his team

was changing their prediction to peanut (line 2155). When asked by

Mrs. T for the evidence for this change, he responded by restating

three of the clues that had been read aloud (lines 2157-2160). María,

a member of Hilo, reminded them of the fourth clue (You can find me

outside) and stated that she didn't think that peanuts were found

outside (line 2162). Paul (also a member of Hilo) disagreed with

María and stated that peanuts can be found outside (line 2163).

Andrew suggested that peanuts grow on plants (lines 2164-2165) with Paul contributing that they grow outside (line 2166). This demonstrates how the students in this class were able to provide their reasons for the changes they were suggesting, challenge one another and defend their positions in the face of such challenges.

The fifth clue (I grow on trees) prompted all of the groups to change their predictions. Again, Mrs. T asked each group to articulate the changes they made and their reasons for doing so:

Hilo
2252	Mrs. T:	Hilo
2253	Linda:	a walnut
2254	Mrs. T:	evidence
2255	Paul:	it grows on trees
2256	Mrs. T:	what else
2257	Linda:	it's brown
2258		it's small
2259		and it's outside
2260		and you eat it
2261	Mrs. T:	(records walnut on board)

Stuk
2262	Mrs. T:	Stuk
2263	Andrew:	a fig
2264	Mrs. T:	como se dice fig en español
2265	SNI:	(inaudible)
2266	Mrs. T:	okay
2267		and what's your evidence
2268	Andrew:	well
2269		it's usually round
2270		it's outside
2271		and it grows on trees
2272	Mrs. T	(records fig on board)

Wi'ma
2273	Mrs. T:	Wi'ma

2274	Robert:	walnut
2275	Mrs. T:	what's your evidence
2276	SNI:	porque un walnut (inaudible) *(because a walnut)*
2277	Robert:	it's small
2278		it grows on trees
2279		and it's outside

The other teams (Lompo, MuWu, and Nahui) also changed their predictions to walnut, providing similar reasons to those of Hilo and Wi'ma. These excerpts further demonstrate how the students were taking up the opportunities for using evidence and making predictions that were available to them. Each of the groups was able to return to the clues provided and use them to support their decisions.

After discussing the last clue (The Chumash Indians used me for food) in their small groups, only one group decided to change their prediction:

2331	Mrs. T:	Stuk
2332	Andrew:	we're not sure
2333		but
2334		we think
2335		an acorn
2336		because they had oak trees
2337		and it's small
2338		it's brown
2339		and you eat it
2340		I think
2341		you can make cornbread out of it
2342	Mrs. T:	okay
2343		(records acorn on the board)

As shown in this excerpt, the students of this team used all of the clues available to them to change their prediction one last time (lines 2337-

2339). They were also using prior knowledge of oak trees and the fact that they grow acorns (lines 2335-2336). What is also made visible is that by the end of this sub-event, it was recognized that the students would need to provide their evidence and so Andrew did so without needing to be prompted by Mrs. T (lines 2337-2339).

This analysis shows how the students in this class were further developing their understandings of how to make predictions and use evidence. As the clues were progressively revealed, the students demonstrated that they were able to use each of them to make decisions about whether or not they wanted to change their predictions. They also showed that they could challenge one another and that they could publicly defend their reasoning. Once the students had the opportunity to see the acorn that was in the bag, and to discuss where they grow, Mrs. T began the second part of this event.

How the Chumash prepared acorns. This sub-event began with Mrs. T telling the students that there were four steps the Chumash used to prepare acorns to be eaten:

```
2418  Mrs. T:      in your teams
2419               I want you to try and figure out
2420               make a prediction

                   ---break---

2424               what did they have to do first
2425               in order to be able to eat the acorns
2426               what did they have to do second
2427               what did they have to do third
2428               and what did they have to do fourth
```

2429	kay
2430	cuatro pasos (four steps)
2431	para preparar las bellotes (to prepare
2432	acorns)
2433	para comer (to eat)
2434	que son (what are they)
2435	unas predicciones (predictions)

In this sub-event, it is possible to see that another opportunity to make predictions was available to the students. These predictions differed from those in the previous sub-event, as the students had not yet been presented with specific information about acorns. Thus, they were using what they already knew about this topic to generate possible steps that the Chumash may have taken to prepare their food. Analysis of the teacher's reconstructed head-notes indicated that she recognized that many of the students had visited the Santa Barbara Natural History Museum in second grade and had seen the acorn preparation demonstration done by museum docents. Because the students were working together in groups to generate their predictions, it was thought that these previous experiences might be shared with others.

The students took up this opportunity, with each group making their predictions about how acorns were prepared. Table 6.19 presents the students predictions as recorded by the students. As can be seen from this table, the students had quite a bit of background knowledge that they brought to the making of their predictions. With

Table 6.19: <u>Acorn Preparation Predictions and</u>
<u>Final Decisions</u>

Team	Predictions	Final Decisions
Hilo	1. They find an acorn tree. 2. They climd[a] the tree and got acorns. 3. Then they cooked the acorns. 4. Then they smasht them and made them a paste.	Disproved Disproved Proved Proved
Lompo	1. Crack it open. 2. Cook it. 3. They set it out to cool.	Proved Proved Disproved
MuWu	1. Pick it off the tree. 2. Crack it open. 3. Heat it. 4. Eat it.	Disproved Proved Proved Disproved
Nahui	1. They find it outside. 2. They climb up the tree. 3. They crack it. 4. They eat it.	Proved Disproved Proved Disproved
Stuk	1. They break them open. 2. They put them in water. 3. They take out the inside and push them together. 4. Cook them over a fire.	Proved Proved Disproved Proved
Wi'ma	1. Smash the acorn with the side of ax. 2. Burn the acorn with torch. 3. Then they put them in cold water. 4. They put them in a bucket.	Disproved Proved/disproved Proved Proved

[a]The words, as written by the students, are recorded here. Their spellings were kept as printed on their prediction sheets.

the exception of Lompo, they were able to predict what the four steps of acorn preparation might be.

During the next phase (2b) of this sub-event, the students were reading a handout on Chumash acorn preparation. They were told by Mrs. T to keep their predictions in mind as they read. After all of the students had finished reading, they were instructed to discuss their predictions and to decide whether or not they were proved or disproved using what they had just read as evidence. The third column of Table 6.19 shows the results of their decisions. After the students had decided if their predictions were supported or refuted, Mrs. T asked them to report their findings by simply stating how many of their predictions were proved and how many were disproved.

This analysis shows that the students were able to use their prior-knowledge to make predictions. They were then able to support or refute these predictions appropriately using text evidence.

Summary of Making Predictions and Using Evidence in Social Studies

The analyses in this section made visible how the practices of making predictions and using evidence were further developed in the content area of social studies. By exploring the available opportunities for learning and how these were taken-up by the students, it was possible to see how they were further refining their understandings of these practices. They were able to use their prior

knowledge as well as information provided (i.e., tea party cards, clues) as evidence to make various predictions. The students were further developing their understanding of how to use evidence to support and/or refute their predictions and to construct a rationale (argument) for their decisions. Finally, these analyses showed how the students in this classroom were able to challenge one another using the evidence provided and how they were able to defend their positions and their reasoning publicly. These are practices that social scientists use (National Council for the Social Studies, 1994). While Mrs. T did not make this explicit, as she did in science, it was implied through the continued use and development of these practices across social studies cycles of activity over the duration of the school year.

Opportunities for Learning Across Content Areas

The previous analyses explored how the literate practices of making predictions and using evidence were introduced in Language Arts and further developed in science and social studies. These analyses investigated how these practices were used similarly and differently across content areas. To accomplish this, I conducted a cross-case analysis comparing the opportunities for learning and the use of these practices in science and social science. Because these practices were originally introduced in Language Arts, the previous analysis of "El Pescador y Su Mujer" will be used to inform this

analysis. The results of this analysis are presented in Table 6.20. As indicated in this table, there were various common opportunities for learning across the content areas of science and social studies. Through these common opportunities, the students were able to develop general understandings of how to make predictions and use evidence. For example, one general understanding was that making predictions involves the use of evidence. What constituted evidence, however, differed in science and social studies. In science, evidence was generated through observations and the collection of data. In social studies, it primarily involved the use of written text evidence. Another general understanding was that supporting and refuting predictions requires the use of evidence. Again, the nature of the evidence differed in science and social studies.

What this analysis makes visible is that the students were provided with multiple opportunities for learning how to utilize the practices of making predictions and using evidence across content areas. Because of this, they were able to develop both general and situated understandings of these practices, just as they did with identifying and constructing patterns. This further supports the argument that what counted as being academically literate in this classroom was being able to use similar literate practices (identifying patterns, constructing patterns, making predictions, using evidence) in

Table 6.20: Opportunities for Learning Across Content Areas

Opportunities for Learning	Science	Social Studies
Making predictions involves using evidence	• data collected • prior knowledge and experiences • observation (five senses)	• prior knowledge and experiences • text evidence
One can use evidence to modify predictions	• data collected	• text evidence
Supporting and refuting predictions requires the use of evidence	• data collected	• text evidence'
Recording predictions allows us to revisit them and make decisions about them	• in learning logs • on group record sheet	• on chalk board • on chart paper • on scratch paper
One needs to share decisions about predictions publicly (with the class)	• orally • in the form of a report	• orally
One's use of evidence and reasoning may be challenged by others	• question the data collected • question the findings	• question the interpretation of the text • question the use of evidence
One needs to publicly defend one's position (e.g. use of evidence, rationale, argument)	• provide evidence and how it was used to construct rationale	• provide evidence and how it was used to construct rationale
Making predictions involves working together	• in partners • as a table group	• in partners • as a table group

particular ways for particular purposes in relationship to particular content areas (Brilliant-Mills, 1993; Tuyay et al., 1995).

Chapter Summary and Discussion

This chapter explored the literate practices of making predictions and using evidence. It investigated how these practices were introduced and developed across the school year and cycles of activity. Specifically, it focused upon their use in the content areas of science and social studies.

The data were presented in five sections. In the first section, the practices of making predictions and using evidence were located by tracing them across events over the school year. This analysis showed that these practices were introduced both informally (through activities such as counting stars, constructing patterns, and reading aloud) and formally (through planed lessons and activities).

The second section focused on four events ("Introduction to El Pescador y Su Mujer," "Five Senses Mystery Boxes," "Introduction to Native Americans: The Kwakiutl," and "Chumash Food"), and the opportunities for learning that were constructed within and across these events. Analysis of the first event ("Introduction to El Pescador y Su Mujer") demonstrated that the students were provided multiple opportunities for learning about making predictions and using evidence. It also showed how they were beginning to take up these

opportunities. In the second event ("Five Senses Mystery Boxes"), the investigation focused on how these practices were introduced in science. The opportunities for learning were identified and how these were taken-up by the students was explored. In the final two events ("Introduction to Native Americans" and "Chumash Food"), how these practices were used and developed in social studies was examined. These analyses showed how the students further refined their understandings of making predictions and using evidence.

In the final section of this chapter, a cross-case analysis of the use of these practices was conducted. By examining the opportunities for learning across science and social studies, common opportunities were identified. By considering how these opportunities were taken-up by the students, it was possible to see that they were developing general understandings of making predictions and using evidence. Further analysis showed how these similar practices differed across science and social studies, thus demonstrating the situated nature of these practices.

Together the analyses in this chapter further support those done in Chapter 5. They suggest that what counted as academic literacies in this classroom was understanding both the general and situated nature of particular academic literate practices. In other words, to be academically literate meant knowing how to use literate practices across content areas and recognizing how they were

employed similarly and differently within disciplines (math, science,

social studies).

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[1]While this is not explicitly discussed, it is presented in the event maps for each of the events (in the columns of interactional spaces and languages available) in this chapter and it is evident in many of the transcript segments.

[2]This is the term used in the third grade objectives. For that reason, it is used here.

[3]There was another science event that occurred previous to this one (9-15), with a teacher that had been hired by the school to teach science. Because she was not viewed as a member of this community, and because she was employed only a month, this event was not considered as the "official" beginning of science.

CHAPTER SEVEN

CONCLUSIONS AND IMPLICATIONS

This chapter is organized into five sections. The first section presents an overview of the study and summarizes the findings that address the research questions posed. The next section considers the theoretical implications of this work for past and future work. The third section discusses implications for classroom teaching while the fourth addresses professional development. The final section of this chapter considers the implications for future research studies.

Overview

The Important thing about our class is that we are all different. Our class is bilingual. We come from different places. Our class is different from other classes because we do a lot of projects. . . . We do different things than in other classes. We learn in different ways. . . . But the important thing about our class is that we are all different.
Jennifer (From Room 18's "The Important Book," June 1993)

La cosa importante de nuestra clase es que es diferente. Somos bilingües. En esta clase podemos hablar inglés y español. Trabajamos juntos. Hacemos actividades. Pero la cosa important de nuestra clases es que es diferente.
Lourdes (From Room 18's "The Important Book," June 1993)

(The important thing about our class is that it is different. We are bilingual. In this class we can speak English and Spanish. We work together. We do activities. But the important thing about our class is that it is different.)

As these students (and the others presented in Chapter 4) have clearly articulated, Room 18 was different. Being a member of this classroom meant **working together, being bilingual**, and **learning differently**. These views, as expressed by the students at the end of the school year, did not just happen. Rather, they were carefully co-constructed over time by the teacher and students in this classroom.

The purpose of this dissertation was to develop grounded theoretical constructs about how what counted as academic literacies were socially constructed and situationally defined by the members of this classroom culture. As discussed in Chapters 1 and 2, this theoretical purpose addresses a major gap in educational research, i.e., how to provide linguistically diverse elementary students with opportunities for acquiring academic literacies and, thus, for learning academic content.

Specifically, this study focused on the relationships between literate practices and opportunities for acquiring academic literacies in this particular classroom. To accomplish this goal, I conducted an interactional ethnographic study of a bilingual third-grade classroom, utilizing an interactive-responsive approach (Spradley, 1980; Zaharlick & Green, 1991) for collecting and analyzing the data. As discussed in Chapter 3, the use of Interactional Ethnography as an orienting framework, supported a view of classrooms as cultures

(Collins & Green, 1992; Fernie et al., 1990) and literacy as socially

constructed (Barton, 1994; Bloome, 1985; Cook-Gumperz, 1986; Gee,

1990; Green & Harker, 1982; Heap, 1991; Santa Barbara Classroom

Discourse Group, 1992). It also provided a set of theoretical and

methodological constructs (e.g., events, interactional spaces,

intertextuality, opportunities for learning, etc.) and questions that

guided this study.

