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Introduction

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THE OPPORTUNITY AND THE CHALLENGE

The community of authors in this volume share the good fortune of having found an intellectual and methodological home for pursuit of their research interests. That home is interactional ethnography. The ensuing chapters present beginning researchers' initial explorations in using this approach for researching issues of deep concern to them and to society, often what drew them to graduate school. These chapters reflect work in the process of evolving into professional scholarship, work its authors hope will eventually make a difference. Although they drew sustenance from the publications of senior researchers and scholars, especially interactional ethnographers, the authors did not imitate that work. Rather, they strove to emulate it in order to find their own ways of conceptualizing and designing studies that inform important issues in their fields.

This collection of studies reflects different commitments, frameworks, and designs for research, and yet all of them began with interactional ethnography. All the chapters share the same question: How do the practices and processes of teaching and learning create and constrain opportunities for teaching and for learning? All the researchers want to study and represent these processes in action, that is, the practices of

groups as they teach and learn together. This goal presents a difficult research challenge. The studies aim to accurately render in inert media, such as text and graphs, a dynamic phenomenon, whose dynamics are complex and interactive. Each researcher assumed it was necessary to tackle this challenge by viewing teaching and learning as inseparable and by studying them as interactional events. Their studies analyze and represent teaching and learning events as unique, as situated in particular contexts, and as meaningfully related across time. They demonstrate how these events are performed through discourse in social situations, and are uniquely meaningful and purposeful to the social groups involved.

The chapter authors have discovered that working with the same approach, different research questions, and a common purpose has been a powerful opportunity for our own learning. We have developed new ways of understanding how processes and practices in various sites create or constrain opportunities for teaching and learning. To do that, we have had to create ways of representing the motions of teachers' and learners' actions, discourse, and texts. Although each study represents only a small slice of the complexity it seeks to describe, we are hopeful that as we expand our repertoire of representational strategies we are moving closer to understanding and representing what is so difficult to capture—sustenance, instantiation, and change.

ORIGINS OF THE VOLUME

The Santa Barbara Classroom Discourse Group

The intensity that erupts when a need meets a means feels magical, and that feeling inspires the work represented in this book. I felt that way when Judith Green arrived at the Graduate School of Education at the University of California, Santa Barbara in 1990. My long search for a way of studying classroom teaching and learning of literacy through classroom talk was over, I thought. Actually, it was just beginning. Judith joined with colleague Carol Dixon (Dixon, de la Cruz, Green, Lin, & Brandts, 1992; Dixon, Frank, & Brandts, 1997; Dixon, Green, & Frank, 1999), who brought to the partnership scholarship in reading and expertise in the writing project model through her 11-year co-direction of the South Coast Writing Project (in 1990). Together they immersed classroom teachers and graduate students in the Santa Barbara Classroom Discourse Group (SBCDG) and I in learning and elaborating what has come to be called interactional ethnography.

That explosive moment in the elaboration of interactional ethnography occurred during SBCDG's foundational years, from 1990 to 1997, when individual teachers, faculty, graduate student researchers, and vis-

iting researchers met officially once, and sometimes twice, a week. Actually, our time together spilled over beyond those meetings to evolve and disseminate, through professional development, instruction, and publication, a significantly rich body of work. For example, third-grade teacher, Sabrina Tuyay's study of her own classroom, with Carol Dixon and Louise Jennings, elaborated the concept of interactional "opportunities for learning" (Tuyay, Jennings, & Dixon, 1995; see also, Tuyay, 1999, 2000; Tuyay, Floriani, Yeager, Dixon, & Green, 1995). Beth Yeager's study of her sixth-grade classroom (Yeager, 2003; Green & Yeager, 1995; Yeager, Floriani, & Green, 1998), and other SBDG members such as Maria Rech from Brazil (Rech, 1998), Ana Ines Heras from Argentina (Craviotto, Heras, & Espindola, 1999; Heras, 1993, 1995), and Maria Franquiz, now at the University of Texas, San Antonio (Franquiz, 1995, 1999; Franquiz, Green, & Craviotta, 1993), expanded our view of powerful bilingual learning of subject matter (SBCDG, 1995). Both Sabrina (Tuyay, 2000) and Beth (E. Yeager, 2003) have since written dissertations and assumed university positions in education related to social justice initiatives (B. Yeager, Pattenau, Franquiz, & Jennings, 1999). More recently, they, along with Carol Dixon, Judith Green, and Ana Floriani represent the SBCDG as editorial consultants for the Research Tools Sidebar columns for the National Council of Teachers of English (NCTE) journal, *Language Arts*.

Many of us who are now tenured faculty at research institutions, took the lead to expand this early work in various directions through our dissertations and publications while still doctoral students: Ana Floriani, at University of Southern Illinois, theorized intercontextuality (Floriani, 1993, 1997); Louise Jennings, University of South Carolina, worked with Sabrina Tuyay on "opportunities for learning" (Jennings, 1996; Tuyay, 1999; Tuyay, Jennings, & Dixon, 1995); LeAnn Putney, University of Nevada, Las Vegas, built the concept of consequentiality (Putney, 1997; Putney, Green, Dixon, Duran, & Yeager, 2000); Carolyn Frank, California State University of Los Angeles demonstrated how "ethnographic eyes" can serve preservice teachers (Frank, 1997, 1999; Jennings, 1998); Lichu Lin, now at National Chung Cheng University, evolved the concept of language "of" and language "in" the classroom (Lin, 1993, 1994, 1994); and I have theorized how students orient to classroom expectations for literacy performance (Rex, 1997, 2000, 2001, 2002, 2003; Rex & McEachen, 1999; Rex, Murnen, Hobbs, & McEachen, 2002; Rex & Nelson, 2004).

I took these rich experiences of what it meant to work as a doctoral student with me when I joined the faculty in the School of Education at the University of Michigan. There I found doctoral students, often former classroom teachers, who shared my interest in making usefully transpar-

ent the social complexity of teaching and learning, some of whose work appears in this volume. Together we have found it not only possible, but also productive to use the interactional ethnographic approach, which is characterized by the following theoretical constructs for where and how to focus our research:

- Examine how members of a classroom construct the patterns of everyday life through face-to-face interactions (Green & Dixon, 1993).
- Examine what is constructed in and through the moment-to-moment interactions among members; how they negotiate events through these interactions; and the ways in which knowledge and texts generated in one event become linked to, and thus a resource for, members' actions in subsequent events (Castanheira, Crawford, Green, & Dixon, 2001).
- Focus on understanding what members of a classroom need to know, do, predict and interpret in order to participate in the construction of ongoing events through which cultural and subject matter knowledge of that classroom is developed (Dixon, Green, & Frank, 1999; Green & Dixon, 1993).
- Take a holistic and comparative perspective; that is, seek to understand the customary actions, beliefs, knowledge, and attitudes of a classroom or social group within it from an insider's perspective, and then compare patterns identified in other settings, events, or groups. (Green, Dixon, & Zaharlick, 2003); Zaharlick & Green, 1991.
- Transcribe discourse as a theoretically driven process that seeks to represent what classroom members accomplish through conversation (Green, Franquiz, & Dixon, 1997).
- Analyze discourse to understand who can say or do what to and with whom, when and where, under what conditions, in relation to what actions or artifacts, for what purposes, and with what outcomes? (Castanheira et al., 2001, Santa Barbara Classroom Discourse Group, 1992b).
- Look for variability and change, which always exists in a community, in the roles and relationships that are situationally constructed in the actions and interactions among members over time (Green & Dixon, 1993).

