Epistemological Issues in the Analysis of Video Records: Interactional Ethnography as a Logic of Inquiry

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Community

In our lower community, we have our own language as well as the languages we bring from outside (like Spanish and English) which helps us make our own language. So, for example, someone that is not from our classroom community would not understand what insider, outsider, think piece, notetaking notemaking, literature log and learning log mean. If Ms. Yeager says we are going to "make a sandwich," the people from another class or room would think that we were going to make a sandwich to eat. Of course we aren't, but that is part of our common language.
To be an insider, which means a person from the class, you also need to know our Bill of Rights and Responsibilities which was made by the members of the Tower community. And if Ms. Yeager said, “Leave your H.R.L. on your desk,” people would not understand unless someone from the Tower community told him/her and even if we told him/her that H.R.L. stands for ‘Home Reading Log,’ they still would not understand what it is and what you write in it. If we told a new student, “It’s time for SSL and ESL,” he would not understand.

These words are all part of the common Tower community language and if someone new were to come in, we would have to explain how we got them and what they mean. We also would tell them that we got this language by reports, information, investigations, and what we do and learn in our Tower community.

—Arturo Zaragoza, 5th grade student, 1995

We open this chapter on interactional ethnography and the analysis of video records with an essay from Arturo, a fifth-grade student, engaging in a common practice in his bilingual class—writing a community essay at the end of the year. In this essay, Arturo, drawing on ethnographic language and concepts he learned across the year as he became an ethnographer in his class (Yeager, Floriani, & Green, 1998), inscribes a set of methodological and conceptual principles guiding the work of ethnographers seeking to study classrooms (and other social/institutional settings) as cultures (Collins & Green, 1992). He writes about insider/outside (emic/etic) perspectives, part-whole relationships, ways of making extraordinary the ordinary, and taking a point of view (Green, Dixon, & Zaharlick, 2003), key elements of an interactional ethnographic approach. Throughout his essay, he uses contrastive analyses to make visible ways in which life in his classroom was socially constructed, local, and often invisible to outsiders who do not share the history, meanings, and language that members have in common (Edwards & Mercer, 1987; Lin, 1993).

Arturo, speaking as both an ethnographer and as a member of the class, makes visible the challenges facing ethnographers and others, who are seeking to enter and participate in an ongoing social group, or to interpret the patterns of life of a group recorded on video or other artifacts. Both need to uncover what members need to know, understand, produce, and predict (Heath, 1982) within and across times and events, and how this knowledge is local, situated, and constructed by members through their actions and interactions across times and events (Gee & Green, 1998; Santa Barbara Classroom Discourse Group, 1992a, 1992b). Arturo makes visible the challenges that we and other ethnographers face, when engaging in ethnographic studies of the social construction of knowledge, identity, disciplinary knowledge, literate practices, and social/academic access in classrooms (areas of interest to our research community). These challenges, like those facing outsiders or newcomers to the class, include identifying and understanding what counts as ways of communicating, knowing, being, and doing in the class or group within the class.
Although Arturo did not directly speak of how life in his class changes over time, other students wrote about the changing nature of classroom life. For example, in 1991, Alex, who entered sixth grade in the middle of the school year, stated that

Our community has a lot to do over the year. Sometimes our community gets different during the year. What I mean is like the first day I walked in the door, I was new and nervous, just me thinking who am I, trying to make friends. I came in the door. Other students explained how to do the Writer's Workshop. I didn't understand the three logs. Other kids and the teacher explained. Now I'm just part of everyone else. (Green & Dixon, 1993, p. 235)

In this essay, Alex, like Arturo, speaks about how particular events and artifacts, constituting life in the classroom, are formulated and reformulated by the teacher and students. He also claims that to be just part of everyone else, the person entering needs to know what something is and how to take action in the events of classroom life. In other words, the ethnographer and the outsider need to learn from and with the members of the class.