Together, these theoretical and analytical tools were used for

exploring how this classroom culture was constructed, what it meant to

be a member of this culture, and how these aspects of classroom life

formed the basis for what counted as academic literacies. As the

analyses in Chapter 4 demonstrated, **working together, being**

bilingual, and **learning differently** were key aspects of life in this

classroom as seen from the perspective of the students. The analyses

in this chapter further demonstrated how Mrs. T introduced each of

these during the first 3 weeks of school. Through particular

organizations of physical spaces, her explicit messages, and the

utilization of multiple interactional spaces, she communicated to

students that working together was a significant part of being a student

in this classroom. This chapter also made visible how the use of two

languages, or being bilingual, came to be an integral part of

classroom life and a resource to be used by all. While Mrs. T's use of

oral Spanish in the public whole class spaces differed from that in the

more private small group spaces (due to pressures from outside of the classroom), the students were allowed and encouraged to use the language(s) of their choice in all spaces. Being a student in Room 18 also meant learning differently. It meant doing math, writing, and projects in particular ways, as well as engaging in a variety of literate actions and practices across the school year. Over time, these practices became cultural resources which the students drew upon when engaging with academic content. These negotiated and established ways of being, living, and working shaped the opportunities available for becoming academically literate.

Analyses in Chapter 5 examined what counted as academic literacies in the national content standards and as literate practices in the classroom, which was the focus of this study. These two sets of analyses were then compared. The results of this cross-case analysis revealed that many of the literate practices constructed in this classroom matched those academic literacies called for in the national standards.

To further investigate how these literate practices were constructed, two (**identifying** and **constructing patterns**) were selected for examination. By conducting sociolinguistic analyses of key face-to-face interactions among members of this classroom culture, **how** these practices were introduced and developed in a particular cycle of activity (**"Looking for Patterns"**) was made

visible. Through the weaving of an intertextual web, the students were provided with multiple opportunities for learning how to use these practices in both language arts and math. In their take-up of these opportunities, the students demonstrated their understandings of both the general and situated nature of these practices. This examination made visible what counted as academic literacies in this classroom.

To further explore this situated definition of academic literacies (i.e., to "test" the findings from Chapter 5), two additional literate practices (**making predictions and using evidence**) were investigated in Chapter 6. Unlike identifying and constructing patterns, these practices were not introduced as part of a particular cycle of activity, but were developed across content areas (e.g., science, social studies) during the school year. The findings in this chapter supported those from Chapter 5 and further suggested that what counted as academic literacies in this classroom was being able to use particular practices in particular ways within and across content areas. They also showed how the use of these practices was "ordinary." These practices constituted ways of doing, knowing, and being in this classroom. Together, these ethnographic and sociolinguistic analyses made visible how the teacher and students in this classroom socially constructed and situationally defined academic literacies.

The findings from this study indicate that if we are going to begin to reverse the current trend of academic underachievement of linguistically diverse students, we need to provide **elementary** students opportunities for acquiring academic literacies. If our students are going to successfully become academically literate, which is a goal of the National Content Standards (National Council for the Social Studies, 1994; National Council of Teachers of Mathematics, 2000; National Research Council, 1996), we cannot wait until high school or college to begin this process. As the third-grade students in this study have demonstrated, they are capable of taking up opportunities for acquiring academic literacies when they are presented with them.

Implications for Theory

This study contributes to work done from an academic literacies perspective (Lea & Street, 1998; Street, 1996) in two important ways. First, by utilizing an interactional ethnographic approach and integrating ethnography with discourse analysis, it makes visible how literate practices are socially constructed and situationally defined. Second, it builds upon the construct of intertextuality by showing how it can be utilized within and across content areas, thus showing how opportunities for acquiring academic literacies and learning academic content are constructed. Through these contributions, this study

expands current understandings of the development of academic literacies and extends this work to younger and to bilingual students.

As discussed in Chapter 2, there is little research that has focused attention on the development of academic literacies with linguistically diverse students. Rather, much of the work has dealt with either the acquisition of academic content (or academic English) or the development of literacy "skills" (e.g., reading and writing) by ESL students. This study suggests that we need to move beyond this separation and begin to see these as interrelated; that literate practices shape academic content, and in turn, are shaped by it. To make visible these relationships and to understand how academic literacies are socially constructed in and through the literate and discursive practices of members of a culture, an expansion of the academic literacies approach is necessary.

While Lea and Street (1998) have argued for and utilized an academic literacies approach in their efforts to understand university writing practices, they have limited their investigations to "an ethnographic style approach" which considers literate practices from a macro view (i.e., through analysis of writing assignments, tutor feedback and interviews of students and tutors). Although this work has been a significant departure from much of the research done from a study skills or academic socialization perspective and has contributed to our understandings of academic literacies, the findings

from this study suggest that it could be further expanded. In order to make visible **how** literate practices are established and **how** opportunities for learning these practices are constructed within and across disciplines, one needs to focus on the language being used to construct them. This suggests that by integrating ethnography with discourse analysis, guided by sociolinguistic and interpretive theories of language in use, it is possible to examine how literate practices and opportunities for learning to become academically literate are socially constructed and situationally defined.

By analyzing the face-to-face interactions of the teacher and students in the classroom that was the focus of this study, it was possible to see how particular literate practices (i.e., identifying and constructing patterns, making predictions and using evidence) were introduced and developed. The students were provided opportunities for learning how to use these practices both within and across content areas and to develop their understandings of both their general and situated nature. It was shown how these patterns of practice became cultural and material resources over time that the students utilized for learning academic content.

By incorporating discourse analysis into an academic literacies approach, this study also made visible how language (in this case both English and Spanish) became a resource for learning academic content. By taking a communicative perspective on language (rather

than considering language as an abstract grammatical and semantic system) and focusing on communication as a dialogic process and meaning as situationally specific, it was possible to see the complexity of how language was used in daily interactions between the teacher and students in this classroom and how discursive practices were related to discipline-specific literacy demands. This provides an alternative view to the research literature that distinguishes between conversational and academic language.

Another key construct that this study contributes to an academic literacies approach is that of intertextuality. Building upon previous work (Bloome & Egan-Robertson, 1993, Floriani, 1993; Rex, 1997), this study examined the intertextual links that are constructed by the teacher and students both within and across events as well as within and across content areas. One way to view these intertextual links is through an adaptation of Kristeva's (1986, as cited in Fairclough, 1992) work which distinguishes between horizontal and vertical dimensions of intertextuality. Horizontal intertextual ties are those "between a text and those which precede and follow it in the chain of texts (p. 103)," while vertical ties are those "relations between a text and other texts . . . historically linked within various time-scales and along various parameters . . . (p. 103)." In the present study, horizontal links would be those constructed in the moment-by-moment interactions in a given event and within a particular content area (e.g.,

identifying constructing patterns in math). Vertical links would be those ties across content areas (e.g., identifying and constructing patterns in math and in writing) and across cycles of activity. By viewing intertextuality in relationship to these dimensions, it is possible to see how students are provided with opportunities for learning and developing both situated and general understandings of academic literacies. This addresses a significant need in the research literature with linguistically diverse students by showing how academic knowledge is co-constructed in classrooms and how it varies within and across disciplines.

Through analyses of the construction of literate practices and intertextual relationships, it is possible to see that there were underlying principles that shaped the opportunities for learning constructed by the teacher and students in this classroom. Together, these principles frame what was meant by an academic literacies approach for learning and teaching in this classroom. Such an approach provided opportunities for the students to:

- work together to construct their own and common understandings of academic content

- utilize the classroom environment, language, literate practices, and intertextual ties as resources for academic learning

- use literate practices both within and across content areas and to construct both situated and general understandings of their use

Underlying these principles is an ideological view of academic literacies as dynamic, socially constructed, and situationally defined. This suggests that it is not possible to understand academic literacies separate from the literate practices constructed in classrooms and the opportunities for learning to become academically literate that are available to students.

Implications for Classroom Teaching

Given the increasing diversity in our schools (as discussed in Chapter 1), if we are to meet the needs of all students, it is imperative that teachers begin thinking about their practice in new ways (Evertson & Murphy, 1992; Marshall, 1992; Peterson, 1992; Wells & Chang-Wells, 1992). This study contributes new ways for teachers to think about their practice in relationship to linguistically diverse students and how to begin to provide them with opportunities for learning and the academic support that they need to successfully become academically literate. To frame this discussion, I return to the aspects of this classroom that the students deemed important (working together, being bilingual, and learning differently) to consider what these may suggest about classroom practice.

Working Together

Throughout the analyses presented in this dissertation, it was possible to see how the students in this classroom regularly worked together to construct their own understandings of the literate practices and academic content. As discussed in Chapter 4, Mrs. T framed this explicitly as part of classroom life during the first 3 weeks of school through the physical arrangement of the classroom, the utilization of interactional spaces, and the messages communicated to students both verbally and in writing.

Physical organization. The physical organization of any classroom communicates particular types of possibilities for being a teacher and student (Bloome, 1989; Bloome & Egan-Robertson, 1993). Mrs. T deliberately organized space in ways that signaled that working together was a part of being a student in this classroom. First, this classroom did not have individual desks. The students worked on tables arranged in groups. Next, the bulletin boards in this classroom were interactive and supported the academic content of focus. The students worked together to construct these bulletin boards throughout the year. Finally, additional work spaces (e.g., the classroom library) were created to allow students to work together on projects, editing stories, etc. All of these spaces signaled to the students that working together was expected.

While the physical arrangement of space is important, it can only go so far. In other words, if one arranges the desks in groups of four and then asks students to "quietly work by themselves," the use of physical space in contradictory to what happens in those spaces. Therefore, teachers must also consider the kinds of interactions that are to happen in such spaces.

Interactional spaces. Mrs. T used a range of interactional spaces within activities and events (see Table 4.1 for a description of these spaces). Looking across the organization of those interactional spaces it is possible to see two predominant patterns of interaction. One pattern that was visible was that in many events (e.g., Name Game Event, Writing Pattern Stories, Introduction to Native Americans), the organization of interactional spaces moved purposefully from whole class to small groups back to whole class. That is, Mrs. T introduced an activity or lesson to the whole class and then expected students to work in a variety of small group spaces (e.g., table groups, pairs, etc.). Finally, she returned to the whole class space and asked students to report the findings or understandings generated in small groups. The use of these varied interactional spaces was intentional. It provided the students opportunities to work together in the language(s) of their choice to construct their own knowledge and understandings of the academic content and to report those understandings to the whole class. It also provided the teacher

with an opportunity to work with small groups of students to further support their learning and meet their individual needs, as discussed in Chapter 4.

The other pattern that became visible was that in the whole class spaces, Mrs. T would pose a question and then ask students to "talk with a partner" to discuss that question. This is different from the typical I-R-E sequence (Edwards & Mercer, 1987; Mehan, 1979; Sinclair & Coulthard, 1975) so often found in classroom interaction between teachers and students, since it provides all of the students an opportunity to answer or discuss the question. It also allows the students an opportunity to "negotiate meaning," which is important for both language and content acquisition (Echevarria & Graves, 1998; Faltis & Hudelson, 1998).

Explicit messages. Finally, as was evident in Chapter 4, Mrs. T communicated explicitly to the students that they were expected to work together. During the first 3 weeks of school she told the students when it was okay to talk and the purposes that such talking served. She was also deliberate in her explanations of when talking was not okay (e.g., SSR time, dialogue journals). In addition to telling the students, she also provided them with multiple opportunities to work together and to discuss their experiences and feelings about doing so during this time.

In these ways, Mrs. T began to establish what it meant to work together in this classroom. This suggests that teachers need to consider the kinds of interactions in which they want students to engage and for what purposes. It also suggests that teachers need to consider how they will facilitate such interactions and how they will make explicit the norms and/or rules for these interactions.

Being Bilingual: Using Language as a Resource

In addition to working together, the students in this class also recognized the importance of being bilingual and being able to use language as a resource for their learning. While Mrs. T's use of oral Spanish in the public whole class space was constrained by the school policy, she encouraged the students to use the language(s) of their-choice. By incorporating a range of interactional spaces in any one event, Mrs. T was able to meet both the needs of the school as well as the needs of the students. For example, even though she provided limited instruction in Spanish in the whole class space, she was able to speak more Spanish and provide instruction in this language in the small group spaces, thus meeting the needs of ALL students.

In the whole class space, Mrs. T rarely just spoke to the students. Rather, she demonstrated for the students what they were expected to do (e.g., showed them how to construct tables in their

learning logs, constructed tile and cube patterns on the chalkboard).
She also provided the students opportunities to work in a paired
space (i.e., to talk with a partner, as mentioned previously), before
expecting them to answer to the whole class, thus allowing them to
communicate in the language of their choice and practice their
language use.

In all of the group projects (i.e., Pattern Books, Reports, etc.) in
this class, the students were expected to work in both English and
Spanish to create a bilingual product. Students were allowed to
choose the language in which they would work. They were
encouraged to communicate with each other across languages and to
utilize the various resources (i.e., informational books, textbooks,
stories, as well as other people) that were available to them in both
English and Spanish. As the students worked on these projects, as
well as other activities across the school year, they recognized that
language was a cultural resource they could draw upon for learning
academic content.

All of this served to equate the status of the two languages in
this classroom. By the end of the year, the students recognized that
being bilingual was an important part of being a member of this
classroom. This suggests that teachers need to consider how they will
create a classroom culture that fosters and encourages the use of
multiple languages as a resource. While the teacher in this classroom

was bilingual, that is not necessarily a prerequisite. Teachers can create interactional spaces that afford students opportunities to communicate in the language(s) of their choice and to utilize resources in those languages. They can also construct learning activities (projects) where students have to use their language resources for academic purposes.

Learning Differently: Acquiring Academic Literacies

Working together and being bilingual became cultural resources that the students used to learn academic content in this classroom. Analyses in Chapters 5 and 6 demonstrated that the students in this classroom were also introduced to a variety of literate practices (e.g., identifying and constructing patterns, making predictions and using evidence) overtime and provided a range of opportunities for learning how to use these practices (and expand their understandings of their uses) within and across content areas. As the analyses showed, there were two distinct ways of accomplishing this. The first was through a cycle of activity that focused upon the development and use of particular literate practices (e.g., identifying and constructing patterns) in math and in writing. To help students construct understandings of these particular practices, Mrs. T focused student attention on them, making them an element of academic content.

Students were also introduced to literate practices when they were not the focus of a particular cycle of activity (e.g., making predictions and using evidence). As demonstrated in Chapter 6, these practices were introduced both informally and formally. In this way, Mrs. T introduced and developed these literate practices across cycles of activity across the school year.

Through both of these ways of introducing and developing literate practices, the students were provided multiple opportunities for learning how to utilize them. They were also provided multiple opportunities to see these literate practices are part of "ordinary" life in this classroom. Because the students took-up these opportunities in their own ways (and in some cases did not take them up), Mrs. T deliberately re-visited them across the year, providing students with multiple, repeated opportunities to use these practices. However, Mrs. T did not revisit these practices in the "same" way each time. Rather, each new instance of exposure built upon previous experiences, thus allowing students to expand their repertoires for using these practices. This suggests that becoming academically literate is a complex, recursive process. It also points to the importance of providing students with multiple and varied opportunities for acquiring academic literacies and learning academic content.

The analyses in Chapters 5 and 6 also highlighted how intertextuality was socially constructed within and between events in this classroom. Analysis across events showed how Mrs. T linked academic content from different disciplines through these literate practices, an instructional pattern not found in much of the research on classroom teaching. Through this weaving of intertextual webs, the students were provided opportunities to understand both the general and situated nature of these practices. These findings suggest that another possible way to integrate various content area curricula is through the use of literate practices.