By the time Judith Green came to Santa Barbara, she had already accumulated an influential body of foundational work for interactional ethnography. Green (1977), with a series of colleagues—Cynthia Wallat (Green & Wallat, 1979, 1981a; Wallat & Green, 1979, 1981), Judith Harker

(Green & Harker, 1982, 1989; Harker & Green, 1985), and Ginger Weade (Weade & Green, 1989; Green & Weade, 1987, 1986; Green, Weade, & Graham, 1988)—had pioneered an analysis of classroom conversational shifts across time and explained a method for mapping instructional conversations, for what at the time she referred to as sociolinguistic analysis within an ethnographic approach (Green & Wallat, 1981b); and, with Amy Zaharlick (Zaharlick & Green, 1991), had articulated an ethnographic approach suited to studying classrooms. Green reviewed research on teaching as a linguistic process in *Review of Research in Education* (Green, 1983) and had edited with Judith Harker (Green & Harker, 1988), accounts of classroom data from different analytical perspectives (see Green, Harker, & Golden, 1987).

The evolution of interactional ethnography has never been documented and requires a dedicated historical reconstruction that I do not attempt here; however, I offer my account as a resident 4-year participant in the transitional phase from 1993 to 1997. Interactional ethnography came into being as a lived as well as a conceptual and methodological approach. It was co-constructed in the weekly meetings, late-night writing sessions, and protracted sortings out by members of the “Blob,” as the SBCDG came to call itself. Carol Dixon recognized an analog between the behavior of the eponymously titled movie’s leading character and our group. Like the viscous creature in the movie, *The Blob*, as people left the group to assume academic positions elsewhere, we seemed to split off and disperse both proximally and intellectually without losing our core organic identity. Every time a new person entered the base group or satellite groups, we “blobbed,” or grew in even more powerful conceptual and methodological configurations.

Roots of the Interactional Ethnographic Approach

The early core versions of interactional ethnography were based in the ground breaking interactional sociolinguistic work of Judith’s mentor, John Gumperz (1982; Gumperz & Herasimchuk, 1972; Gumperz & Hymes, 1972). Early versions also drew from anthropological ethnography, especially the ethnography of communication with Dell Hymes (1972, 1974). In addition, they were inspired by followers of sociologist Harold Garfinkel’s ethnomethodology (Baker, 1991; Garfinkel, 1967; Heap, 1991, 1992). Interactional ethnography developed out of a pragmatic need by members of the SBCDG to have a way of seeing, understanding, and investigating classroom teaching and learning that was particular to their research interests and questions. It was an epistemological and ontological framework and a related repertoire of inquiry methods and methodologies that allowed them to examine the classroom

co-construction of literacy demands in various subject matters in relation to the discursive and social moves and expectations of the participants.

This framework arose out of and in reaction to the limits of traditional sociolinguistics, one of the longest established social approaches to language, which itself had developed in response to the limits of traditional linguistics by pushing against the concept of language as an abstract, self-contained symbolic system (Gumperz & Hymes, 1964, 1972). Retaining an interest in the structure of language, sociolinguists are concerned mostly with spoken language and with differences in pronunciation, grammar, and style. This focus leads them to study the differences of spoken language among social groups and between individual speakers as they change the way they speak to other individuals who may or may not belong to their social group, share their purpose, or have a similar understanding of the purpose for the conversation. These shifting structural qualities of speech led to understandings about the relationship between language and society, and the role of language in determining variable positions people can assume within society's social structures.

The SBCDG was interested in these concerns, and wanted further to understand how kinds of knowledge were signaled as important in student and teacher interactions. John Gumperz's (1986; Cook-Gumperz & Gumperz, 1991) interactional sociolinguistics added this dimension. This approach pinpoints how social order and understanding are created or constrained as interactants read and act on contextualization cues in their partner's speech. To mark important knowledge, interactional sociolinguists focus on variations in aspects of interaction such as turn-taking, conventions for indicating acknowledgment and agreement, and the prosodics, or sound landscapes, of utterances (Gumperz, 1992; Gumperz & Herasimchuk, 1972). These analytical features served the Blob group's interest in describing how ordinary discursive and social practices in classrooms came to be in moment-to-moment interchanges.

A central principle of ethnomethodology, another approach to studying talk-as-interaction to observe how social order is produced and reproduced in the ordinary conversations of daily life, also became important to the elaboration of interactional ethnography. Ethnomethodologists (who gave rise to a way of analyzing talk referred to as conversation analysis) assume that social actors are not governed by externally imposed social rules (Garfinkel, 1967; Heritage, 1984). Rather, they posit that speakers are agentive and actively engage in creating social order as they conduct everyday conversations. Scholarship about the analytical tools of context (Erickson & Schultz, 1981) and frame (Goffman, 1974; Tannen, 1979, 1993) were central in our descriptions of the discursive creation of this social order. The agentive and orderliness qualities of ordinary classroom talk provide for interactional ethnographers a way of

observing how teachers and students act in and through their talk to build and sustain what they think the classroom is meant to be doing and for which particular reasons.

Interactional Ethnography Emerges as a Means of Inquiry

As interactional ethnography took on its own conceptual identity, the central question for any interactional ethnographic study of a classroom came to be who can say or do what to and with whom, when and where, under what conditions, in relation to what actions or artifacts, for what purposes, and with what outcomes? (Castanheira et al., 2001; Green & Dixon, 1993) This orienting question implicates a number of related questions that direct data collection and analysis (Table 1.1):

To pursue the questions put forth in Table 1.1 in a way that addresses the unique opportune and constraining qualities of particular class-

Table 1.1. Questions Guiding Data Collection and Preliminary Analysis

Who:	Which members provide opportunities for learning academic literacies? Which members are provided with opportunities? Which members take up opportunities?
What:	Which academic literacies are available to learn?
With whom:	Who are the interactional partners with whom the members will be learning?
When:	On what occasions, with what frequency, and in what timely fashion do teaching and learning opportunities occur?
Where:	In which interactional spaces? In what physical spaces
How:	How are learning opportunities provided? How are they taken up? How are the literacies constructed?
Under what conditions?	In which social and power relationships are literacy practices constructed? With what material resources? With what social resources? With what cultural resources?
For what purposes?	What are the goals and expectations for performance of classroom members, dominant members, divergent members, individual members?
With what outcomes?	What performances count? How are they assessed and valued? How is capability determined?

rooms and of situated educational processes in which individuals engage, the conceptual and analytical lenses needed expansion. In addition to individual interactions, the “groupness” quality of classroom discourse needed to be included. The Santa Barbara group sought to further understand how speakers demonstrate and construct communicative competence as members of a classroom community.