In this chapter, we draw on theoretical concepts that Arturo and Alex make visible, to present the logic of inquiry guiding interactional ethnography as a theoretically driven approach that enables us to learn from the social and academic work of class members. Although our general approach to ethnographic research in classrooms is to work collaboratively with teachers and students over time (at least 1 year), we also use this approach to analyze the work of students and their teachers on video records (Castanheira, Crawford, Green, & Dixon, 2001) that are not part of an ethnographic corpus. In both types of studies, overtime ethnographic research and videobased studies, we use the ethnographic perspective as an orienting theory that enables us to learn from the work of actors inscribed on video records collected by other researchers (Green & Bloome, 1997). We also use an ethnographic perspective to guide secondary analysis within our ongoing ethnographic corpus in K–20 classrooms (1–12 years of data collection per teacher).

To illustrate the epistemological stance underlying this approach, we present steps taken in identifying, collecting, and analyzing video records from a 2-year study in Ralph Córdova's third- and fourth-grade classes. The specific problem we sought to understand occurred during a presentation that Mr. Córdova and his students in Santa Barbara made to a class in San Diego during a videoconference to share their science research projects. During this conference in which three of the authors of this chapter were part of the local audience, Mr. Córdova, in responding to the San Diego teacher's suggestion that they work together across time in the next year, agreed to her suggestion and also stated that working together for 2 years makes a big difference.

This statement puzzled us, because this was his first year in fourth grade and the first time that the two classes had met. A discussion with Mr. Córdova, who was also an ethnographer in his own class (Reveles, Córdova, & Kelly, 2004), led to an understanding that three of his students, who were participating in this videoconference, had been in his third- and fourth-grade classes and had worked on science projects both years. The new knowledge led to the study that we undertook in collaboration with Mr. Córdova to explore what counted as science to students in his class. Our goal was to
uncover the opportunities they had for learning science and to locate specific moments in which Mr. Cordova made visible to the students what it meant to become a scientist. We used the video record of the presentation as a way of triangulating the opportunities afforded in the classroom with the view of science presented to the community.

Mr. Cordova acted as a co-researcher and a cultural guide, making available artifacts that would enable us to trace the history of science teaching across the 2 years—for example, the index of his data, his teacher’s plan book for fourth grade, and his teaching partner’s plan books for third grade (he taught one day per week both years). His participation also provided a basis for ongoing conversations about the practices being uncovered and provided contextual information, enabling us to locate cycles of activity, and intertextually tied events central to the onset of science in each year.

INTERACTIONAL ETHNOGRAPHY AS AN ORIENTING THEORY
AND A SET OF RESEARCH PRACTICES

Interactional ethnography is the approach developed by members of the Santa Barbara Classroom Discourse Group over the past 15 years (Rex, 2006). This approach integrates practice-centered theories of culture (e.g., Ortner, 1984) with discourse analyses to examine how, over times and events, members of a social group (a class or a group within the class) construct local knowledge (Geertz, 1983) and patterned ways of communicating, knowing, being, and doing (e.g., Goodenough, 1981; Spradley, 1980) through the moment-by-moment interactions (Green & Dixon, 1993; Santa Barbara Classroom Discourse Group, 1992a, 1992b). This approach involves two interrelated angles of analysis—one focusing on the discourse(s), social actions, accomplishments and outcomes at the level of the collective, and one focusing on individuals within the collective, how they take up (or not) what is constructed at the collective level, and how they use these material resources in subsequent events. Each can be the primary focus, however, the two angles of analysis are complementary, each contributing to a part–whole relationship needed to obtain a fuller understanding of the interrelationship of collective and individual learning and development within classrooms (Souza Lima, 1995).

From this perspective, what is captured on video records are the actors, their words and actions within a developing cultural context, as well as visual texts related to the physical spaces, objects, and graphic artifacts of the classroom. Theoretically, we understand the actors to be texts for each other, not merely for the ethnographer (Erickson & Shulz, 1981; McDermott, 1977). As such, they discursively and socially signal to each other (and to us) what their actions mean, what counts as appropriate and or expected actions, and how these observed actions tie to prior and future activity and knowledge (e.g., as indicated through verb tenses and or direct references). They also signal roles and relationships in the ways that members orient to and position with each other, creating particular opportunities for identity formulations and take-up (Heras, 1993) as well as access to academic knowledge and social participation. By examining chains of interactions about a particular topic or sequence of activity, we also explore the agency of individual members as they read, interpret, and act on these
Building on Bakhtin (1986), we understand that the discourse among members makes visible speaker–hearer relationships central to our analysis. He argues that speakers speak with an implicated hearer and hearers listen with an implicated speaker. In other words, speakers take the audience into consideration when choosing what to say to whom, where and when, how, in what ways, and for what purpose(s). The hearer, whether the conversational partner, or an overhearing audience (Larson, 1995), that is, another group member or an interactional ethnographer, also takes into consideration what they know about the history of the event, their relationship with the speaker, and the topic under consideration, to interpret the meaning of the speaker’s message as well as their possible intent. By analyzing chains of (inter)action and what is accomplished, we construct grounded arguments about intentions speakers and hearers signal to each other. From this perspective, what is captured on video records of classroom (and other institutional) life, are intentional actions among members of a sustaining social group.