Summary of Implications for Classroom Teaching

This discussion suggests that to help students become academically literate, teachers need to understand how to provide students with the academic support they need to be successful. This study demonstrated that working together though a variety of interactional spaces (for academic purposes), using language(s) as a resource for academic learning and providing students with multiple opportunities to use and develop their understandings of literate practices within and across content areas (i.e., viewing academic literacies as socially constructed and situationally defined) were key aspects of academic support. In order to accomplish this goal, a

reconsideration of approaches to professional development is necessary.

Implications for Professional Development

Wells and Chang-Wells (1992) argue that if there is to be change in classroom practice it needs to be the result of a change in the ways in which teachers think about their practice in relationship to students' learning. Stenhouse (1975) suggests that the only way to bring about educational change is through the professional development of teachers. From Dewey's (1904) perspective, the ways in which we prepare teachers to think about their work is more important than the teaching and management techniques that we teach them.

The findings from this study suggest new and different ways for teachers to think about their work with linguistically diverse students in relationship to classroom practice, content area curricula, and content standards. Teachers need to be provided with opportunities to ask their own questions of their practice, investigate those questions, and share their evolving understandings with other professional educators. They too need to become academically literate through their own inquiries by using the literate practices they are constructing with their students in their classrooms.

One way to provide such opportunities would be through modified use of interactional ethnography. Recent work has shown how teachers can become ethnographers in their own classrooms, allowing them to consider their practice in new ways, from an ethnographic perspective (Jennings, 1999; Yeager, Floriani, & Green, 1998). While it is not possible to teach a class and simultaneously take fieldnotes, it is possible to videotape what happens in classroom activities. It is also possible to keep a retrospective log or journal (such as the one Mrs. T kept) and to collect classroom artifacts (e.g., student work, texts used, etc.). Each of these provide data that can be analyzed. It is also possible to analyze events on the videotapes by transcribing them. Through the process of transcribing and analyzing transcripts, the complexity of classroom interaction becomes visible.

Adopting an ethnographic perspective can be valuable for both pre-service and inservice teacher education programs. In the Teacher Education Program at UC Santa Barbara, for example, student teachers are required to take an ethnography course in which they learn how to become ethnographers. They assume this role as they enter their student teaching placements and conduct their own studies of the classroom from an ethnographic perspective. This provides the student teachers with opportunities for better understanding what it means to be a member in any given classroom and to ease their

transitions into their field placements (for more information see Frank, 1999).

Inservice staff development programs can also benefit from a modified interactional ethnographic approach. Regardless of the inservice focus or topic, teachers can gain new insights and understandings by videotaping lessons and analyzing them from this perspective. By modifying Spradley's (1980) grand tour and asking questions such as who can say and/or do what, with whom, under what conditions, in what ways, when, where, for what purposes, with what outcomes (Collins & Green, 1992), teachers can begin to see their practice from various perspectives, including those of the students. By transcribing lesson segments or events, it is possible to gain deeper understandings of how instructional practices influence students, particularly those who may not speak the language of instruction. For many teachers, this process allows them to begin to "see" or make visible what often remains invisible. Adopting this approach to professional development allows teachers to learn from their teaching and to use this learning to plan and develop their next instructional steps.

The analyses in Chapters 5 and 6 highlighted the unique ways that Mrs. T conceptualized and organized content area curricula. First, it was evident that she considered the content disciplines (e.g., math, science, social studies) as comprised of the actions and practices of

members of a group (mathematicians, scientists, social scientists).

Given this, she provided the students with opportunities for learning

how to "be" mathematicians, scientists, and social scientists and how

to use the literate practices of each of these disciplines. Second,

instead of integrating the curricula through a theme or topic, a more

common approach to integration (Pappas, Kiefer, & Levstik, 1995),

she linked curricula through literate practices. By thinking about and

integrating in this way, teachers who are faced with implementing

seemingly disparate curricula may be able to find meaningful

consistencies between them.

Finally, given the current standards movement in this country

and given the potential impact of these standards on the lives of

students and teachers, it is important to have ways of thinking about

standards that go beyond "standardization." By conducting analyses

of the actions that are embedded in the standards (similar to those

done in Chapter 5) educators are provided with another way to

examine these standards. Such analyses would serve to highlight the

overlaps in actions between the standards (which is helpful for

planning curricula); how state and national standards are similar and

different, and would provide teachers with a better understanding of

the nature of the standards.

This study also raises questions about how the standards are

assessed. At both the national and state levels, there are current

movements to tie standards to assessment. Such assessments often take the form of standardized tests, which contradicts the purpose and intentions explicitly stated in the national standards. By assessing standards in this limited way (and in some cases linking promotion and retention to such assessments), they are reduced to nothing more than lists of discrete skills and objectives that the students must "master."

While standardized tests are likely to remain a reality in public schools, this study offers alternative ways of assessing standards. It suggests that to begin to see students as "literate" in any given discipline, it is necessary to consider how literate practices and opportunities for learning are socially constructed in classrooms and how the students take them up (or not). By viewing academic literacies in this way, it is possible to see what linguistically diverse students CAN do as opposed to focusing upon their failure and underachievement.

Taken together, the above implications suggest significant changes in professional development. They imply that professional development can no longer be viewed as a one time, isolated experience. Rather, they suggest that teachers need to conduct their own investigations and be provided with ongoing opportunities for learning, re-viewing and refining their craft. They also suggest that teachers and consultants (often researchers) need to establish

ongoing relationships and partnerships in order for such changes to possibly occur.

Implications for Future Research

As long as we continue to investigate academic literacies from an autonomous study skills model or an academic socialization perspective, we will not fully understand how to provide linguistically diverse students with the academic support that they need to be successful in our schools. As this dissertation has demonstrated, an academic literacies approach which integrates both ethnography and discourse analysis is necessary.

Utilizing such an approach requires researchers to examine **both** the macro and micro aspects of classroom life. First, it is necessary to determine what it means to be a member of a particular social group from the members' perspective and to consider how the events of daily life form the basis for what counts as academic literacies. Next, it requires an examination of the literate actions and practices that are constructed in the moment-to-moment interactions of the members of a culture. It also requires an investigation of how intertextual links are constructed within and between events as well as within and between content areas, or the vertical and horizontal dimensions of intertextuality.

Not discussed in this study, but evident in the analyses is that the teacher and students in this classroom constructed particular ways of being with text, or intercontextual ties (Floriani, 1993). Future work is needed to show how intercontextual ties are related to the social construction of academic literacies. By extending Floriani's (1993) work and applying Kristeva's (1986, as cited in Fairclough, 1992) horizontal and vertical dimensions to the construct of intercontextuality, it would be possible to see how such ties might contribute specific and general understandings of literate practices.

Finally, the opportunities for acquiring academic literacies and learning academic content that are constructed and available to the students (members) must be considered. Examining such opportunities and how they are taken-up or not by the students, allows researchers to better understand how access to academic literacies is provided or denied.

Further studies that utilize an academic literacies approach to explore how academic literacies are socially constructed in linguistically diverse elementary and secondary classrooms are needed. Such studies would provide further insights into the complexities of learning in such classrooms and allow us to see how linguistically diverse students are able to achieve academically. To guide such investigations, the findings from this study suggest the following questions:

- What counts as being academically literate in a particular culture (e.g., classroom, reading group, etc.)

- What are the opportunities for acquiring academic literacies? How are these opportunities taken-up (or not) by the members of this cultural group?

- Who has access to academic literacies, how, in what ways, under what conditions, for what purposes, and with what outcomes?

- How do the literate and discursive practices support and/or constrain access to academic content?

While this study begins to answer some of these questions, it only scratches the surface. Clearly, there is much more work that needs to be done that addresses how teachers and students situationally constitute classroom discourses and what counts as academic knowledge in linguistically diverse classrooms. Such inquiries might allow us to begin to understand how academic literacies are socially constructed and situationally defined and how we might more effectively provide ALL students with opportunities for becoming academically literate.

PostScript

Since this research journey began in 1992-93, two significant changes have occurred. First, I left the classroom in 1993, which led to new roles for me in this project. Second, there have been major changes in how linguistically diverse students are educated in the State of California.

Changing Roles

Over the years, I have taken various roles in this study. As these roles shifted gradually from classroom teacher to teacher researcher to university researcher, my questions and interests evolved and changed (see Table 7.1). As indicated in this table, as the teacher in Room 18, I was primarily concerned with how a community was constructed in a bilingual classroom, and how roles and relationships were established and negotiated. After I left the classroom in 1993 to pursue my doctoral degree, to become the supervisor of the university reading clinic, and to teach in the teacher education program, my role gradually shifted to teacher-researcher. Although I was now at the university, it was difficult for me to let go of my role as classroom teacher and this subsequently provided a lens through which I conducted most of my work. As I engaged in preparing various presentations for research conferences and in writing several articles, my questions evolved to match my particular interests (see Table 7.1). With the passage of time, a hiatus from my studies, and continued experiences in teacher education, I was able to re-enter the data set as a researcher for this dissertation. I no longer sought to understand my own practice in order to be a better classroom teacher, but rather to become a more effective teacher educator. This allowed me to be able to view the data through the eyes of an interactional ethnographer.

Table 7.1: Evolving Questions

In the Beginning (1992-93)

• What is happening in collaborative groups?

> - How are students negotiating meaning,
> task, etc.?
> - What gets accomplished? What are the outcomes and how
> are they determined?

• What are the roles and relationships in this classroom?

> - How are these influenced by factors such as language,
> ethnicity, SES, etc.?
> - How are these negotiated?

• What supports and constrains the development of readers and
writers in this classroom?

> - How do students view themselves are readers/writers?
> - How does that view change? What influences this change?
> - How does language use influence this?

• How is community co-constructed in this bilingual classroom?

> - How does this community influence what students learn about
> reading/writing?

1994

• How, in a bilingual classroom, do students and teacher, through their
oral and written discourse, co-construct knowledge and "talk into
being" particular opportunities for learning?

• How do the literate practices co-constructed in classrooms support
or constrain what students have an opportunity to learn about
science?

- How does a "language of" research make visible the co-construction of knowledge?

  - How does "taking up" this language provide a way to reflect upon, talk about, and transform classroom practice?

1995-1997

- What does it mean to be literate in this third-grade bilingual classroom?

  - How are the literate practices defined, shaped and co-constructed?
  - What are the relationships between literate practices and opportunities for learning?
  - How do literate practices support/constrain students' opportunities for learning and access to the content area curriculum?

1997-Present

- What counts as academic literacies in this third-grade bilingual classroom?

  - What are the relationships between literate practices and opportunities for learning academic content?
  - How do students take-up (or not) these opportunities for learning?

There have been two significant influences on my thinking and the transformations that I have made. First, I have been a member of the Santa Barbara Classroom Discourse Group, an ongoing research community comprised of university researchers, teacher-researchers and graduate students. This group is concerned with understanding how everyday life in classrooms is constructed by members through their interactions and how these constructions influence what students have opportunities to access, accomplish and, thus, learn in schools. The members of this community share a common background in writing process and language as a social process (Green & Dixon, 1993). Through my affiliation with this group, I have been provided with multiple opportunities for: Exploring my own questions and those of others; analyzing data from various theoretical orientations and with various analytic tools; learning how to discuss and debate from various positions; challenging my own thinking as well as that of others and, ultimately, to construct my own understandings. Over time, the support that I received from the members of this group enabled me to gracefully transition from classroom teacher to teacher educator. It also allowed me to take on new roles in this research project, thus enriching and enhancing my understandings of what counted as research.

Second, since I left the classroom, I have been involved with both preservice and inservice teacher education. In this role as

teacher educator, I have gained new insights into learning and teaching as I strive to understand classroom practice from their perspectives and through their work with linguistically diverse students. Because of my continued involvement with both the Santa Barbara Classroom Discourse Group and the UCSB Teacher Education program, I have come to see that providing ALL students with access to academic literacies is a significant challenge facing educators as we enter this new century.

Changes in the Education of Linguistically Diverse Students

On June 2, 1998, the voters of California passed Proposition 227 ("English for the Children") which now governs the K-12 education of 1.4 million students in the State of California who are not native speakers of English. The passage of this ballot initiative (currently known as Ed Code 300) had dramatic impact on bilingual education in this state, as it called for all students in public schools to be "taught English by being taught in English." The point here is not to explain proposition 227, but rather to articulate my rationale for continuing with this study in light of the current political situation in this state.

First, while many districts have been forced to provide instruction in English only, there are many others that have been able to acquire enough parent signatures to waive the requirements of Ed

Code 300 and to continue with their bilingual education programs. This was one of the primary reasons that I went forth with this dissertation. I firmly believe that one of the reasons (among many) that this proposition passed is that there has not been enough research that shows how linguistically diverse students can be academically successful in bilingual classrooms and which demonstrates how native English speakers can be equally challenged in such settings.

Second, given that I was the teacher in this classroom and that I was quite constrained by the school policy in my own use of Spanish in this classroom, I felt that this situation was quite similar to that currently faced by many bilingual teachers today. Of course, there were significant exceptions (Spanish reading, Spanish print in the classroom environment, etc.). I wanted to explore the possibilities that might exist for bilingual teachers and students today.

The findings from this study show that when students are able to use language as a resource for academic learning and are provided with opportunities for learning how to use literate practices within and across content areas, they are capable of becoming academically literate. This raises serious questions about whether or not students who are denied such experiences will be able to succeed academically in our public schools, especially at higher grade levels. It would be important to conduct further interactional ethnographic

studies in a variety of classrooms (bilingual, structured immersion,

English-only) to better understand the opportunities for learning that

are available to the students in each of them.

REFERENCES

Adamson, H. D. (1993). *Academic Competence*. New York: Longman.

Alton-Lee, A., & Nuthall, G. (1992). Children's learning in classrooms: Challenges in developing a methodology to explain "opportunity to learn." *Journal of Classroom Interaction*, 27(2), 1-8.

Anyon, J. (1981). Social class and school knowledge. *Curriculum Inquiry, 11*(1), 3-42.

Applebee, A. N., Langer,J., Jenkins,L., Mullis, I., & Foertshe, M. (1990). *The writing report card, 1984-88: Findings from the nation's report card* (National Assessment of Educational Progress). Princeton, NJ: Educational Testing Service.

Au, K. H. (1980). Participation structures in a reading lesson with Hawaiian children: An analysis of a culturally appropriate instructional event. *Anthropology and Education Quarterly, 11*(2), 91-115.

Au, K. H., & Jordan, C. (1981). Teaching reading to Hawaiian children: Finding a culturally appropriate solution. In H. Trueba, G. P. Guthrie, & K. H. Au (Eds.), *Culture in the bilingual classroom: Studies in classroom ethnography* (pp. 139-152). Rowley, MA: Newbury House.

Au, K., & Kawakami, A. J. (1985). Research currents: Talk story and learning to read. *Language Arts, 69*(2), 106-111.

Au, K. H., & Mason, J. M. (1981). Social organizational factors in learning to read: The balance of rights hypothesis. *Reading Research Quarterly, 17*(1), 115-152.