Whereas interactional sociolinguists can demonstrate the accomplishment of communication among interactants, it is ethnographers of communication (Gumperz & Hymes, 1972; Saville-Troike, 1982) who can make visible the use of language in relation to a larger culture in which it occurs. This is an important distinction for interactional ethnographers, because each classroom evolves its own unique set of cultural practices as the school term goes on (Collins & Green, 1990). Like ethnographers of communication, interactional ethnographers are interested in studying patterns of communication as an aspect of cultural knowledge and group membership behavior. They assume there are diverse communicative practices among members of a classroom that are negotiated into commonly agreed upon rules of “how things work and what matters here” (Green & Dixon 1993; Rex, 2000). Finding out what counts for the members of a particular speech community like a classroom, provides insight into the social norms and expectations themselves. Such insights inform how those norms serve particular purposes as routinized practices and rules for perceiving, believing, acting, and evaluating (Goodenough, 1981) beyond individuals’ creation of those practices. For example, the Blob was inspired by Derek Edwards and Neil Mercer’s (1987) work in the United Kingdom. Edwards and Mercer were exploring how knowledge was socially constructed in classrooms, which suited the Blob’s interest in understanding the construction of subject matter knowledge. As the group studied “opportunities” for learning important academic and subject matter knowledge, the general orienting question expanded to include questions about the construction of subject matter knowledge. (Table 1.2).

Inquiry into the dynamic relationship between the discursive practices of individuals and the cultural norms and practices of the group is the general methodology pursued through interactional ethnography. The Santa Barbara group evolved this approach to understand the nature of the relationship between opportunities for learning and social and discursive practices within and across events of life in classrooms and their consequences for students. In the introduction to their 1993 special issue of *Linguistics in Education*, Judith Green and Carol Dixon relate that the volume’s studies show that life in a particular classroom has particular consequences for students in that they are able to construct situated models of learning in content areas (Green & Dixon, 1993). “In each classroom,

Table 1.2. Questions Guiding Analysis of Subject Matter Teaching and Learning Practices

What counts as subject matter knowledge?

Where, when, and how was subject matter knowledge constructed?

What patterns of activity were opportunistic for subject matter knowledge construction in this classroom?

When and how did the teacher provide opportunities for particular subject matter knowledge to be taken up?

How, through his or her discourse actions with the class as a group, did the teacher provide opportunities for students new to the subject matter knowledge to become recognized as capable members?

What particular kinds of learning opportunities did particular kinds of students recognize and take up, and in what ways?

students were constructing situationally defined repertoires associated with particular models for being students, [which] existed even when content, task, goals, materials, and group were the same" (p. 237). The articles in this seminal volume are footprints of the early interactional ethnographic framework for studying the complexity of social and discursive actions among classroom members in constructing subject matter knowledge.

In her study, Lichu Lin (1993) conceptually separated language "in" and language "of" the classroom to distinguish between language students and teachers use for social interaction—language as means, and language as subject matter—that counts as the literate language of academic texts and academic practices. In making this distinction, Lin's study analytically teases apart the two language uses with two sets of heuristic questions. Questions whose focus is language "in" the classroom look at the social life to explore communicative processes, and patterns of use within a social group. This focus can provide information about access and opportunity observed within and across discourse events and repertoires of events and practices. Questions concerned with language "of" the classroom presuppose that the researcher has already identified the range of verbal practices of the classroom. Questions applied at this point explore the conditions and uses of these practices as a pattern of language use. When related to information gathered from the first set of questions (i.e., "in"), the second set (i.e., "of") can link occasion, type and frequency of social access opportunities to particular kinds of literacy knowledge and practices.

By making visible the intertextual ties between discourse practices and knowledge construction, Lin's study described how what counted as

“language and all of its uses” as a subject matter was built over the first 9 days of an English class. In particular, the analysis foregrounds the English teacher’s actions in consciously and systematically helping students construct what counted as “language” by making intertextual relationships among discourse events that supported particular ways of engaging with texts, of communicating with others, and of constructing texts (SBCDG, 1992b).

In examining what counts as knowledge and how that knowledge is constructed in and through interactions by members, Blob member Ana Ines Heras (Heras, 1993) explored how institutional positions and interactive positionings were constructed in various interactional spaces in a classroom (e.g., whole class, table group, pairs, and individuals). An interactional space is distinguished by certain features: organizational pattern, time, physical space, and purpose, as well as participants. Positions and positionings are two features of the range of features shaping opportunities students have to construct knowledge. The others are temporality, interactional spaces, intertextuality, and knowledge as constructed through interactions. Heras’ study made visible the relationship between different kinds of knowledge and the various interactional spaces in which they are constructed on different occasions over time. The study makes a link between time, space, knowledge and the discursive practices of interactants.

Heidi Brilliant-Mills’ (1993) study of the situated construction of what counts as mathematics in a sixth grade classroom described the intertextual discourse construction of what counts as the academic discipline of mathematics. Brilliant-Mills elaborated on the concept of a “field” of intertextual relationships among prior and present events that frame assumptions about what counts as the subject matter of a discipline of study. Classroom members drew on these intertextual assumptions to guide their discursive practices in present and future events. Brilliant-Mills’ study provided a view of academic content knowledge as socially and discursively constructed over time in and through the interactions of members of a social group, rather than presenting it as an abstract body of knowledge and practices.

These studies contributed to theoretical understandings and raised further questions about the complexity and influence of context in conceptualizing literacy teaching and learning. Green and Wallat’s (1979) earlier question, “What’s an instructional context?”, which arose when mapping instructional conversation shifts over time, became a central theoretical issue for Blob during this period. Ethnographic analysis of discourse, by providing information about social and cultural conditions and forces, enriched the possibility of what could be viewed as contextual factors (Green & Bloome, 1995; Moerman, 1988). The ethnographically

conducted discourse studies expanded notions of what counts as context under the assumption that the relationship between language and context is a mutually constitutive one. In addressing the role of context in ethnographic research in educational settings, Fred Erickson and Jeffrey Shultz (1981), asked the question “When is a context?” They theorized assumptions about contexts that are fundamental to understandings of social competence linked to textual construction and intertextual relationship. The interactional ethnographers of this period tested these assumptions and found them useful:

- Contexts are constituted by what people are doing and where and when they are doing it.
- People in interaction become environments for each other.
- Contexts consist of mutually shared and ratified definitions of situation and of the social actions people take on the basis of these definitions.
- Contexts are embedded in time, can change from moment to moment, and are meaningfully socially related across time.
- With each context change, the roles and relationships among participants are redistributed to produce differing configurations of concerted action.
- Mutual rights and obligations of interactants are continually amenable to subtle readjustment and redistribution into different configurations of concerted action called participation structures.
- Multiple participation structures occur within a single occasion.
- Participants read and provide contextualization cues for each other in their discourse.

In interactional ethnography, context refers, then, to the common orientation and pattern of activity among interactants that leads to the construction of a common text—oral or written. Contexts, like texts, and text-producing events, are shaped by and shape the interactions as they occur over time.