Given this set of theoretical assumptions about the discursive construction of everyday life, to understand what is represented on video records (and in other artifacts—field notes, pictures, objects), interactional ethnographers engage in analyses at different levels of scale. Each level focuses on particular sets of actions, making it possible to uncover layers of co-occurring constructions by members—such as events, phases of activities, topically related sequences of interaction, turns, and actions (Green & Wallat, 1979, 1981). Analyses of these varying units provide a basis for identifying local constructions of identities for students and teacher(s), patterns of access to particular disciplinary and cultural knowledge and practices, and patterns of impact of policy decisions on the opportunities for learning afforded members of the class, among others (Dixon, Green, Yeager, Baker, & Franquizz, 2000). This analysis focuses on the developing collective level of scale, and does not make visible the full range of individual actions or take-up across time and events.

Analyses at the group or collective level provide a sketch map of the world members jointly construct (cf. Frake, as cited in Spradley, 1980), a broad picture of what members accomplish discursively across times and events. Depending on the level of scale of detail represented on the sketch map (e.g., event level through descriptions of sequences of actions), interactional ethnographers are able to uncover varying layers of structures and structuring practices intertextually produced and used by members to accomplish collective life in their class.

To explore the contributions of individual members and/or the impact of the collective actions on individual’s within the collective’s opportunities for learning, identity development, and other social and academic work, we shift the angle of analysis from the focus on the developing collective to a focus on individuals within the collective. This shift in angle of analysis provides a basis for tracing individuals’ actions and discourse to identify what they take up and how they read, interpret, and use (or not) material resources and cultural practices of the class (Putney et al, 1999). To accomplish this microanalysis, we draw on a complementary set of theories of discourse: interactional sociolinguistics (Gumperz, 1986; Gumperz & Levinson, 1996), critical
discourse analysis (Fairclough, 1995; Gee & Green, 1998; Ivanic, 1994) and microethnography (Bloome, Carter, Christian, Otto, & Shuart-Faris, 2004; Erickson, 1986). These discourse theories and approaches provide systematic and theoretically complementary ways of transcribing, interpreting, and representing the discursive work among members and what they accomplish.

Each theory entails a particular level of analysis, object of study, and potential for knowledge construction. Taken together, they provide theoretically driven ways of identifying how members discursively construct and take up the social, communicative, and referential systems and practices of life within a social group (Bloome et al., 2005; Green & Wallat, 1979, 1981). Central to this approach is the identification of a key speech (Gumperz, 1986) or academic event to anchor a series of contrastive analyses of the discourse and actions in prior or subsequent events. This form of contrastive analysis involves backward and/or forward mapping from a key event or anchor point (Putney et al., 1999). Using this approach, we trace the roots or routes of particular texts, topics, actions, concepts, and roles and relationships, among others, to construct a grounded interpretation of intertextual relationships and what members need to know, understand, produce, and predict to act as insiders of a social group.

These theories also enable us to shift focus from analyses of the intertextual nature of classroom life at a collective level to the analyses to how individual members take up and use language in the processes of learning, identity construction, and other social and academic events of classroom life. Together, the two angles of analyses—the group construction of the discourse and the individual discourse use and take up, construct a picture of where, when, and how knowledge was made available, what counts as knowledge, and how common knowledge and access to knowledge are socially constructed (e.g., Edwards & Mercer, 1987; Heap, 1980; 1991) both in the moment and over time. Juxtaposing the two levels of scale provides a way of identifying and analyzing how situated academic identities and academic access are constructed, and who can and does take up this access and these identities, for what purpose(s), under what conditions, and with what outcomes.