Au, K. J., & Mason, J. M. (1983). Cultural congruence in classroom participation structures: Achieving a balance of rights. *Discourse Processes, 6*(2), 145-167.

Baker, C. D., & Luke, A. (Eds.). (1991). *Towards a critical sociology of reading pedagogy.* Amsterdam/Philadelphia: John Benjamins.

Barrera, R. B. (1983). Bilingual reading in the primary grades: Some questions about questionable views and practices. In T. H. Escobedo (Ed.), *Early childhood bilingual education.* (pp. 164-185). New York: Teachers College Press.

Barton, D. (1994). *Literacy: An introduction to the ecology of written language.* Cambridge, MA: Blackwell.

Bazerman, C. (1988). *Shaping written knowledge: The genre and activity of the experimental article in science.* Madison: University of Wisconsin Press.

Birdwhistell, R. (1977). Some discussion of ethnography, theory and method. In John Brockman (Ed.), *About bateson: Essays on gregorian bateson* (pp. 103-144). New York: E. P. Dutton.

Bloome, D. (1985). Reading as a social process. *Language Arts, 62*(4), 132-142.

Bloome, D. (1986). Building literacy and classroom community. *Theory Into Practice, 25*(2), 71-83.

Bloome, D. (1989). *The social construction of intertextuality in classroom literacy learning.* Paper presented at the annual meeting of the American Education Research Association, San Francisco.

Bloome, D., & Bailey, F. (1992). Studying language through events, particularity, and intertextuality. In R. Beach, J. Green, M. Kamil, & T. Shanahan (Eds.), *Multidisciplinary perspectives on literacy research* (pp. 181-210). Bloomington, IL: National Conference for Research in English/National Council of Teachers of English.

Bloome, D., & Egan-Robertson, A. (1993). The social construction of intertextuality in classroom reading and writing lessons. *Reading Research Quarterly, 28*(4), 305-333.

Boggs, S. T. (1985). *Speaking, relating, and learning: A study of Hawaiian children at home and at school.* New York: Ablex.

Braunger, J., & Lewis, J. P. (1997). *Building a knowledge base in reading.* Portland, OR: Northwest Regional Educational Laboratory.

Brilliant-Mills, H. (1993). Becoming a mathematician: Building a situated definition of mathematics. *Linguistics and Education,* 5(3 & 4), 301-334.

Calderón, M. (1994). Cooperative learning for bilingual settings. In R. Rodríguez, N. J. Ramos, & J. A. Ruiz-Escalante (Eds.), *Compendium of readings in bilingual education: Issues and practices* (pp. 95-110). San Antonio, TX: Texas Association for Bilingual Education.

Castanheira, M. L., Crawford, T., Dixon, C., & Green, J. L. (1998, April). *Interactional ethnography: An approach to studying the social construction of literate practices.* Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Cazden, C. B. (1988). *Classroom discourse: The language of teaching and learning.* Portsmouth, NH: Heinemann.

Cazden, C. B., John, V. P., & Hymes, D. (Eds.). (1972). *Functions of language in the classroom.* New York: Teachers College Press.

Chandler, S. (1992). Learning for what purpose? Questions when viewing learning from a sociocultural curriculum perspective. In H. Marshall (Ed.). *Redefining student learning* (pp. 33-58). Norwood, NJ: Ablex.

Clarke, M., & Silberstein, S. (1977). Toward a realization of psycholinguistic principles for the ESL reading class. *Language Learning,* 27, 135-154.

Coady, J. (1970). A psycholinguistic model of the ESL reader. In R. Mackay, B. Barkman, & R. R. Jordan (Eds.), *Reading in a second language* (pp. 5-12). Rowledy, MA: Newbury House.

Cochran-Smith, M. (1984). *The making of a reader.* Norwood, NJ: Ablex.

Collier, V. (1989). How long? A synthesis of research on academic achievement in a second language. *TESOL Quarterly, 23,* 509-531.

Collier, V. P. (1995). Acquiring a second language. *National Clearinghouse for Bilingual Education, 1*(4), 1-9.

Collins, E., & Green, J. (1992). Learning in classroom settings: Making or breaking a culture. In H. H. Marshall (Ed.), *Redefining student learning* (pp. 59-86). Norwood, NJ: Ablex.

Collins, J. (1986). Differential instruction in reading groups. In J. Cook-Gumperz (Ed.), *The social construction of literacy* (pp. 117-137). New York: Cambridge University Press.

Cook-Gumperz, J. (1986). *The social construction of literacy.* New York: Cambridge University Press.

Corsaro, W. A. (1985). *Friendship and peer culture in the early years.* Norwood, NJ: Ablex.

Crawford, J. (1995). *Bilingual education: History, politics, theory and practice* (3rd ed.). Los Angeles: Bilingual Education Services.

Crawford, T. (1998). *Scientists in the making: An ethnographic investigation of scientific process as literate practice in an elementary classroom.* Unpublished dissertation proposal. University of California, Santa Barbara.

Crawford, T. (1999). *Scientists in the making: An ethnographic investigation of scientific processes as literate practice in an elementary classroom.* Unpublished doctoral dissertation. University of California, Santa Barbara.

Cummins, J. (1979). Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research, 49,* 222-251.

Cummins, J. (1981). The role of primary language development in promoting educational success for language minority students. In *Schooling and language minority children: A theoretical framework* (pp. 3-49). Sacramento, CA: State Department of Education,

Cummins, J. (1986). Empowering minority students: A framework for intervention. *Harvard Educational Review, 56*(1), 18-36.

Cummins, J. (1989). *Empowering Minority Students.* Sacramento,CA: California Association for Bilingual Education.

Cummins, J. (1994). Primary language instruction and the education of language minority students. In *Schooling and language minority students: A theoretical framework* (2nd ed.). Los Angeles: California State University, National Evaluation, Dissemination, and Assessment Center

D'Amato, J. (1987). The belly and the beast: On cultural differences, castelike status and the politics of school. *Anthropology and Education Quarterly, 18*(4), 357-361.

Díaz-Rico, L. T., & Weed, K. Z. (1995). *The crosscultural, language, and academic development handbook.* Boston: Allyn & Bacon.

Díaz, S., Moll, L., & Mehan, H. (1986). Sociocultural resources in instruction: A context-specific approach. In *Beyond language: Social and cultural factors in schooling language minority students.* Los Angeles: California State University, National Evaluation, Dissemination, and Assessment Center

Dewey, J. (1904). The relation of theory to practice in education. In C. A. McMurray (Ed.), *The relation of theory to practice in the education of teachers* (pp. 9-30). Chicago: University of Chicago Press.

Dunn, L. (1987). *Bilingual Hispanic children on the U.S. mainland: A review of research on their cognitive, linguistic, and scholastic development.* Circle Pines, MN: American Guidance Service.

Dúran, R. P., & Szymanski, M. H. (1995). Cooperative learning interaction and construction of activity. *Discourse Processes, 19*(1), 149-164.

Echevarria, J., & Graves, A. (1998). *Sheltered content instruction: Teaching English-language learners with diverse abilities.* Needham Heights, MA: Allyn & Bacon.

Edelsky, C. (1986). *Writing in a bilingual program: Había una vez.* Norwood, NJ: Ablex.

Edelsky, C. (1991). *With literacy and justice for all: Rethinking the social_in language and education.* New York: Falmer Press.

Edelsky, C., Hudelson, S., Flores, B., Barkin, F., Altwerger, B., & Jilbert, C. (1983). Semilinguilism and language deficit. *Applied Linguistics, 4*(1), 1-22.

Eder, D. (1982). Differences in communicative styles across ability groups. In L. C. Wilkinson (Ed.), *Communicating in the Classroom* (pp. 245-264). New York: Academic Press.

Edwards, A. D., & Furlong, V. J. (1978). *The language of teaching.* London: Heinemann.

Edwards, A. D., & Mercer, N. (1987). *Common Knowledge.* London: Methuen.

Ellen, R. F. (Ed.). (1984). *Ethnographic research: A guide to general conduct.* New York: Academic Press.

Emmer, E. T., Evertson, C. M., & Anderson, L. M. (1980). Effective classroom management at the beginning of the school year. *The Elementary School Journal, 80*, 219-231.

Erickson, F., & Shultz, J. (1981). When is a context? Some issues and methods in the analysis of social competence. In J. L. Green & C. Wallat (Eds.), *Ethnography and language in educational settings* (pp. 147-160). Norwood, NJ: Ablex.

Ernst-Slavitt, G. (1997). Different words, different worlds: Language use, power, and authorized language in a bilingual classroom. *Linguistics and Education, 9,* 25-48.

Evertson, C. M., & Emmer, E. (1982). Effective management at the beginning of the school year in junior high classes. *Journal of Educational Psychology, 74,* 485-498.

Evertson, C. M., & Murphy, J. (1992). Beginning with the classroom: Implications for redesigning schools. In H. Marshall (Ed.), *Redefining student learning* (pp. 293-320). Norwood, NJ: Ablex.

Fairclough, N. (1992). *Discourse and social change.* Cambridge,UK: Polity Press.

Fairclough, N. (1993). Critical discourse analysis and the marketization of public discourse: The universities. *Discourse and Society, 4,* 122-169.

Faltis, C.J., & Hudelson, S. J. (1998). *Bilingual education in elementary and secondary school settings.* Needham Heights, MA: Allyn & Bacon.

Fenstermacher, G. (1986). Philosophy of research on teaching: Three aspects. In M. C. Wittrock (Ed.), *Handbook of research on teaching* (3rd ed., pp. 37-49). New York: Macmillan.

Fernie, D., Davies, B., Kantor, R., & McMurray, P. (1993). Becoming a person: Creating integrated gender, peer and student positionings in a preschool classroom. *International Journal of Qualitative Research in Education, 6*(2), 95-110.

Fernie, D., Kantor, R., & Klein, E. (1988). This issue: Becoming a student. *Theory Into Practice, 27*(1), 2.

Fernie, D., Kantor, R., & Klein, E. (1990). *School culture and peer culture influences on adult and child roles in a preschool classroom.* Paper presented at the annual meeting of the American Education Research Association, Boston, MA.

Floriani, A. (1993). The construction of understanding in a sixth-grade bilingual classroom. *Linguistics and Education*, 5(3 & 4), 241-274.

Floriani, A. (1997). *Creating a community of learners: Constructing opportunities for learning and negotiating meaning in a bilingual classroom*. Unpublished doctoral dissertation. University of California, Santa Barbara.

Frank, C. (1999). *Ethnographic eyes: A teacher's guide to clasroom observation*. Portsmouth, NH: Heinemann.

Fránquiz, M. E. (1995). *Transformations in bilingual classrooms: Understanding opportunity to learn within the change process*. Unpublished doctoral dissertation. University of California, Santa Barbara.

Freeman, Y. S., & Freeman, D. E. (1992). *Whole language for second language learners*. Portsmouth, NH: Heinemann.

Gee, J. (1990). *Social linguistics and literacies*. New York: Falmer Press.

Geertz, C. (1983). *Local knowledge: Further essays in interpretive anthropology*. New York: Basic Books.

Gilmore, P., & Glatthorn, A. A. (Eds.). (1982). *Children in and out of school*. Washington DC: Center for Applied Linguistics.

Goldman, S. R., Reyes, M., & Varnhagen, C. K. (1984). Understanding fables in first and second languages. *NABE Journal* 8(2), 35-66.

Goodenough, W. H. (1981). *Culture, language and society*. Menlo Park, CA: Cummings.

Goodman, K. S., & Burke, C. L. (1968). *Study of children's behavior while reading orally*. (U.S.O.E. Final Report, Project No. S425, Contract No. OE-6-10-136). Washington, DC: U.S. Department of Health, Education, and Welfare.

Goodman, K., & Goodman, Y. (1978). *Reading of American children whose language is a stable rural dialect of English or a language other than English* . (Final report, Project NIE-00-3-0087). Washington DC: U. S. Department of Education.

Goodman, K., Goodman, Y., & Flores, B. (1979). *Reading in the bilingual classroom: Literacy and biliteracy*. Rosslyn, VA: National Clearinghouse for Bilingual Education.

Grabe, W. (1991). Current developments in second language reading research. *TESOL Quarterly, 25*(3), 375-406.

Green, J. (1977). *Pedagogical style differences as related to comprehension performance: Grade one through three*. Unpublished doctoral dissertation, University of California, Berkeley.

Green, J. (1983). Exploring classroom discourse: Linguistic perspectives on teaching-learning processes. *Educational Psychologist, 18*(3), 180-198.

Green, J., & Bloome, D. (1997). Ethnography and ethnographers of and in education: A situated perpsective. In S. B. Heath, J. Flood, & D. Lapp (Eds.), *Handbook of research in the visual and communicative arts* (pp. 181-202). New York: Macmillan.

Green, J,. & Dixon, C. (1993). Talking knowledge into being: Discursive and social practices in classrooms. *Linguistics and Education* , 5(3 & 4), 231-240.

Green, J., & Dixon, C. (1996). Language of literacy dialogues: Facing the future or reproducing the past. *Journal off Literacy Research, 28*(2), 290-300.

Green, J., Dixon, C., & Zaharlick, A. (in press). Ethnography as a logic of inquiry. *Handbook on teaching and reading the English language arts*. New York: MacMillan.

Green, J., Franquiz, M., & Dixon, C. (1997). The myth of the objective transcript: Transcribing as a situated act, *TESOL Quarterly, 31*(1), 172-176.

Green, J., & Harker, J. O. (1982). Gaining access to learning: Conversational, social and cognitive demands of group participation. In L. C. Wilkinson (Ed.), *Communicating in the classroom* (pp. 183-221). New York: Academic Press.

Green, J. L., & Harker, J. O. (Eds.) (1988). *Multiple perspective analyses of classroom discourse*. Norwood, NJ: Ablex.

Green, J., Kantor, R., & Rogers, T. (1991). Exploring the complexity of language and learning in the classroom. In B. Jones & L. Idol (Eds.), *Educational values and cognitive instruction: Implications for reform* (Vol. II, pp. 334-362). Hillsdale, NJ: Erlbaum.

Green, J., & Meyer, L. (1991). The embeddedness of reading in classroom life: Reading as a situated process. In C. Baker & A. Luke, (Eds.), *Toward a critical sociology of reading pedagogy* (pp. 141-160). Amsterdam: John Benjamins.

Green, J. L., & Wallat, C. (1979). What is an instructional context? An exploratory analysis of conversation shifts across time. In O. Garnica & M. King (Eds.), *Language, children and society* (pp. 159-174). New York: Pergamon.

Green, J. L., & Wallat, C. (1981). Mapping instructional conversations-a sociolinguistic ethnography. In J. L. Green & C. Wallat (Eds.), *Ethnography and language in educational settings* (pp. 161-205). Norwood, NJ: Ablex.

Gumperz, J. (1982). *Discourse strategies*. Cambridge: Cambrige University Press.

Gumperz, J. (1986). Interactive sociolinguistics on the study of schooling. In J. Cook-Gumperz (Ed.), *The social construction of literacy* (pp. 45-68). New York: Cambridge University Press.