The studies also raised the question of what is a text and how are discourse and texts related? When texts were understood to be written or spoken discourse, students and teachers were seen to bring prior texts to the building of new texts. They drew from an expansive range of textual and material references that were imported from outside and inside the classroom. These imported texts were made relevant through social interaction, when they are socially identified, acknowledged, and validated in classroom conversations (Bloome, 1991). In addition, David Bloome, currently at the Ohio State University and an early protégé of Judith Green’s,

and Ann Egan-Robertson, once his doctoral student (Bloome & Egan-Robertson, 1993), note that recent scholarship and research locates intertextuality in new ways:

Reflecting the current diversity of linguistic, literary, and educational views of language, intertextuality is variously located in the reader (and his or her previous readings), in the interaction between a reader and a text (or perhaps more accurately in the transactions among readers and texts), in social interaction, in the social semiotics of language, in classrooms (viewed as diverse linguistic environments), in the discourse structures of various institutions in which we live as well as in how we contest the confines of these discourses, among other locations. (p. 255)

Intertextuality is used by interactional ethnographers to suggest that all social and intellectual relationships can be construed as texts that are themselves intertextual, wherein texts are always under construction and in shifting relational juxtaposition. Intertextuality, as a central concept of interactional ethnography, is a means of describing the links in classrooms between texts, of describing current and previous text linkages to someone's experience, and of describing the processes through which knowledge is co-constructed by teachers and students (who are in social relationships) through textual connections.

Ana Floriani (1993), in a study linking intertextuality to the interactional frames of reference within which students construct knowledge, coined the term "intercontextuality" for the relationship between text and the person(s) who produce(s) it. Floriani's analysis of students working together in collaborative pairs over time to write a common text attempts to define context by identifying a written text and considering how participants are constructing the text within each unfolding event that is shaping its form and substance. Central to this analysis is the view that texts are never single-person constructions, but are always interactive, and that a relationship always exists between the persons engaged in producing them.

Evolving Programs of Research Develop the Interactional Ethnographic Approach

These studies and subsequent generations of work have extended the conceptual framework, approach, methods of analysis, focal interests, and purposes of interactional ethnographic research. They have helped to build constructs central to interactional ethnography:

- Classrooms are unique cultures within institutional cultures of schooling whose practices and values as they accrue become ordinary and invisible to members (SBCDG, 1992a).
- In and through language and actions observed in moment to moment discourse interactions that become patterned over time, teachers and students construct and constitute their classroom norms and expectations for what counts as meaningful academic knowledge (Edwards & Mercer, 1987; Green et. al., 1988).
- What counts as academic knowledge is built and maintained in and through social processes that can be identified by examining who can say or do what, to and with whom, under what conditions, in what ways, when, where, for what purpose(s), and with what outcome(s) (Zaharlick & Green, 1991).
- Classroom discourse interactions are constituted by and, in turn, construct interactional spaces and contexts of understanding which are characterized by interactants roles and relationships and the knowledge and values brought forward into the interaction (Heras, 1993; Tuyay, Jennings, & Dixon, 1995).
- A dynamic, mutually constitutive relationship exists between the kinds of knowledge brought forward and taken up, the activity to which it is applied, and the interactional contexts in which members give it meaning (Green & Wallat, 1981b).
- The nature of this relationship is visible in intertextual and intercontextual links across time among classroom events that students and teachers construct during discourse interactions. (Bloome & Bailey, 1992; Bloome & Egan-Robertson, 1993; Floriani, 1993)
- Over time, particular kinds of commonly held understandings of what counts as literate thinking, literate actions, literate products and being literate are visible as patterned intertextual and intercontextual relationships (SBCDG, 1992a, 1992b).
- The dynamic, historical network of intertextual and intercontextual relationships in classroom cultures inscribe fields of meaning visible to, available to, and kept in motion by members in the social interplay of classroom discourse. These fields of meaning have consequences for which students can participate and how, and for the subject matter and school knowledge students can learn (Brilliant-Mills, 1993; Lin, 1993; Rex & McEachen, 1999; Rex, 2000, 2001).

As may be evident in these principles, interactional ethnography is undergirded by the extensive anthropological tradition of ethnographic research in education. The foundational scholarship of George and

Louise Spindler (Spindler, 1982; Spindler & Spindler, 1992) laid out the dimensions of ethnography as applied to the study of education. For the Spindlers, the ultimate purpose of ethnography is to provide source material for analysis, wherein “analysis is inference governed by systematic models, paradigms, and theory” (p. 22). No single or constant model, paradigm, or theory governs interactional ethnography. Nevertheless, theoretical positions about the construction of knowledge and the tools to study it are consistently evoked in interactional ethnographic studies. In rejecting the central tenet of positivism, that there can be a neutral, impersonal scientific language to describe and interpret human activities, interactional ethnography follows in the footsteps of Charles Taylor’s (1987) seminal thinking in “Interpretation and the Sciences of Man.” There exists no structure of meaning for a phenomenon independent of the interpreter’s interpretation of it. In addition, those engaging in interactional ethnography assume that knowledge does not exist independent of those who create and use it.

This postmodern interpretivist and constructivist view of knowledge “as actively constructed—as culturally and historically grounded, as laden with moral and political values, and as serving certain interests and purposes” has been summarized by philosopher of science, Kenneth Howe (2001, p. 202). Howe’s explanation of the dilemma this interpretivist position creates for social science researchers argues for two camps of interpretivist research: the postmodern and the transformationist. Given Howe’s distinction between the two, interactional ethnography would fall into the transformationist camp. Those who use the interactional ethnographic approach “see their task as working out defensible conceptions of knowledge and rationality that have contingent human experience as their basis. . . . continuous with the emancipatory project of modernity” (p. 202).

Returning then to ethnography as the approach taken by interactional ethnography, ethnography is a means to intimately study the lived experience of knowledge and rationality of a group culture. In addition, the process of that study has an ethical responsibility to not only represent that lived experience as consistent with the range of interpretations of cultural insiders, but also to provide a study with transformative power. That is to say, those who engage in interactional ethnography negotiate not only their interpretations with those they study, they also evolve research questions and study designs that will elicit knowledge of that site that can contribute to positive change in education. Such a contribution should be made to both the local participants and to the larger community of educators and educational researchers and scholars.

Multiple later generations of researchers in the interactional ethnographic tradition have applied and extended these principles and con-

cerns. Each elaborated the interactional ethnographic conceptual and methodological framework. I developed a cluster of linked studies to theorize how students “orient” to classroom expectations for successful subject matter as they engage in the co-construction of those expectations (Rex, 2001, 2002; Rex & McEachen, 1999; Rex et. al., 2002). LeAnn Putney (Putney, Green, Dixon, Duran, & Yeager, 2000) conceptualized “consequential progressions” as a means of observing the consequential nature of classroom events. One elaboration that strongly influenced the studies in this volume is Tuyay, Jennings, and Dixon’s (1995) elaboration of the concept of “opportunities for learning” as a socially signaled and recognized phenomenon that is context- content-, time-, and participant-dependent. Their logic that the researchers in this volume found so compelling was that if, as previous studies have established, subject matter learning is socially constituted and constructed through intertextual and intercontextual classroom interactions around texts that build intellectual knowledge, then student access to such interactions is central to effective learning. Identifying the range and repertoire of interactions that could provide access, and defining the kind of access that is granted, is one of the purposes of interactional ethnography.