Analyses at Multiple Levels Scale: An Illustrative Case

As indicated previously, the question guiding the research process and the logic of inquiry we present in the remaining sections of this chapter was part of a larger study examining what counted as science in Mr. Córdova's third and fourth grade classrooms. The specific questions driving the process of identifying, collecting, and analyzing video records and related artifacts were: What are the opportunities for learning science afforded students across the 2 years? What data help us understand how Mr. Córdova's students might have interpreted his statement that "working together for 2 years makes a big difference?" Specifically, to clarify potential sources of our confusion, we sought to identify what occurred during the 2-year time period mentioned by Mr. Córdova, and who was part of these 2 years. Further, we explored how this time period was intertextually tied to the presentations the students were giving in the videoconference.
In framing these questions, we sought to turn the confusion (frame clash) we were experiencing into what Agar (1994) called a rich point, a place where culture happens. A rich point is both a physical (a point in time) and a discursive place where a person has an opportunity to learn about the others' viewpoint or cultural practices, and a place to learn through contrasting personal expectations with observed actions of others. Thus, we sought places on video records where Mr. Córdova made visible to students cultural practices and formulations of science projects. We view our research, data collection, and analyses as opportunities to learn from the discourse between Mr. Córdova and his students, the ways in which being a scientist was talked into being across time and events. Our approach to identifying potential records, from which we would construct data to be analyzed, entailed a series of interactive and responsive steps, similar to those used in a comprehensive ethnography.

We located the onset of the science projects through an exploration of both the index of the events of each day recorded on video (and other artifacts-fieldnotes) and the teacher’s plan books for days on which an ethnographer was not present. We then reviewed the video records of the events identified to locate intertextual references across events. Using these purposefully and theoretically sampled events, we then engaged in a series of analyses at different levels of scale. These levels of scale are represented in Figure 8.1 by three types of event maps, each map representing a different time scale (2 years, one day, 4 months as well as subscales of minutes, weeks; Castanheira, Crawford, Green, & Dixon, 2001; Green & Meyer, 1991). Guided by the questions—On what did members spend time? When was science?—we constructed these three event maps to represent different information that enabled us to locate part—whole relationships. Although these analyses often overlapped in time, we present them as a set of progressive disclosures.

The first map on Figure 8.1 represents the period of time in months and years constituting the science work referenced in the videoconference (2 years). On this map, we also locate the period of time of the actual projects for the videoconference, April through June 2003, creating one perspective on whole—part and part—whole relationships. The second map represents the events of April 21st and introduces a series of focused explorations, moving closer in time to the moments of discursive construction of the texts of events, and providing a representation of events constructed on that day. This map represents two different time scales, the day and the parts of the day. Thus, what counts as an event depends on the time scale being used, and its size is a theoretical decision within a particular level of analysis. An event, therefore, is a bounded series of actions, accomplished through a coordinated set of interactions, with coherence of content leading to the construction of a particular topic and/or purpose. An event can only be identified post hoc by observing changes in activity signaled referentially and accomplished by members (e.g., we are now doing social science, not mathematics); it is the product of textualizing work of members (Bloome et al., 2005). One way of viewing the relationship between the first two maps is that the map of April 21st was designed as a swing out map, one that, in photographic terms, enlarges the image in order to explore particular moments in more detail while maintaining its intertextual relationship to a larger time scale.
Figure 8.1. Time line situating frame clashes and analyses of the two years of science (Grades 3 and 4).
The third map represents still another time scale—the 4 months in which we identified direct references to the science content and/or practices related to the science projects that the students presented to the San Diego class. This map represents work in two areas of science and records the transition from Earth Science (3.3 through 4.14) to Life Science (4.21–6.11), both of which were represented in the research meeting of the two classes. This event map focuses on those events of the day in which students were engaged in actions (represented as verbs) associated with being scientists and learning science. The level of scale in this map serves to make visible resources members brought to, referenced, and used on April 21st and in the video-conference.