Gumperz, J. J. (1992). Contextualization and understanding. In A. Duranti & C. Goodwin (Eds.), *Rethinking context: Language as an interactive phenomenon* (pp. 229-252). Cambridge: Cambridge University Press.

Gumperz, J. J., & Herasimchuk, E. (1972). Conversational analysis of social meaning: A study of classroom interaction. In R. Shuy (Ed.), *Sociolinguistics: Current trends and prospects*. Washington DC: Georgetown University Press.

Gumperz, J., & Hymes, D. (Eds.). 1972. *Directions in sociolinguistics: The ethnography of communication*. New York: Holt, Rinehart & Winston.

Gutierrez, K. (1990). Enhancing academic literacy for language minority students. In J. G. Bain & J. L. Herman (Eds.), *Making schools work for underachieving minority students* (pp. 127-136) New York: Greenwood Press.

Gutierrez, K. (1993). How talk, context, and script shape contexts for learning: A cross-case comparison of journal sharing. *Linguistics & Education*, 5(3 & 4), 335-365.

Hakuta, K. (1986). *Mirror of language: The debate on bilingualism*. New York: Basic Books.

Hakuta, K., Butler, Y. G., & Witt, D. (2000). *How long does it take English learners to attain proficiency?* University of California Linguistic Minority Research Institute Policy Report 2000-1.

Hammersley, M., & Atkinson, P. (1992). *Ethnography: Principles in practice*. New York: Routledge.

Heap, J. (1991). A situated perspective on what counts as reading. In C. Baker & A. Luke, (Eds.), *Toward a critical sociology of reading pedagogy* (pp. 141-160). Amsterdam: John Benjamins.

Heath, S. (1982). Ethnography in education: Defining the essentials. In P. Gilmore & A. Glatthorn, *Children in and out of school* (pp. 33-58). Washington DC: Center for Applied Linguistics.

Heath, S. B. (1983). *Ways with words: Language, life and work in communties and classrooms*. London: Cambridge University Press.

Heras, A. I. (1993). The construction of understanding in a sixth grade bilingual classroom. *Linguistics and Education*, 5(3 & 4), 275-299.

Hicks, D. (1995). Discourse, learning, and teaching. *Review of Research in Education, 21,* 49-95.

Hiebert, E. H. (1987). The context of instruction and student learning: An examination of Slavin's assumptions. *Review of Educational Research, 57*(3), 337-340.

Hiebert, J. (2000). *Relationships between research and the NCTM standards* [On-line].
www.nctm.org/jrme/abstracts/volume_30/vol30-01-hiebert.html.

Hornberger, N. H. (1989). Continua of biliteracy. *Review of Education Research, 59*(3), 271-296.

Hornberger, N. H. (1994). Continua of biliteracy. In B. M. Ferdman, R. M. Weber, & A. G. Ramírez (Eds.), *Literacy across languages and cultures* (pp. 103-139). Albany: State University of New York Press.

Hudelson-López, S. (1975). A study of the use of context by native Spanish-speaking children when they read I Spanish. Doctoral dissertation, University of Texas at Austin. In K. Goodman, Y. Goodman, & B. Flores. (1979). *Reading in the bilingual classroom: Literacy and biliteracy.* Rosslyn, VA: National Clearinghouse for Bilingual Education.

Hudelson, S. (1994). Literacy development of second language children. In F. Genesee (Ed.), *Educating second language children* (pp. 129-158). New York: Cambridge University Press.

Hymes, D. (1974). *Foundations in sociolinguistics: An ethnographic approach.* Philadelphia: University of Pennsylvania Press.

Irvine, J. J. (1990). *Black students and school failure.* New York: Greenwood Press.

Ivanic, R. (1994). I is for interpersonal: Discoursal construction of writer identities and the teaching of writing. *Linguistics and Education, 6,* 3-15.

Jacobson, R. (1989). Allocating two languages as a key feature of a bilingual methodology. In R. Jacobson & C. Faltis (Eds.), *Language distribution issues in bilingual schooling* (pp. 3-17). England: Multilingual Matters.

Jennings, L. B. (1996). *Multiple contexts for learning social justice: An ethnographic and sociolinguistic study of a fifth-grade bilingual class.* Unpublished doctoral dissertation, University of California, Santa Barbara.

Jennings , L. B. (1999). Reading the world through ethnographic eyes. *The California Reader, 31*(4), 11-13.

Jennings, L. B., O'Keefe, T., & Shamlin, M. (1999). Creating spaces for classroom dialogue: Co-constructing democratic classroom practices in first and second grade. *Journal of Classroom Interaction, 34*(2), 1-15.

Jiménez, R. T., García, G. E., & Pearson, P. D. (1996). The reading strategies of Latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly, 31,* 91-112.

Jordan, C. (1985). Translating culture: From ethnographic information to educational program. *Anthropology and Education Quarterly, 16,* 105-123.

Kamin, L. J. (1974). *The science and politics of I.Q.* Hillsdale, NJ: Erlbaum.

Kantor, R., Green, J., Bradley, M., & Lin, L. (1992). The construction of schooled discourse repertoires: an interactional sociolinguistic perspective on learning to talk in preschool. *Linguistics and Education, 4,* 131-172.

Kelly, G. J. (1999, April). *Disciplinary knowledge as interactional accomplishments in school settings: Methodological considerations.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Kelly, G. J., & Crawford, T. (1996). Students' interaction with computer representations: Analysis of discourse in laboratory groups. *Journal of Research in Teaching, 33*(7), 693-707.

Krashen, S. & Biber, D. (1988). *On course: Bilingual education's_success in California.* Sacramento: California Association for Bilingual Education.

Lea, M. R., & Street, B. (1998). Student writing in higher education: an academic literacies approach. *Studies in Higher Education, 23*(2), 157-172.

Lemke, J. (1990). *Talking science: Language, learning and values.* Norwood, NJ: Ablex.

Lin, L. (1993). Language of and in the classroom: Constructing the patterns of social life. *Linguistics and Education, 5* (3 & 4), 367-409.

Mace-Matluck, B. J., Hoover, W. A., & Calfee, R. A. (1989). Teaching reading to bilingual children: A longitudinal study of teaching and learning in the early grades. *NABE Journal, 13*(3), 187-216).

Macías, R. F., & García Ramos, R. G. (1995). Changing schools for changing students. In R. F. Macías & R. G. García Ramos (Eds.), *Changing schools for changing students* (pp. v-xvii). University of California Regents: Linguistic Minority Research Institute.

Marshall, H. H. (1992). *Redefining Student Learning: Roots of educational change.* Norwood, NJ: Ablex.

Marshall, H. H., & Weinstein, R. S. (1988). Beyond quantitative analysis: Recontextualization of classroom factors contributing to the communication of teacher expectations. In J. L. Green & J. O. Harker (Eds.), *Multiple perspective analyses of classroom discourse* (pp. 249-279). Norwood, NJ: Ablex.

McDermott, R. P. (1976). *Kids make sense: An ethnographic account of the interactional management of success and failure in one first grade classroom.* Unpublished doctoral dissertation. Stanford, CA: Stanford University.

McDermott, R. P. (1977). Social relations as contexts for learning in school. *Harvard Educational Review, 47*(2), 198-213.

McKenna, M. C., & Robinson, R. D. (1990). Content literacy: A definition and implications. *Journal of Reading, 34*(3), 184-186.

McLaughlin, B. (1987). Reading in a second language: Studies with adult and child learners. In S. R. Goldman, & H. Trueba (Eds), *Becoming literate in English as a second language* (pp. 57-70). Norwood, NJ: Ablex.

Mehan, H. (1979). *Learning lessons*. Cambridge, MA: Harvard University Press.

Michaels, S. (1981). Sharing Time: Children's narrative styles and differential access to literacy. *Language and Society, 10*, 423-442.

Mitchell, J.C. (1983). Case and situation analysis. In R. F. Ellen (Ed.), *Ethnographic research: A guide to general conduct* (pp. 238-241). New York: Academic Press.

Moll, L. (1986). Writing as communication: Creating strategies learning environments for students. *Theory Into Practice, 25*(2), 103-108.

Moll, L. C., & Diaz, S. (1985). Ethnographic pedagogy: Promoting effective bilingual instruction. In E. E. Garcia & R. V. Padilla (Eds.), *Advances in bilingual education research*. Tuscon: The University of Arizona Press.

Moll, L., Diaz, E., Estrada, E., & Lopes, L. M. (1992). Making contexts: The social construction of lessons in two languages. In S. Arvizu and M.Saravia-Shore (Eds.), *Cross-cultural literacy*. New York: Garland Publishing.

Moll, L. C., & Dworin, J. E. (1996). Biliteracy development in classrooms: Social dynamics and cultural possibilities. In D. Hicks, (Ed.), *Discourse, learning, and schooling* (pp. 221-246). New York: Cambridge University Press.

National Council for the Social Studies. (1994). *Expectations of excellence: Curriculum standards for social studies*. Washington DC: Author.

National Council for the Teaching of Mathematics. (2000). Principles & Standards Document: Grades 3-5 (draft) [On-line]. http://standards-e.nctm.org/1.0/normal/standards/stdsK12int.html

National Council of Teachers of Mathematics. (1991). *Professional standards for teaching mathematics*. Reston,VA: Author.

National Research Council. (1996). *National science education standards*. Washington DC: National Academy Press.

Oakes, J. (1986). Tracking, inequality, and the rhetoric of school reform: Why schools don't change. *Journal of Education*, *168*(1), 60-80.

Ochs, E. (1979). Transcription as theory. In E. Ochs & B. B. Schefflin (Eds.), *Developmental pragmatics* (pp. 43-72). New York: Academic Press.

Ohanian, S. (1999). *One size fits few: The folly of educational standards*. Portsmouth, NH: Heinemann.

Pappas, C. C., Kiefer, B. Z., & Levstik, L. S. (1995). *An integrated language perspective in the elementary school*. White Plains, NY: Longman.

Pearson, P. D. (1996). Six ideas in search of a champion: What policymakers should know about the teaching and learning of literacy in our schools. *Journal of Literacy Research*, *28*(2), 302-309.

Pearson, P. D., & Stephens, D. (1994). Learning about literacy: A 30-year journey. In R. B. Ruddell, M. R. Ruddell & H. Singer (Eds.), *Theoretical models and processes of reading* (pp. 22-42). Newark, DE: International Reading Association.

Pérez, B., & Torres-Gúzman, M. E. (1996). *Learning in two worlds*. New York: Longman.

Peterson, P. L. (1992). Revising their thinking: Keisha Coleman and her third grade mathematics class. In H. Marshall (Ed.), *Redefining student learning* (pp. 151-176). Norwood, NJ: Ablex.

Phillips, S. U. (1972). Participant structures and communicative competence: Warm Springs children in community and classroom. In C. Cazden, V. John, & D. Hymes (Eds.), *Functions of language in the classroom*. New York: Teachers College Press.

Porter, A. (1993). Defining and measuring opportunity to learn. In *The Debate on Opportunity-to-Learn Standards*, (pp. 33-60), Washington, DC: National Governors' Association.

Prado-Olmos, P. L. (1995). Supporting bilingual students' learning: Teacher and students in cooperation. In R. F. Macías & R. G. García Ramos (Eds.), *Changing schools for changing students* (pp. 35-62). University of California Regents: Linguistic Minority Research Institute.

Prentiss, T. M. (1995). Constructing literacy practices: An analysis of student lived and perceived experiences in high school English. *Journal of Classroom Interaction, 30*(2), 27-39.

Putney, L. G. (1997). *Collective-Individual development in a fifth grade bilingual classroom: An interactional ethnographic analysis of historicity and consequentiality.* Unpublished doctoral dissertation, University of California, Santa Barbara.

Putney, L. G., Green, J., Dixon, C., Durán, R., & Yeager, B. (2000). Consequential progressions: Exploring collective-individual development in a bilingual classroom. In C. D. Lee & P. Smagorinsky (Eds.), *Constructing meaning through collaborative inquiry: Vygotskian perspectives on literacy research* (pp. 86-126). New York: Cambridge University Press.

Ramirez, J. D., Yuen, S. D., & Ramey, D. R. (1991). *Executive Summary. Final Report: Longitudinal study of structured English immersion strategy, early-exit and late-exit transitional bilingual education programs for language minority children.* (Contract No. 300-87-0156). San Mateo, CA: Aguirre International. (Submitted to U.S. Department of Education)

Randolph, C. H., & Evertson, C. M. (1995). Managing for learning: Rules, roles, and meanings in a writing class. *Journal of Classroom Interaction*, *30*(2), 17-25.

Rex, L. A. (1997). *Making a case: A study of the classroom construction of academic literacy*. Unpublished doctoral dissertation, University of California, Santa Barbara.

Rex, L., Green, J., & Dixon, C. (1997). Making a case from evidence: Constructing opportunities for learning academic literacy practices. *Interpretations*, *30* (2), 78-104.

Reyes, M. de la Luz. (1987). Comprehension of content area passages: A study of Spanish/English readers in third and fourth grade. In S. R. Goldman & H. T. Trueba (Eds.), *Becoming literate in English as a second language* (pp. 107-126). Norwood,NJ: Ablex.

Reyes, M. de la Luz. (1992). Challenging venerable assumptions: Literacy instruction for linguistically diverse students. *Harvard Educational Review*, *62*(4), 426-446.

Reyes, M. de la Luz, & McCollum, P. (1992). Language, Literacy, and Educational Reform. *Education and Urban Society*, *24*(2), 171-177.

Rigg, P., & Allen, V. G. (1989). *When they don't all speak English*. Urbana, IL: National Council of Teachers of English.

Rist, R. C. (1970). Student social class and teacher expectations: The self-fulfilling prophecy in ghetto education. *Harvard Educational Review*, *40*(3), 411-451.

Rivera, C. (Ed.). (1984). *Language proficiency and academic achievement*. Avon, England: Multilingual Matters.

Rosenthal, R. (1973). The pygmalion effect lives. *Psychology Today*, *7*(4),56-60, 62-63.

Rosenthal, R., & Jacobson, L. (1968). *Pygmalion in the classroom*. New York: Holt, Rinehart & Winston.

Ruddell, R. B., Ruddell, M. R., & Singer, H. (Eds.). (1994). *Theoretical models and processes of reading.* Newark, DE: International Reading Association.

Santa Barbara Classroom Discourse Group. (1992). Constructing literacy in classrooms: Literate actions as social accomplishments. In H. Marshall (Ed.), *Redefining student learning* (pp. 59-85). Norwood, NJ: Ablex.

Saville-Troike, M. (1984) What really matters in second language learning for academic achievement? *TESOL Quarterly,* I(2), 199-219.

Silberstein, S. (1987). Let's take another look at reading: Twenty-five years of reading instruction. *English Teaching Forum, 25,* 28-35.

Sinclair, J .M., & Coulthard, R. M. (1975). *Towards an analysis of discourse: The English used by teachers and pupils.* London: Oxford University Press.

Skutnab-Kangas, T. (1981). *Bilingualism or not: The education of minorities.* Clevedon, England: Multilingual Matters.