In 1982, Green and Harker had preliminarily explored this issue in a study of students’ attempts to gain access to the teacher or to group discussion at times other than their designated turn or when the floor was open. Their study showed that students were sensitive to implicit shifts in expectation and could extract information necessary for a socially appropriate performance. In later studies, Alton-Lee and Nuthall (1992) analytically isolated critical elements of student opportunity to learn by surveying available opportunities for interaction with content. Assuming students needed a “critical mass” of numbers of opportunities, and that this mass is built up over time, the study developed a retrospective predicative model for student performance outcomes. The researchers acknowledged that time and critical mass as significant factors in determining opportunity to learn are necessary but not sufficient. They recognized that the teacher’s skill is pivotal in providing opportunities considered appropriate within the social, cultural and instructional contexts of the classroom.

Using the lens of interactional ethnography, Tuyay, Jennings, and Dixon (1995) appropriated and expanded these concepts of opportunities to learn by applying an ethnographic “insiders” perspective. They studied different student groups’ interaction patterns as they each collaboratively drafted a writing task. They demonstrated how different interactions by different groups of students in different interactional spaces built different knowledge and constructed different opportunities to learn, even when the task was the same. This study confirmed that a range of opportunities to learn are available as a configuration of the student roles

and relationships within a particular group and their attendant interactional patterns. The study also made visible how a common task was negotiated and renegotiated on different occasions over time by the teacher and students as the teacher made contingent responses (see Wells & Chang-Wells, 1992). Key to the work in this volume, by describing patterns of interaction within classroom instructional events, this study demonstrated how, through the weaving together of ethnographically obtained data of patterned events across time, a web of opportunities for learning could be made visible.

A Recent Illustration of The Interactional Ethnographic Approach

A more explicit and instructive explanation of interactional ethnography as an approach linked to a logic of inquiry which implies types of transcripts and analyses, appears in a later *Linguistics and Education* (Castanheira, Crawford, Green, & Dixon, 2001) article. This study of Judith Green's and Carol Dixon's, with members from a later Blob generation, Maria Lucia Castanheira and Teresa Crawford, illustrates the approach through a broad range of analyses that comparatively describe what counts as text, as literate practices, and as participation in each of five subject area classes taken by Aaron, an Australian high school student. The authors tell us the following:

The interactional ethnographer . . . must look at what is constructed in and through the moment-by-moment interactions among members of a social group; how members negotiate events through these interactions, and the ways in which knowledge and texts generated in one event become linked to, and thus a resource for, members' actions in subsequent events. (p. 357)

In this representation of the central interactional ethnographic constructs, the generation of and linkage between events has taken a dominant role. Although intertextuality appeared as an important construct in early interactional ethnographic work, it has come to assume an even more theoretically integrated and methodologically explicit role. In order to examine the opportunities for learning and the knowledge available to Aaron within his vocational education program, the researchers studied each of his five classrooms. They inquired into a broad spectrum of intertextual relationships to describe how subject specific literate practices worked together to shape daily classroom events and students' knowledge construction.

As is typical in an ethnographic approach, the researchers began with an overarching or orienting question, which guided their analyses of their data: “How can we understand the ways in which literate practices are shaped, and in turn shape, the everyday events of classroom life, and thus, the opportunities that Aaron, and his peers, had for learning?” To construct an answer to this question they began a series of representations of the data, each of which generated and was guided by a question that emerged from the prior analysis. These representations took the form of transcripts, data tables, and domain analyses (Spradley, 1980). In a first set of analyses, the researchers analyzed what was happening—the events—in each class by tracing who Aaron interacted with, about what, in what ways, for what purposes, when and where, and with what outcomes. They wanted to understand what events constituted the activity and semantic world of each classroom. This first phase analysis of video tapes produced three transcripts or structuration maps (see Giddens, 1979; Green & Meyer, 1991): a time-stamped running record of classroom activity, an event map representing the episodic nature of members’ activity, and comparative timelines of the events and phases of activity. These became core texts for the rest of the analytical process. By tracing Aaron’s interactions across time and events, they provided representations of subject matter knowledge teaching and learning practices, including opportunities and demands for its display.

In the second set of analyses, the researchers compared and contrasted the demands for being literate in each subject-area class in order to understand “How was literacy talked and acted into being within and across classrooms?”; and, “What is the role of the individual in the sociocognitive activities identified?” To perform this analysis, they focused on the role of a frequently used text, the workbook, in framing opportunities for learning. To do so, they contrasted event maps across classrooms, they applied contrasting methods (i.e., event mapping, transcript/discourse analysis, and domain analysis); and they compared stated and observed curriculums. For example, they contrasted activity timelines to compare how time was spent in each subject area. In addition, they compared events that occurred in multiple classrooms, like test-taking, to observe the range of interactional spaces, the norms and expectations for performance, and the roles and relationships observable in actions, talk, and texts. The analyses surfaced the ways of being and acting as a student afforded Aaron in each classroom as well as the unique and comparable opportunities for learning available to him as he engaged with workbooks in each setting.

A third set of analyses identified who shaped the opportunities previously identified. By comparing and contrasting the curriculums as observed with statements about curriculum in official documents, com-

parisons were made between what was said to be happening and what was happening in terms of vocational education for Aaron. To perform this analysis, the researchers conducted domain analyses of the literate demands and actions in all five classrooms. From these domain analyses, they constructed a taxonomy of kinds of written text and a taxonomy of kinds of literacy-related interaction. They next constructed a summary table of statements related to the official curriculum drawn from educational documents. They performed a type of critical discourse analysis to understand the institutional positions and identity relationships that are inscribed in and through the various discourses.

One outcome of the study was a detailed description of how Aaron acted “appropriately” as a student in all his classes and how he was afforded radically different kinds of opportunities in his English and mathematics classes. In mathematics he could expand his conceptual understanding of math terms and computational practices through direct interaction with the teacher; whereas in English, where his interactions were limited to workbook activities *about* English literacy knowledge, he had less opportunity to engage *in* literate practices. Because both the official texts and the workbook expected engagement in literacy practices, the study provides empirical descriptive evidence of the lack of support on the part of the English course and the presence of learning opportunities in the mathematics class for Aaron’s literate capacity-building.

There is a danger in using a single study to illustrate the methods of interactional ethnography. A single portrayal privileges and essentializes a single, unique application. Interactional ethnography is a constantly evolving approach to studying teaching and learning in classrooms, and as such should not be confused with a step-by-step research plan or system. Although it is guided by conceptual and procedural principles and utilizes self-referential methods of transcription and analysis, no single set of guidelines exists for conducting an interactional ethnographic study. With the elaboration of theoretical tools for observing educational settings and teaching and learning, and with the expansion of teaching and learning into new educational sites beyond the traditional classroom, interactional ethnography continues to evolve. The questions interactional ethnographers ask and the analyses they perform expand into these new conceptual and physical territories as will be noticeable in the studies that follow. Nevertheless, certain key principles remain constant: (a) the subject of study is a complex social phenomenon; (b) that a group of people intentionally engaged in teaching and learning form a culture; (c) the conceptual and procedural constructs of ethnography and discourse analysis are key ways of studying the actions of such a group; and (d) complexity is productively studied through analysis of relationships between parts and wholes within single instances and across situations and time.