The arrows between the three maps indicate intertextual and intercontextual ties across levels of time scale. The use of maps at multiple levels of time scale is central to our work, because we seek to maintain levels of context and to show historical contexts (past, present, and future) that constitute an intertextual and intercontextual web of consequential progressions (Putney et al., 1999) of classroom life. Without the video records, the time scales would be lost, since written records are often inexact in regards to time and boundaries of events. Such boundaries are rarely recorded and require post hoc analysis to show the ways in which events are constructed through differentiated activity (Green & Wallat, 1979, 1981). Video records also provide a basis for moving across levels of scale to focus in on particular moments without losing the larger context on a given record or expanding levels of context across records. Figure 8.1, therefore, represents intertextual relationships at different levels of scale and how we use mapping to represent and locate particular analyses in times and spaces.

The logic of inquiry of the multiple levels of scale presented earlier suggests that the types of claims possible about knowledge construction, access, identity, and other outcomes of socially constructed dimensions of classroom life are limited when one analyzes a single event of classroom life and/or a single moment captured on video. What is needed to make larger claims about these phenomena are records collected over time and events that permit an exploration of intertextual relationships that members signal as socially significant.

Transcribing as a Basis for Grounded Interpretations: Mapping Discursive Work

The next series of steps involved transcribing the work of the teacher and students to construct local, situated (re)presentations of what counted as being a scientist in the Life Science projects. We view transcription as a form of mapping, one that represents particular relationships among speakers and units of discourse. Building on Ochs (1979), we view transcription as theory that represents our ontological view of classroom life as discursively constructed in the moment-by-moment and over-time interactions among members. The ways in which we represent the discursive work of members shapes the text that we then read and interpret at another level of scale.

The basic unit of transcribing that we use is the message unit. A message unit is a minimal burst of talk that provides social information (Green & Wallat, 1981).
Central to the identification of this unit is Gumperz' (1982) argument that prosodic cues (e.g., pitch, stress, pause, juncture, intonation contours, eye gaze, proxemics and kinesics) provide contextual information about the meaning and intentions of speakers. Message units, like Lego blocks, are bounded units, which when combined together create larger patterns of interaction and units of work action, turns at talk, interaction units, sequences of tied interactions about a single topic, phases of activity accomplished through tied sequence units, and events themselves (e.g., Bloome et al., 2005; Green & Wallat, 1979, 1981; Putney, 1997). This approach uses contextualization cues as a means of making visible and representing multiple levels of speech, text construction, and activity members construct as they read, interpret, and respond (or not respond in the moment) to what is being proposed by a speaker. This discourse analysis approach requires the transcriber to take a listener/hearer's perspective.

The ethnographer/discourse analyst identifies the ebb and flow of the talk and the ways in which the members, through this talk, draw on cultural practices of the group (e.g., discourse and social processes) to contribute to the text being constructed. By exploring how members are constructing these different levels of units, the discourse analyst/interactional ethnographer seeks to identify the work among members to construct a collective text. As Fairclough (1992) argues,

"... discourse constitutes the social. Three dimensions of the social are distinguished—knowledge, social relations, and social identity—and these correspond respectively to three major functions of language. Discourse is shaped by and shapes relations of power; and is invested with ideologies, both historical and constructed through local texts. (p. 8)"

To illustrate the social nature of discourse and the constructed nature of these texts as well as their interpretation, we progressively disclose a segment of transcript from the Science event on the map of events on April 21 (Fig. 8.1). Through this progressive unfolding, we illustrate the layers of intertextual work the students and teacher undertook at the collective level, and how individuals contributed to this, creating a particular ideology of science practices and a local set of roles and relationships.

Scene: T shifts orientation from talking to a coach who had entered to take a group of students out of the class for testing to talking to the whole class sitting at their desks.

1. okay
2. so you are right
3. when you talked about asking questions
4. about la paloma
5. cuz you've been there
6. you have a little bit of history
7. about that place
This transcript begins with two chains of tied message units in which the teacher addressed the whole class (lines 1–5 and lines 6–7). These chains constitute action units through which the teacher reoriented students and reestablished the topic under discussion prior to the interruption. These units (lines 6–7) also provided new information that signaled to students an intertextual link between the question being asked and their prior experience, obtained from a visit to one of the three field-research sites.

The next chain of actions of the teacher took was also initiated by the use of okay, marking another transition point. Whereas the first shift was a physical one, leading to a reformulation of the topic under discussion, the second shift was a conceptual one. In both instances, the use of okay served to signal a shift. In lines 9–12, he proposed actions he wanted the students to take—to develop some themes, some questions, some general themes.