Skutnabb-Kangas, T., & Toukomaa, P. (1976). *Teaching migrant children's mother tongue and learning the language of the host country in the context of the sociocultural situation of the migrant family.* Helsinki: The Finnish National Commission for UNESCO.

Slavin, R. E. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. *Review of Educational Research, 57*(3), 293-336.

Souza-Lima, E. (1995). Culture revisited: Vygotsky's ideas in Brazil. *Anthropology and Education Quarterly,* 26(4), 443-457.

Spangenberg-Urbschat, K., & Pritchard, R. (Eds). (1994). *Kids come in all languages: Reading instruction for ESL students.* Newark: DE: International Reading Association.

Spradley, J. P. (1980). *Participant observation.* New York: Holt, Rinehart & Winston.

Stenhouse, L. (1975). *An introduction to curriculum research and development*. London: Heinemann.

Street, B. (1984). *Literacy in theory and practice*. Cambridge: Cambridge University Press.

Street, B. (1993). *Cross-cultural approaches to literacy*. Cambridge: Cambridge University Press.

Street, B. (1995). *Social literacies*. London: Longman.

Street, B. (1996). Academic literacies. In D. Baker, J. Clay, & C. Fox (Eds.), *Challenging ways of knowing in English, math and science* (pp. 101-134). Washington, DC: Falmer Press.

Strike, K. A. (1974). On the expressive potential of behaviorist language. *American Educational Research Journal, 11*(2), 103-120.

Tharp, R., & Gallimore, R. (1988). *Rousing minds to life: Teaching, learning and schooling is social context*. Cambridge, England: Cambridge University Press.

Thomas, W. P., & Collier, V. (1995). Language Minority Student Achievement and Program Effectiveness. *CABE Newsletter*

Tinajero, J. V., & Silva, N. (1994). Language and literacy instruction for students acquiring English. In R. Rodríguez, N. J. Ramos, & J. A. Ruiz-Escalante (Eds.), *Compendium of readings in bilingual education: Issues and practices* (pp. 111-118). San Antonio: Texas Association for Bilingual Education.

Troike, R. C. (1984). SCALP: Social and cultural aspects of language proficiency. In C. Rivera (Ed.), *Language proficiency and academic achievement*. Avon, England: Multilingual Matters.

Tuyay, S. (1999). Exploring the relationships between literate practices and opportunities for learning. *Primary Voices, 7*(3), 17-23.

Tuyay, S., Floriani, A., Yeager, B., Dixon, C., & Green, J. (1995). Constructing an integrated, inquiry-oriented approach in classrooms: A cross-case analysis of social, literate, and academic practice. *Journal of Classroom Interaction, 30*(2), 1-15.

Tuyay, S., Jennings, L., & Dixon, C. (1995). Classroom discourse and opportunities to learn: An ethnographic study of knowledge construction in a bilingual third grade classroom. *Discourse Processes, 19*(1), 75-110.

Waggoner, D. (1994). Language minority school age population now totals 9.9 million. *NABE News, 18*(1), 24-26.

Weade, G. (1992). Locating Learning in the times and spaces of teaching. In H. Marshall (Ed.), *Redefining student learning* (pp. 87-118). Norwood, NJ: Ablex.

Weber, R. M. (1991). Linguistic diversity and reading in American society. In R. Barr, M.Kamil, P. Morsenthal, & P. D. Pearson, (Eds.), *Handbook of Reading Research, Volume II* (pp. 97-119). New York: Longman.

Wells, G., & Chang-Wells, G.L. (1992). *Constructing knowledge together: Classrooms as centers of inquiry and literacy.* Portsmouth, NH: Heinemann.

Whitmore, K. F., & Crowell, K. (1994). *Inventing a classroom: Life in a bilingual whole language learning community.* Freeport, ME: Stenhouse.

Wong-Fillmore, (1991). When learning a second language means losing the first. *Early Childhood Research Quarterly, 6*, 324-346.

Yeager, B., Floriani, A., & Green, J. (1998). Learning to see learning in the classroom: Developing an ethnographic perspective. In D. Bloome & A. Egan-Robertson (Eds.), *Students as inquirers of language and culture in their classrooms* (pp. 115-140). Cresskill, NJ: Hampton Press.

Zaharlick, A., & Green, J. (1991). Ethnographic research. In J. L. Flood, J. Jensen, D. Lapp, & J. Squire (Eds.), *Handbook on teaching and reading the English language arts* (pp. 205-225). New York: MacMillan.

Zamel, V. (1998). Questioning Academic Discourse. In V. Zamel & R. Spack (Eds.), *Negotiating academic literacies: Teaching and learning across languages and cultures* (pp. 187-198). Hillsdale, NJ: Lawrence Erlbaum Associates.

Zamel, V., & Spack, R. (1998). *Negotiating academic literacies: Teaching and learning across languages and cultures* (pp. 187-198). Hillsdale, NJ: Erlbaum Associates.

REFERENCES: CHILDREN'S LITERATURE

Baylor, B., & Parnall, P. (1974). *Everybody needs a rock.* New York: Aladdin Books.

Charlip, R. (1993). *Fortunately.* New York: Aladdin.

Ohara, M. (1987). El pescador y su mujer." In *Aventuras Infantiles.* Ventura, CA: Alegria Hispana Publications.

Garza, C. L. (1990). *Family pictures/Cuadros de familia.* San Francisco, CA: Children's Book Press.

Hoberman, M. A. (1978). *A house is a house for me.* New York, NY: Viking Penguin.

Jeffers, S. (1991). *Brother eagle, sister sky.* New York: Dial Books.

Kurusa & Doppert, M. (1981). *La calle es libre.* Caracas, Venezuela: Ediciones Ekare-Banco del libro.

Martin Jr., B., & Archambault, J. (1987). *Knots on a counting rope.* New York: Henry Holt and Company.

Munsch, R. N., & Martchenko, M. (1989). *La princesa vestida con una bolsa de papel.* Toronto, Canada: Editorial Annick Press LTD.

Wise Brown, M. (1949). *The important book.* New York: Trumpet Club.

Wood, A. (1984). *The napping house.* Orlando, FL: HBJ.

APPENDIX A

Excerpt From Parent Information Packet

"At the X School, we feel it is very important that your child understands what skills she or he is supposed to be learning. This means that all students should have a clear idea of what they are to be working on, why they are working on it, and how they are progressing. We call this Mastery Learning.

In Mastery Learning, the teachers in each grade know what kinds of things they should be teaching students at each grade level and how those things will benefit each student. This process is broken down into learning "objectives" that each student must master before they move on to the next part of the learning sequence.

All students are presented with these objectives so that they understand what they are supposed to be doing, what needs to be learned and how they know that they have mastered the objectives. As the students learn the lessons, they are checked by the teacher to make sure they have learned what they are supposed to learn. In this way, the students and the teachers agree on what the learning process will be. When the student succeeds learning the objective, she or he is passed on to the next step. If he or she is having trouble learning the objective, the teacher may suggest other ways to help the student accomplish the learning."

APPENDIX B

Event Maps - Day 1 to Day 3

Event Map-Day One (9/9/92)

Time	Event	Sub-Events	Actions	Languages Available
8:22:35	Welcoming		-finding seats -asking questions -talking with others -getting familiar with classroom -reading contents of welcome bags	English & Spanish
8:35:10	Intro-ductions	Teachers Students to table groups Students to whole class	-listening to two languages -making choices (name, language of introduction) -introducing self -sharing information	English & Spanish
9:17:48	Name Game	Explaining the activity Doing "Name game" Discussing activity	-Listening to directions -sharing ideas -generating lists of information -working together -sharing ideas, opinions -reporting to the class	English & Spanish
10:15:20	Scavenger Hunt		-listening to directions -asking questions -gathering information -sharing personal experiences -talking with others -reporting information -identifying multiple ways to solve a problem	English & Spanish

			-solving problems	
11:11:45	Third Grade	What have you heard? Reading letters Comparing/ contrasting	-sharing ideas with others -using prior knowledge -reading letters silently -reading aloud to the class -comparing & contrasting	English & Spanish
11:45:40	Silent Reading	Class library explained Selecting books Reading Silently	-listening -making choices -reading text of choice silently	English & Spanish
12:59:42	Read Aloud		-listening to a story -discussing text -identifying fantasy/reality -using evidence	English
1:07:34	Interest Inventories	Directions for activity Doing interest inventories Sharing	-Listening to directions -answering questions -expressing interests -sharing interests with others	English & Spanish
1:58:00	Treats	Names of classmates Eating Free Play	-remembering names of classmates -playing together	English

Event Map-Day Two (9/10/92)

Time	Event	Sub-events	Actions	Languages Available
8:26:44	Morning Business	Explaining procedures Attendance Checking homework	-listening to directions -putting things away -taking out homework -talking with others -solving problems -sharing problem solving strategies	English & Spanish
8:41:04	Dialogue Journals	Reading letters Explanation of journals Modeling letter writing Writing in journals	-reading silently -listening to/watching directions -using prior knowledge -sharing ideas -writing letters in journals	English & Spanish
9:22:52	Classroom Rights	Reading rights Discussing rights Making illustrations	-reading silently -reading aloud -sharing ideas -asking/answering questions -talking with others -making choices -making pictures	English & Spanish
10:31:20	Computer Lab	Parts of a computer Working on computer-Kid Pix	-listening/watching directions -identifying parts of a computer -talking with others -helping others -making pictures	English & Spanish

12:49:02	Silent Reading		-reading text of choice silently	English & Spanish
1:00:56	Read Aloud	Discussion of previous text Reading Aloud Discussing text	-sharing ideas -talking to others -summarizing story -listening to a story -discussing text	Spanish
1:15:20	Rules for Caring		-generating ideas -sharing information -identifying ways to show you care -reading aloud -discussing consequences	English & Spanish
2:01:53	Thursday Folders		-explaining Thursday folders -explaining contents of folders -identifying forms that need parent signatures	English & Spanish

Event Map Day Three (9/11/92)

Time	Event	Sub-events	Actions	Languages Available
8:24:34	Morning Business	Attendance Homework	-putting things away -taking out homework -taking out Thursday folders	English & Spanish
8:33:05	Dialogue Journals		-reading silently -writing in journals	English & Spanish
8:50:45	Applying for Jobs	How do you get a job? Jobs in room 18 Completing application	-generating ideas -sharing ideas -working together -reporting to class -reading silently -talking with others -filling out job application	English & Spanish
9:39:57	Reading Poem	-discussing activity -reading poem -discussing poem	-listening to directions -reading poem aloud -reading poem chorally -identifying rhyming words -finding words -sharing ideas	English
10:15:46	Giving Graph	Reading The Giving Tree Discussing text What have you given? Constructing graph	-reading aloud -listening to text -sharing ideas -answering questions -identifying what you have given someone else -making pictures -sharing with table group -putting cards on	English & Spanish

			graph -making decisions -solving problems -sharing problem solving strategies	
		Discussing graph		
11:13:03	Calendar	Explaining calendar Discussing September events Making squares Constructing calendar	-listening -using prior knowledge -sharing previous experiences -generating ideas -making pictures -explaining events -making wall calendar -determining where to put squares	English & Spanish
11:41:37	Free Exploration		-exploring with tiles -making objects with tiles -building with tiles -working together -talking to others	English & Spanish
12:50:54	Silent Reading		-reading text of choice silently	English & Spanish
1:03:00	Choosing team names	Rules for names Choosing a name Collages	-listening to rules -working together -sharing ideas -making suggestions -choosing a name -looking at magazine pictures -selecting pictures to represent self -making collages -constructing team cubes	English & Spanish

2:03:20	Superstar of the week	Explaining superstar Sharing Star for next week	-listening -asking questions -looking at pictures/photos	English
2:13:12	.Team Stars		-Making predictions -counting stars -identifying less than/greater than -ordering numbers from smallest to largest -choosing treats -generating ideas -discussing how to get stars	English & Spanish

APPENDIX C

Classroom Rights - English and Spanish

OUR CLASSROOM RIGHTS

Everyone has the right to be happy and secure in this room. This means that I will try to help others and think of their feelings.

Everyone has the right to be themselves in this room. This means that I will treat everyone fairly, regardless of their skin color, size, boy or girl, the way they look or the language they speak.

Everyone has the right to be safe in this room. This means that I will not hurt or threaten to hurt anyone.

Everyone has the right to hear and be heard in this room. This means that I will listen to others and try to understand them and I will speak softly and politely.

Everyone has the right to learn about themselves in this room. This means that I will try to express my feelings, ideas and opinions and try to understand those of others.

Everyone has the right to learn according to their ability in this room. This means that I will try to do the best I can.

Everyone has the right to the safety of their property and a pleasant environment. This means that I will show respect for things of my own and others and the school.

Everyone has the responsibility for his/her own behavior. This means that **I will accept the consequences for my actions.**

NUESTROS DERECHOS DE LA CLASE

Todo el mundo tiene el derecho de estar contento y seguro en esta clase. Esto quiere decir que voy a tratar de ayudar a los otros y pensar en sus sentimientos.

Todo el mundo tiene el derecho de ser si mismo en esta clase. Esto quiere decir que voy a tratar todo el mundo igualmente, si poner atencion al color de su piel, su tamaño, niño o niña, apariencia, o el idioma que habla.

Todo el mundo tiene el derecho de tener seguridad en esta clase. Esto quiere decir que no voy a hacer daño a los otros.

Todo el mundo tiene el derecho de que le oigan y de oir en este salon. Esto quiere decir que voy a escuchar a otros y tratar de entenderles, y voy a hablar suavemente y cortesmente.

Todo el mundo tiene el derecho de aprender de si mismo en este salon. Esto quiere decir que voy a tratar de expresar mis sentimientos, ideas y opiniones y tratar de entenderlos de los otros.

Todo el mundo tiene el derecho de aprender de su capacidad en este salon. Esto quiere decir que voy a hacer lo mejor que yo puedo.

Todo el mundo tiene el derecho de la seguridad de su propriedad y un ambiente agradable en este salon. Esto quiere decir que voy a mostrar respeto para mis cosas, las cosas de otros, y la escuela.

Todo el mundo tiene la responsabilidad de su comportamiento en este salon. Esto quiere decir que **voy a aceptar las consecuencias de mis acciones.**

APPENDIX D

Letter to the Teacher

9-10.-

Querida Mrs. Tuyay;

Yo estoy contenta que estoy
en tu clase porque eres muy buen
con migo y me gusta tu clase.
Y Gracias por hacer muy buen

De parte de

9-10.

Estimada **Alejandra,**
   Estoy contenta que tú estas
aquí... ¿qué quieres aprender
este año? matematicas.

APPENDIX E

Parent Newsletters

ROOM 18 REVIEW

FROM THE EDITOR

This is the very first of what I hope to be a monthly newsletter. The articles were written and edited by volunteer students in our classroom. Eventually, my goal is to teach them how to use the available computer programs so that they' can type their stories and format the paper.

The students have written about what is happening in Room 18, and I feel it is important that you hear their perspective of what they are learning. I hope you find this as enjoyable(and entertaining) as I do.