OVERVIEW OF THE CHAPTERS: THE APPLICATION AND ADAPTATION OF INTERACTIONAL ETHNOGRAPHY

In the nine chapters that follow, beginning researchers try on interactional ethnography as a means of building empirically evidenced understandings about how teaching and learning interactions create and constrain opportunities for learning. Before becoming chapters for this volume, each study began as a paper with a more extensive conceptual framework and methods section. We decided to shorten these sections to eliminate unnecessary redundancy, and to instead describe the theories and approaches as we have in the beginning of this introduction. We kept the results sections intact so that readers could observe the methods, means, logics, and outcomes of the disparate analyses.

How and Why I Chose Interactional Ethnography

Chapter 2 by Kathy Morris is not a research study. Rather it is an explanation of why the author applied discourse analysis methods and frameworks for studying classrooms to the study of professional development. The chapter evolved from Kathy's need to find a way of studying teacher learning in professional development workshops, because such research is in its infancy. She began with the assumption that methods that have been successful in studying K–12 classroom teaching and learning should be fruitful in studying adult groups, and narrowed those methods to ones that analyze the discourse of teaching and learning interactions. After reviewing the K–12 classroom discourse literature and the wide variety of discourse-analytic approaches and methods, she selected conversational analysis (CA) and interactional ethnography (IE), having determined that both have proven track records in educational research.

We thought it fitting to begin the volume with Kathy's chapter because it provides a window into the stage in her research process, which is usually absent from the methods sections of research articles—when she had to decide which methods would be best suited to explore the phenomenon she has chosen. Although it is not written as a narrative, embedded in her chapter is Kathy's recursive, dialectical thinking process as she pondered the reflexive relationship between what she wanted to study and what methods she would use. In her explanation to us of why she selected CA and IE to investigate teacher learning in professional workshops, we see the series of intellectual choices she had to make.

These choices about what comprises the object of study and how to study or know it, referred to by scholars as the ontology and epistemology of research, are intimately and influentially related. For example, Paul

Ricoeur (1981), writing about scientific study of the social world, addressed this relationship as one between how we know what we know, how we know we know it, and the actions we take based on these conceptual interrelationships. He illuminates how meanings and subsequent related actions emerge from our (the researcher's and the consumer's of research) relationship to language. Ricoeur posits that the question to be asked is no longer "How do we know?" but rather, "What is the mode of being of that being who exists only in understanding?" (p. 54). Understanding, which emerges from the interpretation of language used to construct meaning, creates phenomena, the creation of which leads to our decisions about ways of dealing with them. To determine her object and her methods of study, Kathy engaged in a circular, constant comparison building of understanding of what she would end up with as her subject if she studied it in a particular way.

Kathy's challenge in Ricoeurian terms is the challenge to locate language that reflects understanding being built—the particular professional development phenomenon to study, and to represent that teaching and learning language using research language that reflects an understanding of it—a valid way of knowing the phenomenon. Kathy first addresses this challenge as an issue of transcription. She makes the important point that a transcript is a particular type of representation that foregrounds certain features and backgrounds or eliminates others—quite often the contextual and "groupness" features. Transcribing is a political act that empowers some ideas, situations, outcomes, and people while marginalizing others.

She introduces us to the CA elements—among them, turn-taking, adjacency pairing, and back channeling—that she finds helpful in studying the structural qualities of coherence and cohesiveness (understandings under construction) of professional development interactions. Kathy illustrates what these CA analytical tools can make visible through before and after transcriptions of the same interaction. She notes that professional developers talk like teachers who habitually control teaching–learning interactions in a particular sequence of teacher initiation, student response, and teacher evaluation or feedback. Kathy demonstrates that to some extent studying discourse structures can afford a view of their semantic content or of the meanings that are constructed in the moment through engagement in those structures.

Returning to a consideration of the phenomenon that these structural tools provide, Kathy confronts the differences between adult to adult professional development (PD) and adult-to-child classroom relationships. She selects additional discourse analysis features of frame, footing, and alignment to study ever-changing relationships between PD interactants that complicate their "learning." A reconsideration of the PD phe-

nomenon and what CA can understand of it leads Kathy to note the method's limitations. CA can inform us about how PD groups participate in and maintain conversation, but studying discrete moments of conversation could not help her view how teacher learning is constructed over time in ways that are meaningful to the participants to improve PD. So she turns to IE as a potential method for looking at that sort of phenomenon. To understand "whether" and "how" learners (or in this case teachers as learners) have come to new understandings about particular subject matter (i.e., learning) requires studying the reconstruction of old understanding and knowledge.

Assessing The Opportunities for Learning Made Available for Students

The studies in chapters 2–4 use discourse analysis to locate and demonstrate student take up of opportunities for learning. Alexandra Miletta's (Chapter 3) study describes the opportunities provided by the teacher's interactions with students to build their own respectful manner and their classroom's respectful environment as they engage in inquiry. In Chapter 4, Mary Yonker is concerned with how tutors and immigrant children in an after-school bilingual literacy tutoring program build trust and reading instruction knowledge. Next, in Chapter 5, Carol Connor and I focus on the opportunities for struggling and able readers to obtain effective reading instruction.

Alexandra's study explores the possibility of making visible the moral aspects of teaching. In this initial foray into the subject, which she eventually elaborated for her dissertation (Miletta, 2003), Alexandra utilizes IE to see how a teacher and her students incorporate what they believe is fair, right, and just into the daily life of their elementary school classroom. Alexandra is breaking new ground in this area by bringing IE to the classroom to investigate how a teacher, Darlene, and her students construct what counts as morally acceptable behavior through verbal, nonverbal, and written communication in order to establish what they view as a "good" classroom climate. Alexandra selects five interactions, which she has ethnographically determined as episodes in which Darlene took advantage of a regular instructional moment in order to co-construct with her students an understanding of morally acceptable behavior. Each of these interactions is selected to serve as a telling, rather than a typical, case. A telling case, as originally conceptualized by ethnographer J. Mitchell (1984), is selected not because it is representative of the culture, although it may be, but rather because it offers an occasion for surfacing previously obscure theoretical relationships. Comparative analysis of the five particular cases of in-action teaching of moral action engendered

speculative theories about how morally acceptable behavior was built in the classroom.

Alexandra's study is also noteworthy for another aspect common to IE—the intimate involvement of the teacher (or main participants) in the research process. From the beginning of the study, Darlene and Alexandra worked together to collect and analyze the data. Their continual dialogue about what Alexandra was collecting and interpreting influenced every aspect of the study. Darlene's reflections on her own intentions as she reviewed and interpreted video-tapes of her teaching became additional data, and her assessments of Alexandra's interpretations of what was accomplished in the moments of her teaching served as a constant member check. Alexandra also applied student data to complement Darlene's point of view and arrive at claims for her study that benefited Darlene and her students by promoting positive classroom climate. By using cases like Darlene's to illustrate "how" to engage students in behaving in more respectful and responsible ways, managing student behavior is represented as a more complicated issue than classroom management.

Similar to Alexandra, Mary Yonker was concerned that an important educational phenomenon had been insufficiently explored. For Mary, that phenomenon was after-school tutoring programs. A bilingual beginning researcher, she was concerned with the potential risks for failure of immigrant children who were suddenly immersed into English-only classrooms. As a teacher, she helped support a voluntary after-school program designed to sustain immigrant children's biliteracy while improving their English reading. In Chapter 4, Mary presents her study of the after-school reading instruction activities in that program. She is interested in understanding how the program director loosely trained the college student tutors, how the tutors taught reading, and how the children responded.

From her ethnographically collected data corpus, she selected "rich points" (Agar, 1980, 1994) for discourse analysis to understand whether biliteracy practices were established, and if so, how. These data points seemed to her to be rich with promise for offering insight into her questions and were all interactions that occurred during circle time, a routine group meeting that involved reading. Mary chose IE because it focused on language, which for her was central to the biliteracy dilemma faced by the teachers, tutors, and children in the program. In addition, in emphasizing culture, the approach allowed Mary to foreground the communal aspect of the program so important to the Mexican immigrant teachers, parents, and children. In addition to teaching bilingual reading, the program was expected to operate as a community based on *confianza*, or mutual trust, between the families and the members of the program and among the program participants. Capturing the quality of trust as it relat-

ed to reading instruction was as important to Mary as assessing the quality of the instruction and learning. Mary's analysis indicated that the children's experience of community and trust was positive and supportive of their acculturation. However, the quality of reading instruction they were experiencing was not as positive. Although not meant as a program assessment tool, her study served to open a dialogue with the program director about the issues raised by the study.

In Chapter 5, Carol Connor and I combine a cognitive lens for evaluating struggling readers against standard developmental benchmarks and a sociocultural lens to assess their performance as readers within the literate activities of their classrooms. By combining the two lenses in the study, the contrasts between each are readily apparent and highlight the epistemological differences between cognitive and sociocultural approaches for assessing educational phenomena like reading. However, we have worked hard to complementarily combine the two.

Carol is a former speech-language pathologist and keenly aware of the recent expansion of the role of speech-language pathologists in working with reading specialists and classroom teachers on interventions to improve students' literacy. Although standardized tests remain important evaluation instruments, classroom-based assessments have become critical for guiding interventions. At the time of the study, combining the two approaches was an untested challenge in need of theoretical and practical guidance. Carol and I took up this challenge using an IE approach for studying two African-American fourth-grade boys' classroom reading performances.

For the study, we combined the results of the boys' reading and language tests and their classroom reading performances to assess the two readers' capabilities, to inform an intervention, and to work collaboratively with the teacher. The tests indicated that one of the students was an able reader and the other struggled. By analyzing the boys' reading actions within the classroom norms for reading and in relation to the teacher's pedagogical practices, the classroom study provided a rich, contextualized description of their capabilities and weaknesses. It was a description to which the teacher contributed and from which Carol could find footholds for approaching the teacher about assessing her teaching. Structuration maps and transcriptions of telling sequences of interaction made visible and concrete what was happening during reading instruction and classroom activity that required reading. In addition to observation, interviews with the teacher provided information about her beliefs and knowledge about the boys as readers and about her knowledge of reading instruction. From the study, Carol was able to ascertain that the teacher provided different kinds of reading opportunities for the boys, some of which the boys interacted with effectively and some of which

they could not. By depicting how reading instruction and classroom demands for reading influenced the kind of readers the boys could be in the classroom, the study could make suggestions for general changes in the classroom curriculum and in teaching strategies that could benefit the struggling reader while keeping in place the practices that already served the able reader.

Applying Intertextuality to Examine an Instructional Approach

In chapters 5 and 6, intertextuality becomes a dominant conceptual and methodological lens for analyzing learning territory that requires creative means for data collection and analysis. Wen-Yu Lee (Chapter 6) incorporates computer process video texts with discourse transcripts to understand how a cadaver-dissecting team learns together as it proceeds. In Jake Foster's (Chapter 7) study of a voluntary study group for student teachers, intertextual analysis is taken to the scale of discursive message units. Jake observes micro moves in discussions about theory and practice to see how together he and the students navigate their way through conceptual and practical topics toward greater understanding.

A medical school dissection lab is the setting for Wen-Yu's chapter study of anatomical literacy learning. Not conventionally considered a classroom, Wen-Yu found the lab a rich site for studying medical students' computer uses as they learn anatomy knowledge. She applied an interactional ethnographic approach to analyze the discourse of a six-member dissecting team over the course's 14 lab sessions. Her purposes were to find out when and why students used computer technology during the dissection lab and to understand how social interaction functioned as an educative milieu during the lab. She wanted to know what knowledge sources students drew on and what knowledge they built together as they worked on their cadaver during the 3-hour lab. She wanted to understand how anatomical literacy-building occurred during occasions of computer use.

Intertextual analysis was central to her study. Referring to videotapes of the students' dissection conversations and of their computer screen (using ATLASplus), Wen-Yu looked for significant intertextual relationships between students' speech and physical actions and the medical texts. She was able to demonstrate how different media for anatomy literacy were incorporated simultaneously into the learning practices of the dissection group. Wen-Yu's three levels of data analysis began when she represented the group's learning events with the computer in a complexly integrated structuration map and time line. In her second analytical step, she categorized five patterns among these events, or learning

themes, for uses of the computer. Finally, she located occasions when the group conversed to construct intertextual knowledge utilizing the computer. In her chapter, she presents three illustrative cases of intertextually observed anatomical literacy learning. Through her study, Wen-Yu observes the important role intertextuality played in students' collaborative achievement and in individual anatomy literacy building.

Intertextuality was also central to Jake Foster's study of a teacher education study group. As a science teacher educator, he was interested in understanding how, during discussions of their student teaching, members of a study group explored relationships between the theoretical concepts from their university courses and the immediate experiences of teaching science. He also wanted to assess the effectiveness of his facilitation, grounded in sociocultural constructivist learning theory, during conversations among the four group members over their six sessions. To conduct his IE study, he applied the concept of intertextuality to understand relationships between multiple influences, perspectives, and/or events considered by the group in the social discourse.

On a participant-observer continuum, Jake was a key participant in the phenomenon he was studying. In choosing his analytical approach, he was keenly mindful of the importance of having a method of analysis that would provide an analytical distance from the phenomenon under study, to strengthen the validity of his interpretations. First, from the videotapes, he mapped and examined the events of all the group discussion sessions to describe the topics and issues the student teachers found most important and relevant. Next, Jake identified topical interactions that embedded theory-practice connections by viewing each interaction in relation to the discussion in which it was embedded to identify participant moves, content, and function of the statements.