Thank you for taking the time to read this newsletter and discussing it with your child.

PARENT
CONFERENCES
START MONDAY!

COOPERATION
By Lindsay Summer

Room 18 is a good class. It does all sorts of things. We have group names. They are the Black Hearts, Kris Kross, the Stinky Socks, The SuperStars and the Bart Simpsons. We do a lot of projects where we have to cooperate.

One time, we made crests for our teams. We have Learning Logs and we write about how we feel and stuff like that. We write about what we learn in math and science.

WHAT WE HAVE DONE IN SCIENCE

By Ryan Schwarz

We were learning about gravity so we guessed what ball would bounce first. There was a golf ball, a black ball and a pinball. We found out that some balls are heavier but they still bounce the same because of gravity.

SCIENCE(Continued)

We have also done our five senses. The five senses are touch, taste, smell, hearing and seeing. We had to guess what was inside of five boxes using our senses. We also made a 5 Senses book.

We are thinking about what it is like to be a scientist.

MATH
Preston Maloney and Ricky Macias

This year we first started with patterns. We made patterns using tiles and unifix cubes and then we would record them. We also did people patterns.

We are now working with junk boxes. First we sort into two groups. Then we would sort into four groups, then eight groups. We used a sorting tree. We learned how to use a Venn Diagram. We sorted Halloween and Dia de Los Muertos pictures.

READING
By Lidia Garcia

Some of us go to different classes for reading. We go to Room 8 and Room 5. In Room 8, we have read <u>Ramona The Pest</u> and <u>Columbus</u>. We do language papers each week. We work on writing. I liked the book <u>Columbus</u> the best because it has good pictures.

In Room 5, we have read <u>Mr. Popper's Penguins</u> and a story about a dragon. After we read a story, we do lots of work.

We like to go to reading.

WRITING
By Cynthia Cadena

We write a lot in Room 18. We start each day by writing in our journals. We have a special time called Writer's Workshop. We write our own things and never stop writing. We do friend edits when somebody reads your story and tells you what they like. We made Fortunately books. In the Computer Lab we did name poems and we wrote all about us. We even write in our Learning Logs for science.

STAR OF THE WEEK
By Jesssica McLoughlin

When a kid is a super star, they will be the superstar for that week. In order to be a superstar, we have to bring back our homework, we have to be cooperative and we have to try not to get our names on the board because that is a a warning.

The people who are chosen get a certificate for being a star from Mrs. Tuyay. They get to bring their pictures and trophies.

Congratulations to Jessica McLoughlin, Ismael Ramirez, Alicia Guillen and Preston Maloney. They have all been Superstar of The Week.

FAMILIES
By Aaron Musicant

When we are in our families we switch classrooms but the teachers stay. The classrooms split. There are mostly three families in a classroom and they have names. They do all sorts of fun activities. It is after lunch every other Friday. We did families on Friday and the whole school was involved except the kindergarten.

Parent Conferences
Mrs. Tuyay

It is hard to believe that parent conferences are already here. This year, we are trying something called Family Conferences at Cleveland School. We are encouraging parents <u>and</u> students to come to conferences so that we may all work together to provide your child with the best education possible. This also allows the students to see and understand that they are an important part of the process. After all, they are the learners!

For this reason, I am sending home a list of questions for you to consider with your child <u>before</u> you come to conferences. Please bring this list with you to your scheduled conference. In this way, we will be able to address everyone's needs/ concerns.

I am looking forward to seeing all of you. If you are unable to make your scheduled appointment, please let me know ASAP so that we can reschedule.

See you next week!

Happy Halloween!!

ROOM 18 REVIEW

FROM THE EDITOR

It is hard to believe that it is already December and the holiday vacation is once again upon us. We in room 18 have been quite busy these past two months and would like to take this time to share with you some of the activities in which we have been involved.

I hope you have a wonderful two weeks with your famiy. Please remember to read during this time. Also, we will be beginning multiplication tests in January so now would be a good time to start the memorization process. Handwriting is another skill that may be practiced. A little time each day will help your child tremendously. But remember, keep it fun!

Thank you all for all of your support!

Happy Holidays!

SANTA BARBARA

Aaron Musicant and Ryan Schwarz

Dear Parents,
We are studying about landmarks in Santa Barbara. We are studying about the Arlington Theatre. We're doing the courthouse where all the lawyers and the judges go and we are learning about the Art Museum. We are also learning about the Lobero Theatre, el Paseo, the fig tree, the Dolphin Fountain and Stearns Wharf where there are lovely restaurants.

We are learning about maps. We are trying to find where we live on the map of Santa Barbara. We have worked on a book called the Important Book and we used all of the landmarks. The Important Book is what is important about the landmarks.

WRITER'S WORKSHOP

Cynthia Cadena and Lidia Garcia

We do Writer's Workshop every day. We write in our writing folders. We write stories about anything. There are special rules. Some of them are you can't stop writing, and we can't talk to other kids. We also have to speak in quiet voices only. When we finish a story, we do a friend edit. A friend edit is about when you write a story and your friend tells you what they like and you write it on a friend edit paper. You have to do it with three people.

REMEMBER TO READ OVER THE HOLIDAYS!

MATH-Addition and Subtraction
David Diosdado and Ricky Macias

We do math with tiles. We do addition and subtraction with tiles. We did addition facts for 13-20. We also do math with beans and cups and we play a game called cowabunga. It is fun to do math. We do math for homework.

MATH-Multiplication
Preston Maloney and Miguel Calvillo

In room 18 for math we are doing multiplication. We are just learning about it. We are learning by using tiles, rows, columns and area. We are also using beans and cups. We are getting better and better at it. I(Preston) like multiplication better than adding and subtracting because it is more challenging. We are going to memorize our times tables, so start practicing NOW!

MAPS AND GRIDS
Lindsay Summer

In room 18, we have been working on maps. We made a map of Santa Barbara. We put houses on the big map. We put landmarks there too. We put the Mission, the Arlington, El paseo, the courthouse, Art Museum, Lobero Theatre, fig tree, Dolphin Fountain and Stearn's Wharf.
We have also been working on grids. We made our own grids and we hid treasures. Our friends had to find our treasures.

THE LIBRARY
Jessica McLoughlin and Ismael Ramirez

In the library there is a new system. The new system is that we have computers so that it will be easier to check out books. Now you don't have to sign your name. We go to the library every Wednesday, so you have to bring your books by Wednesday or you get a note. Sometimes you get candy when you go to the library!

ART
Jessica McLoughlin and Ismael Ramirez

Blob Art

Blob art is fun to do. To do blob art you need to have paint and paper. First you fold the papers, then you do a design on one side. Then you press the paper together, open it up and you have blob art. Then you can see different colors and shapes.

UPCOMING EVENTS
Mrs. Tuyay

Tomorrow is Mrs. Alexander's (our student teacher) last day in room 18. We will miss her very much, as she has become a special part of our class. To celebrate, we are having a party in the afternoon. The students know that they may bring something if they would like to.
Friday, January 8, we will be going on a field trip to the Art Museum. We will leave after early lunch. If you are interested in coming, please let me know.

APPENDIX F

Content Analysis of National Standards (Complete Results)

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Action[a]	Math	Science	Social Studies
Analyzing	-mathematical situations(2) -characteristics & properties of 2-& 3-dimensional figures (3) -data using graphs (5) -categorical data in different ways (5)	-data (A-E) -their own work (A-E) -the work of others (A-E) -science questions (A)	-a particular event to identify reasons an individual might respond to it in different ways (4)
Applying	-a variety of techniques, tools & formulas for determining measurements (4) -basic notions of chance & probability (5) -a variety of strategies to solve problems (6)	-inquiry processes across investigations (A-F) -the results of experiments to scientific content (A)	-knowledge of economic concepts to current local economic issues (7) -information about an issue of public concern from multiple points of view (10)
Asking questions	-they want to investigate (5) -based upon initial data collection (5)	-about objects, organisms & events in the environment (A-F) -develop ability to ask scientific questions (A-G)	-about the nature of culture (1) -about their environment (e.g. where are things located?) (3) -about the roles of institutions (5)
Choosing	-appropriate computational procedures & tools (1)	-appropriate tools for observing & measuring (A)	
Classifying	-2 & 3-dimensional shapes according to their attributes (3) -categorical data in different ways (5)	-common objects and materials in the environment (B) -organisms (C)	

Collecting	-data to answer questions posed using observations, measurements, surveys, etc. (5)	-information (A-G)) -data (A-F)	-information sing appropriate resources, data sources (3)
Communicating	-mathematical thinking with others (8)	-ideas (E) -a problem, design & solution (E) -orally, in writing, through pictures (A-G) -about their own and their peer's investigations & explanations (A-G)	-their understandings of concepts in personally meaningful ways -understandings of idea or concept through reading, thinking, discussing, writing
Comparing	-size of fractions & decimals (1) -whole number computational algorithms for each operation (1) -2 & 3-dimensional geometric figures (3) -data representations (5) -related data sets (5) -data from one sample to other samples (5)	-answers from own investigations with scientific knowledge, experiences & observations of others (A-G) -common objects & materials in environment (B) -the effect of different soils on plant growth (D) -observations with photographs of similar, but large scale changes (D)	-ways in which people from different cultures think about & deal with physical environment and social conditions (1) -different stories or accounts of past events, people, places (2)
Describing	-geometric & numeric patterns (3) -relationships between 2 quantities that vary together (2) -situations involving inverse relationships (2) -the results of subdividing, combining & transforming	-investigations in ways that others will enable others to repeat them (A-F) -common objects & materials in environment (B) -properties of earth materials such as rocks (D)	-similarities & differences in the ways groups/cultures address human needs (1) -ways in which language, stories, music and art serve as expressions of culture (1) -the importance of cultural unity and diversity within and across

Describing (continued)	shapes (3) -location and movement (3) -a motion or series of motions that will show 2 figures congruent (3) -geometric shapes (3) -shape & important features of a set of numerical data (5) -how data collection methods can impact the nature of the data set (5) -probabilities of outcomes (5)		groups (1) -physical system changes such as climate, seasons (3) -how people create places that reflect ideas, personality, culture as they design homes, etc. (3) -personal changes over time (4) -unique features of one's family (4) -ways family, groups, and community influence individual's daily life (4) -tensions between and among individuals, groups or institutions (5) -how we depend on workers with specialized jobs and the ways they contribute to production & exchange of goods & services (7) -influence of incentives, values, traditions on economic decisions (7) -ways science & technology have influenced the lives of people (8) -how public policies are used to address issues of public concern (10)

Designing	-data investigations to address a question (5) -further studies to explore hypotheses based on initial data (5)	-simple investigations (A-F) -a solution to a problem (E)	
Determining	-perimeter, area & volume of shapes (3) -surface area of cubes & other rectangular solids by considering each face (3) -aspects of data that are highlighted or obscured (5)		
Developing	-strategies for judging the size of fractions & decimals (1) -meaning for factors & multiples (1) -fluency with single digit multiplication facts (1) -visual models (1) -the concept of variable (2) -awareness of measurements (4) -formulas to find perimeter & area of rectangle (4) -inferences, predictions, & arguments based on data (5) -a disposition to formulate, represent, abstract and generalize in situations within and outside of mathematics (6) -mathematical arguments &	-abilities necessary to do scientific inquiry (A) -explanations based on data, evidence (A) -explanations based on what is already known about the world (A) -abilities of technological design (E)	

Developing (continued)	proofs (7) -a repertoire of mathematical representations (10)		
Distinguishing			-various representations of the earth (3) -among varying land forms & geographic features (3) -among local, state & national government (6) -between needs & wants (7)
Estimating	-appropriately (1) -a reasonable result for a problem (1) -sums & differences of common fractions & decimals (1) -measurements of physical objects (4) -probabilities of outcomes (5)		-distance and calculate scale (3)
Examining Examining	-geometric shapes (3) -a set of ordered numerical data (5) -own ideas and those put forth by other students (7)	-objects and their behavior (B)	--interactions of human beings & their physical environment (3) -existing uses of resources and land (3) -rights & responsibilities of the individual in relation to his/her social group (6) -the effects of changing technologies on the global community (9) -the relationships & tensions

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(continued)			between personal wants & needs and various global concerns (9) -the Influence of public opinion on personal decision-making & government policy on public issues (10)
Explaining	-patterns verbally (2) -problem solving strategies to others (6) -mathematical thinking (8)	-develop explanations based on data/evidence (A-F) -develop explanations based on what Is already known about the world (A-F)	-group & institutional influences on people, events & elements of culture (5) -the purpose of government (6) -the role of money In everyday life (7) -actions citizens can take to influence public policy decisions (10)
Exploring	-symmetry in 3-dimensional objects (3) -effect on size when objects change under simple transformations (3)	-the world by observing & manipulating common objects & materials (B)	-similarities & differences In the ways groups/cultures address human needs (1) -ways the earth's physical features have changed over time (3) -factors that contribute to one's personal identity (4) -the role of technology In communication, transportation, information processing as it contributes to or helps resolve conflicts (6)
Exploring			-causes, consequences, & possible solutions to persistent,

(continued)			contemporary & emergent global issues (9)
Expressing	-generalizations and use them to make predictions (2) -mathematical ideas coherently and clearly to peers, teachers & others (8)		
Extending	-geometric and numeric patterns (2) -mathematical knowledge by considering the thinking and strategies of others (8)		
Evaluating	-inferences, predictions & arguments based on data (5) -mathematical arguments & proofs (5) -their own arguments and those of others (7)	-own results or solutions (A-F) -other's results (A-F) -a product or design (E) -the merits or strength of the data & information that will be used to make explanations (A)	-uses of resources and land (3) -sources of information
Giving examples of Giving Examples of			-how experiences may be interpreted differently by people from diverse cultural perspectives (1) -cultural unity & diversity within and across groups (1) -group & institutional influences on people, events & elements of culture (5) -institutions & interactions of people within institutions (5) -the role of institutions in