At this point, he performed an intertextual analysis to examine the nature of the theory-practice relationships discussed and provide a profile of his facilitation moves in the discussion. By following David Bloome and Ann Egan-Robertson's (1993) conceptual construct for social intertextuality, he was able to make visible how intertextual juxtapositions were accomplished and what they produced in terms of significance for group members. Jake's close attention to ascertaining the social significance of certain discursive moves and intertextual links made it possible for him to describe how theory-practice relationships were promoted and facilitated in the study group.

Exploring And Building Conceptual Knowledge

In the studies in Chapters 8 and 9, Ruth Piker and Hsin-Kai Wu focus on studying the building of conceptual knowledge. Ruth's goal is to under-

stand how the unorthodox instructional approach of a preschool teacher provides opportunities for her students to understand concepts they otherwise might not. Hsin-Kai explores innovative attempts to improve student learning of traditionally challenging chemistry knowledge.

A former preschool teacher, Ruth Piker's interest is in improving preschool education. She was concerned that documents advocating improvement call for the "building of conceptual knowledge" but do not define what is meant by that phrase nor do they provide instructional guidelines for its achievement. Observing a Head Start preschool classroom in which, she surmised, students were building conceptual knowledge, she used IE to understand how the classroom's routines and ways of interacting assisted the children in socially constructing conceptual knowledge. Her aim is to understand what conceptual development and change might look like in a preschool classroom. As part of her analysis, she observes how common ways of interacting offered opportunities for students to challenge and be challenged for conceptual change. Living in the classroom for 28 days over 8 months as a participant-observer, Ruth collected ethnographic data. Within the view of the classroom, the teacher, and the children afforded by her data corpus, Ruth focused on the language used in the classroom as well as on the activity-participation structures.

After providing descriptive examples of what she has speculated are instances of conceptual knowledge building, Ruth turned to psychologist's theories of conceptual knowledge. She carefully compares what she has observed to what theorists suggest constitutes conceptual learning and concludes that within their particular learning environment the children did build understandings of being on a plane, of people with special needs, of a papoose, of eating rabbits, and of insects' characteristics. Ruth's study highlights the application of educational theories to analyze classroom performances as related to opportunities for learning.

In Hsin-Kai Wu's study, she describes how high school chemistry class members interactionally constructed meanings for chemical representations by connecting them to their life experiences. She observes this dynamic in relation to the way in which the experienced teacher and the student teacher used content knowledge to shape the students' connections. A common problem in chemistry education is the difficulty students have in understanding the representations of chemical molecules and processes. A recommended approach for resolving that difficulty is to guide students in linking chemical properties and reactions to common facets of their daily lives. Hsin-Kai bases her study on the assumption that cognitive processes or mental representations are made accessible through social and discursive interactions among teachers and students and are rhetorically and contextually dependent. She collected ethno-

graphic data daily at a high school for 7 weeks in order to focus on an 11th-grade science class' unit on toxins centered around the inquiry question "Is my drinking water safe?" Working from her videotapes and observational fieldnotes of instruction, Hsin-Kai first transcribed the class activities to identify the events, their duration, and the chemical concepts that were covered. She then mapped each event and subevent to understand how they were interrelated within the whole cycle of activity of the unit. Using these event maps, she selected discourse segments of subevents to transcribe. She was guided in her choices by her research questions, and so chose those segments in which microscopic representations were talked about, connected to life experiences, or elaborated by the teachers. She triangulated her transcriptions and interpretations of the video data with the curriculum materials and observational fieldnotes she had collected.

In reporting what she learned from the study, Hsin-Kai uses similar strategies performed by other studies in the volume. She includes her structuration maps in the appendix and presents a few interactional excerpts to illustrate patterns that emerged from her part-whole analyses within and across all her ethnographic data and discourse analyses. This compression selection strategy allows the reader to see in condensed form descriptive evidence of the phenomena the researcher claims is occurring. Hsin-Kai's three segments show how connections were initiated and completed by the class members, by teachers while interacting with student responses, and as solely constructed by the teachers. In choosing these segments, Hsin-Kai is making an effort to provide a view of the classroom that fairly represents its culture and practices. Although the segments themselves are not necessarily typical, they reflect what is typical about the classrooms' discourse and knowledge-building practices.

Studying the Social Positioning of Students' Roles and Identities

Although most of the applications of the IE approach have been directed at understanding teaching and learning interactions or the construction of subject matter knowledge, Sharilyn Steadman's (Chapter 10) two-stage study points in a different direction—at identity. First, she studied the discursive culture of the classroom and how it shaped the opportunities for student learning, and then attempted to improve those opportunities by applying what she had learned. Her first study noted the presence of gender-differentiated discourses in the classroom and their role for the boys in establishing and maintaining their social identity. Her second study was an experiment to see if a targeted change in teaching approach

could expand the boy's identity positions and consequently their social learning opportunities beyond being "players."

Sharilyn had noted that for the boys "playing" and being perceived as "players" was their highest priority, whereas in relation to the boys, girls took on the role of "teacher." The consistent patterns of the students' and teacher's discourse throughout the term defined social and classroom participation that consistently limited the scope of the intended learning. For the next term's class, Sharilyn and the teacher reconstructed the curriculum and her teaching approach to expand the way students related to each other and to the curriculum. They required both boys and girls to act as teachers for the rest of the class. In the study's second phase, Sharilyn investigated the boy's discursive patterns prior to the change and noted they consistently took on the role of player, as had the first group. She observed how their roles contributed to the material social relations in the classroom. She then analyzed the discourse generated in the class during the changed curriculum to observe whether the boys acted as teachers as well as players. She also investigated whether the change had an enduring effect on the social and material reality of the classroom as a learning environment. In documenting the success of the intervention, Sharilyn's study became a bold attempt to qualitatively measure the affect of an intentional change in the way students participate in their learning.

About the Process

At the beginning of each section that follows, the authors of the chapters in that section reflect on the major issues, decisions, and problems they encountered in their quest to realize their studies. They make reference to the advanced methods course for doctoral students I taught for 4 years in the School of Education at the University of Michigan: Introduction to Interactional Ethnography. All of the studies presented in the chapters that follow began as projects for that course. Some of the data were collected prior to the course, whereas others were acquired after they began. Students read about the anthropological, sociolinguistic and discourse-analytic approaches from which interactional ethnography draws, while reading literature that illustrated versions of the approach and research that applied it. Working in collaborative groups of three to four members, the students "tried out" the concepts and methods on their data. They evolved research questions, designed a logic of inquiry, conceived rationales for selection of data to transcribe and analyze, evolved transcription methods, and developed their interpretations and claims. They also analyzed the rhetorical structures of IE research articles and served as critical readers of each others' drafts as they wrote up their studies. Because

I was present for each of the four courses, I can attest to commonalities students reported in their dispositions, knowledge, and activity during their intense 13 weeks of saturated study. They developed reflexivity throughout the research process, heightened awareness of the responsibility visited on those of us who engage in interpretive research, and care in exercising it through increased respect for the powerful relationships among what we say, what we think, and what we do.

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