(continued)			furthering both continuity & change (5) -how government does or does not provide for the needs & wants of people -tensions between wants & needs of individuals & groups (6) -how scarcity & choice govern our economic decisions (7) -private & public goods & services (7) -how science & technology have changed the lives of people (8) -conflict, cooperation, interdependence among individuals, groups, & nations (9) -rights & responsibilities of citizens (10)
Identifying Identifying (continued)	-characteristics of numbers (e.g. odd/even)-(1) -relationships between operations (1, 2) -properties of operations (1,2) -relationships between 2 quantities that vary together (2) -generalizations (2) -situations with varying rates of change (2) -attributes of 2 & 3-dimensional	-properties of earth materials (D) -sequences of changes (D) -a simple problem (E) -materials used (E) -how well a product does what it's supposed to do (E)	-various sources for reconstructing the past (e.g. documents, letters, maps, textbooks) (2) -ways family, groups and community influence individual's daily life & personal choices (4) -reasons individuals might respond to a particular event in different ways (4) -roles as learned patterns in

	geometric figures (3) -a 3-dimensional shape from a set of 2-dimensional views (3) -attributes such as length, area & volume (4)		group situations (5) -examples of institutions (5) -factors that contribute to cooperation & cause dispute among groups (6) -examples of private & public goods & services (7) -examples in which science & technology have led to changes in physical environment (8) -key ideals of the United States' democratic republican form of government (10) -examples of change (2)
Identifying Patterns	-geometric & numeric patterns (2)	-in changes of day/night sky (D) -of weather changes (D) -in movements of objects' shadow and positions of sun & moon (D)	-of historical change (2) -associated with physical system changes such as seasons & weather (3) -of behavior evident in people of different age groups (4)
Interpreting	-data using methods of exploratory data analysis (3)	-data by proposing reasonable explanations (A-F)	-various representations of the earth (3) -information (3) -how the "common good" can be strengthened through various forms of citizen action (10)
Investigating	-situations involving inverse relationships (2) -results of subdividing,	-own questions (A-F) -the life cycles of organisms (C) -a technological device (E)	

	combining & transforming shapes (3) -properties of geometric figures (3) -mathematical conjectures (7)		
Manipulating	-objects both physically and mentally (3)	-common objects and materials to understand and describe their characteristics (B)	
Observing	-common objects in environment (B,D) -properties of objects (B) -changes in properties over time (B) -organisms in the natural world of the child (C) -cyclic changes such as day & night (D) -predicable trends (e.g. growth & decay) (D) -objects & materials (D) -both gradual and rapid changes (D)		-family members (e.g. brothers, sisters, parents) to understand growth & development (4)
Organizing Organizing (continued)	-data to answer questions posed (5) -data using tables & graphs (5) -and consolidate mathematical thinking to communicate with others (8)	-ideas and information to communicate with others (A-G)	-information about an issue of public concern from multiple points of view (10)

	-mathematical ideas (10)		
Predicting	-what will happen later in a patterned sequence (2) -the results of sliding, flipping, & turning 2-dimensional figures (3) -develop predictions based on data (5)	-using knowledge of the world (A-F) -using data that has been gathered (A-F) -changes in natural & designed systems using evidence (A)	-physical system changes, such as seasons, climate & weather (3) -social & economic effects of environmental changes & crises resulting from such phenomena as floods, storms & drought (3)
Reading	-(and write) large numbers (1) -fractions & decimals (1)	-stories that express the theme of science as a human endeavor (G) -texts that highlight how scientists work (G) —about the contributions of diverse individuals to science and technology (G)	-simple timelines (2)
Recognizing Recognizing (continued)	-common fraction, decimal and percent equivalents (1) -the usefulness of transformations & symmetry in analyzing mathematical situations (3) -reasoning & proof as essential and powerful parts of mathematics (7) -connections among different mathematical ideas (9)		-examples of cause & effect relationships (2) -how groups & organizations encourage unity and deal with diversity (6) -the tensions between the wants and needs of individuals and groups (6) -that a variety of formal & informal actors influence and shape public policy (10) -how the "common good" can be strengthened through forms of citizen action (10)

Recording	-patterns using tools such as tables and graphs (2)	-observations using journals, notebooks, etc. (A-F)	
Representing	-patterns using tools such as tables and graphs (2) -changes in variables (2) -rectangles & right angles on a coordinate system (3) -data to answer questions (5)		
Showing			-how learning and physical development affect behavior (4) -how groups and institutions work to meet individual's needs and promote common good (5)
Understanding Understanding (continued)	-numbers and ways of representing numbers (1) -relationships among numbers and number systems (1) -the meaning of operations (1) -various types of patterns & functional relationships (2) -attributes, units and systems of measurement (4) -basic notions of chance and probability (5) -how mathematical ideas build upon one another to produce a coherent whole (9)	-scientific inquiry (A) -properties of objects & materials (B) -light, heat, electricity, magnetism (B) -the characteristics of organisms (C) -life cycles of organisms (C) -organisms & environments (C) -properties of earth materials (D) -objects in the sky (D) -changes in the earth & sky (D) -science & technology (E) -personal health (F)	-that different people may describe the same event in diverse ways (2) -that people in different times & places view the world differently (2)

		-characteristics & changes in populations (F) -types of resources (F) -changes in environments (F) -sci. as a human endeavor (G)	
Using	-computational tools & strategies (1) -relationships between operations to solve problems (1) -properties of operations to solve problems (1) -symbolic forms to represent mathematical situations (2) -mathematical models (2) -variables to solve problems (2) -visualization & spatial reasoning to solve problems (3) -coordinate maps to represent actual places (3) -spatial orientation (3) -map scales to measure distance (4) -graphs to analyze data (5) -various types of reasoning (7) -the language of mathematics (8) -math in contexts outside of mathematics (9)	-tools or simple instruments to observe and gather information (A) -data/evidence to construct a reasonable explanation (A-F) -different kinds of investigations depending upon the question (A) -sequence of five stages in designing a solution to a problem (E)	-vocabulary associated with time such as past, present, future, and long ago (2) -knowledge of facts & concepts drawn from history to inform decision making on public issues (2) -mental maps of locales, regions and the world (3) -various representations of the earth such as maps, globes, photographs (3) -appropriate resources, data sources and geographic tools (3) -economic concepts such as supply & demand (7)
Using (continued)	-representations to model and interpret physical, social and mathematical phenomena (10)		

Visualizing	-3-dimensional shapes in 2-dimensions (3) -use visualization to solve problems (3)		
Working	-expand abilities to work together and learn from each other (8)	-individually (A-G) -collaboratively (A-G)	-independently to accomplish goals (4) -cooperatively to accomplish goals (4)

[a]To remain consistent with the theoretical framework brought to this study, and to signal the active nature of the work (learning) that the students are to do, I have chosen to use the active form of the verbs that appeared in the standards documents.

APPENDIX G

Transcript From Day 1, Sub-Event 3
Generating Ideas for Pattern Stories

Line #	Speaker	Discourse
1291	Mrs. T	okay
1292		today we're going to write
1293		we're going to make our own stories
1294		about
1295		houses
1296		for things
1297		can you think of an example
1298		that may not have been
1299		in the book
1300		James
1301	James	a doghouse
1302	Mrs.T	okay
1303		a doghouse is a house for a what
1304	Students	a dog
1305	Mrs. T	okay
1306		what else is another example
1307		Manuel
1308	Manuel	a house is a house for (inaudible)
1309	Mrs. T	okay
1310		just a minute (goes to white board)
1311		why don't you guys turn around here
1312		turn around
1313		Carmen would you move that please
1314	Carmen	(moves chart rack)
1315	Mrs. T	okay

1316		everybody's looking
1317		I can see almost everybody
1318		except Manuel
1319		okay
1320		this is our pattern
1321		(writes on board)
1322		a blank is a house for a blank
1323		and I heard
1324		James say
1325		a dog house
1326		is a house for a
1327		dog
1328		(writes on board)
1329		can you think of another example
1330		Manuel
1331	Manuel	um
1332		um
1333		a car
1334	Mrs. T	a car is a house for what
1335	Manuel	a garage
1336	Mrs. T	oops
1337		is a car a house for a garage
1338		or is a garage a house for a car
1339	Manuel & Ignacio (overlapping)	a garage is a house for a car
1340	Mrs. T	kay
1341		I heard
1342		(T records) a garage
1343		(T turns)
1344		Robert are you okay
1345		is a house
1346		for a

1347		car
1348		what could a car be a house for
1349	Students	people
1350	Mrs. T	it could be a house for people
1351		what makes a car run
1352	Andrew	oh
1353	Mrs. T	what's that Andrew
1354	Andrew	an engine
1355	Mrs. T	okay
1356		so you could have a car
1357		Is a house for
1358		an engine
1359	SNI	it smells
1360	Mrs. T	you're right
1361		that's why I don't like these pens
1362		or
1363		people
1364	Ignacio	a car or people
1365	Mrs. T	okay
1366		Andrew
1367	Andrew	a computer is a house for a disk
1368	Mrs. T	excellent one
1369		did you hear that Daniel
1370	Manuel	(making noises w/ mouth)

1371	Mrs. T	Manuel
1372		do you need
1373		to go to the office and spend some time
1374	Manuel	(shakes his head no)
1375	Mrs. T	then what do you need to do
1376	Manuel	(makes quiet sign with finger)
1377	Mrs. T	if the smell is bothering you
1378		move
1379		what did you say
1380	SNI	a computer is a house for a (inaudible)
1381		uh mmm
1382	Mrs.T	okay
1383		Lesley
1384	Lesley	a ranch is a house for a horse
1385	Mrs. T	okay
1386		excellent
1387		kay
1388		en espanol
1389		el patron es este
1390		un (T says as she writes on board)
1391		or una
1392		blanco
1393		es
1394		una
1395		casa
1396		para
1397		blanco
1398		(T writing on board)

1399		entonces
1400		aquí
1401		una casita de perros es una casa para perros
1402		un garage es una casa para un carro
1403		un carro es una casa para gente
1404		una computadora es una casa para un disk
1405	SNI	disco
1406	Mrs.T	disco
1407		un rancho es una casa para un caballo
1408		um
1409	SNI	a hole is a house for a mouse
1410	Mrs. T	(records on board)
1411		a hole
1412		is a house for a mouse
1413		Robert
1414	Robert	um
1415		a house is a person
1416		um
1417		a person
1418		I mean
1419		a house
1420		wait
1421		um
1422		pages
1423		is a house for
1424		um
1425		a book is a house for pages
1426	Mrs.T	oh good job
1427		(records Robert's contribution)

1428	Mrs.T	(reading) a book is a house for what
1429	Students	pages
1430	Mrs.T	and you know what Robert
1431		I think what you started to say
1432		may be
1433		a page is a house for words
1434	Robert	yeah
1435	Mrs.T	okay
1436		Marty
1437	Marty	um
1438		a hose is a house for water
1439	Mrs.T	excellent
1440		kay
1441		(records idea on board)
1442		(reading) a hose is a house for water
1443		Carmen
1444	Carmen	a book is a house for a story
1445	Mrs.T	excellent
1446		(records contribution)
1447		(reading) a book is a house for a story
1448		Carmen can you say that in Spanish
1449	Carmen	el libro es una casa para cuento
1450	Mrs.T	excelente
1451		un libro es una casa para un cuento
1452		Linda
1453		can you think of anything else

1454	Linda	a hole is a house for a worm
1455	Mrs.T	hmmm mmm
1456		let's see
1457		I think we're running out of space you guys
1458		(reading) a hole is a house for a worm
1459		Silvia
1460	Silvia	a hole is a house for a snake
1461	Mrs.T	it's also a house for a snake
1462		you're right
1463		uh James
1464	James	the earth is a house for the core
1465	Mrs.T	the earth is a house for
1466		are you talking about the core of the earth
1467	James	hmm mm
1468	Mrs.T	okay
1469		(records contribution)
1470		(reading) the earth is a house for the core
1471		what is a head a house for?
1472	SNI	hat
1473	SNI	a brain
1474	Mrs.T	a what
1475	SNI	a brain
1476	Mrs.T	what is

1477	Mrs.T	what Manuel
1478		I'm sorry
1479	Manuel	a house (inaudible)
1480		is a house for
1481	Mrs. T	bugs
1482	Manuel	flies
1483		bugs
1484		(inaudible)
1485	Mrs.T	(records)
1486		(reading) a mud-hole is a house for mosquitoes
1487	SNI	they make you uh
1488		itch
1489	Mrs.T	I see lots of hands
1490		Silvia
1491	Silvia	a hole is
1492		a hole is a house for a ant
1493	Mrs.T	good
1494		can I just put it over here with (inaudible)
1495	Silvia	uh huh
1496	Mrs.T	excellent
1497		Daniel
1498	Daniel	can I go to the bathroom
1499	Mrs.T	you sure may
1500		remember to do that at recess from

1501	Mrs.T	now on though Marty
1502	Marty	wires is a house for electricity
1503	Mrs.T	did you hear what he said
1504	Students	no
1505 1506 1507	Mrs.T	I don't think you did because Manuel is up here talking can you say that again please
1508	Marty	wires is a house for electricity
1509 1510 1511	Mrs.T	(records) okay Andrew
1512 1513 1514	Andrew	its also a house for batteries I mean batteries are also a house for electricity
1515 1516 1517	Mrs.T	so batteries are a house for electricity tambien Luciano
1518	Luciano	(pauses)
1519	Mrs.T	did you forget
1520	Luciano	(nods his head yes)
1521 1522 1523 1524	Mrs.T	I'm sorry qué es una manzana es una casa para que qué vive en una manzana

1525	SNI	a worm
1526	Mrs.T	ah
1527		cómo se dice en español
1528	SNI	gusano
1529		un gusano
1530	Ignacio	or a seed
1531	Mrs.T	sí
1532		or a seed
1533		o una semilla
1534	SNI	water is a house for a
1535		water is a house for a snake
1536	SNI	yeah
1537	Mrs.T	okay
1538		look at this (points to board)
1539		look up here
1540		we have tons of examples
1541		for this pattern
1542		a blank is a house for a blank
1543		okay
1544		tenemos muchos ejemplos
1545		para un blanco es una casa para un
1546		blanco

APPENDIX H

Class Text of Pattern Story

"A House Is a House for Me"
By Room 18 - Adapted from Mary Ann Hoberman

A doghouse is a house for a dog.
A computer is a house for wires.
Water is a house for a shark.
A basket is a house for a cat.
A garden is a house for flowers.
A farm is a house for a farmer.
A basket is a house for a cat.
A doghouse is a house for a dog.
A barn is a house for a horse.
A computer is a house for a disk.
A house is a house for water.
A crayon box is a house for crayons.
An ocean is a house for a shark.
An apple is a house for a worm.
A coloring box is a house for colors.
A castle is a house for a witch.
But a house is a house for me.

"Una Casa es Una Casa Para Mi"
Por Salon 18 y Mary Ann Hoberman

Una casa para perros es una casa para un perro. *(A doghouse is a house for a dog)*
Una computadora es una casa para un disk. *(A computer is a house for a disk)*
Una manzana es una casa para un gusano. *(An apple is a house for a worm)*
Un hoyo es una casa para un ratón. *(A hole is a house for a rat)*
Un rancho es una casa para un caballo. *(A ranch/farm is a house for a horse)*
Un castillo es una casa para Dracula. *(A castle is a house for Dracula)*
Pero una casa es una casa para mi.

APPENDIX I

Tile Patterns

ACTIVITIES

Paper Folding

Suppose you fold a piece of paper in half, and then in half again, and again, until you make six folds. When you open it up, how many sections will there be?

With one fold, you will have two sections.	With two folds, you will have four sections.	Make a chart. Continue the folding. Look for a pattern.

For the third panel:

FOLDS	SECTIONS
1	2
2	4

Interlocking Towers

You need: interlocking cubes

Suppose you build a tower of interlocking cubes that is 99 cubes high. And suppose you have to paint each square on the tower. How many squares would you have to paint?

With a tower that is only one cube high, there are five squares to paint — four sides and a top. *Don't count the bottom.*	With a tower that is two cubes high, there are nine squares.	How many squares for a tower three cubes high? Four? Make a chart.

CUBES	SQUARES
1	5
2	9
3	