8. okay
9. i want you to develop
10. some themes
11. for some questions
12. some general theme
13. what's an example of a theme
14. that you might want to think about having
15. when we go to these places
16. we're all going to have the same themes
17. i want you to know that

Lines 13–15 elicited examples of themes, tying them to the places to be studied. Lines 16–17 specified conditions under which students would work—all students will have the same themes. He then went on to let them know what he expected from them as they worked in their small groups (one for each site to be studied).

18. so i want you all to participate
19. in coming up with the themes
20. what theme
21. that you want us
22. to keep in mind
23. when we go to one of those places
24. to research it

In this sequence, he restated and elaborated the actions that they needed to take and how they were to think about themes that they, the team, wanted to research at one of the sites. At this point, the students self-selected a site to study, creating three interest groups, one for each site. The teacher's actions and discourse made visible the com-
mon actions that each self-selected group needed to take—identify themes that will be common and then think about how the theme will be studied at the selected site.

At this point, individual students nominated potential themes, without direct question or designation of speakers by the teacher.

25. Brady to T (class as overhearing audience): what kind of plants do you have
26. T: okay
27. so one of them is plant life
28. that touches this concept
29. so that's wonderful
30. so how can we ask
31. well
32. we'll come up with questions later
33. so plant life at that particular habitat
34. right brady
35. (inaudible)

In this chain of actions, the teacher accepted Brady's question, signaling a student's right to propose ideas. The idea was acknowledged (lines 25–26), and then used as a basis for elaboration, creating an intertextual tie between a graphic chart of concepts that students identified from the state standards in an earlier discussion (lines 27–29 and lines 33–35). Between these two actions focusing on theme-concept-standards relationships, the teacher began to ask a question but aborted this course of action, indicating that questions will come later, and that the current focus was on developing general themes.

His next action signaled continuity in task, while summarizing and reformulating what had been proposed and accepted. He then requested another "one" (theme) and called on Kari, whose hand was raised.

36. so far we have plants
37. that's good
38. what's another one
39. (St raises hand)
40. Kari

In this brief chain of discursive work, less than 1 minute of classroom life, we identified a range of levels of work by the teacher: to reorient students to a common interactional space after an interruption, to re-establish the topic on the floor, to make visible to the group how an individual's proposal fit within the topic being constructed, and how his own talk about questions was not the current focus but would be the topic of actions later.
In this segment, we were also able to see how two different students took up the proposed activity without the teacher needing to distribute turns. The first student, Brady, read the implied invitation to contribute and proposed a question, when the teacher ceased speaking. That his contribution was given at an appropriate time and in an appropriate way was indicated by the teacher's take up (Collins, 1987) of the student's proposed topic. The teacher's take up however, while accepting the student's right to contribute, reformulated the contribution so that it met his intention to generate themes, not questions at this point in time. The second student, Kari, can be seen as acting in a consistent manner, when she raised her hand in response to the teacher's request for another theme. In this brief segment, we demonstrate the join construction of task, content, and social relationships. Further, the analysis shows that the students were not mere receivers of information; rather, their actions show that they read the social, academic, and communicative expectations and demands and responded in an appropriate manner.

Table 8.1 presents a representation of the chains of actions on April 21st taken by the teacher and students in the three events in which science practices and actions were the focus of discursive work. As indicated in this table, each event had a particular focus and each subsequent event assumed the knowledge and actions of the previous ones, creating a horizontal (sequential) and vertical (nonsequential) set of intertextual relationships that together constituted what counted as science on this day. Our over-time analysis represented in Figure 8.1 shows a similar pattern in which earlier events form a part of a consequential progression across times in the classroom. These progressions can be seen as building expanding understandings and uses of science practices and content.

**Interactional Ethnography as a Descriptive Language: Some Final Comments**

The dynamic relationships identified in this study make visible how opportunities for learning, identity formulation, and take up, and access to academic knowledge are not located at one point in time nor are they the purview of a single individual. Rather, the collective and individuals within the collective construct them over time and over events. In presenting the different levels of scale and the rationale for each, we made visible how an interactional ethnographic perspective leads to the construction of a particular logic of inquiry that is grounded in understanding and uncovering the actions of members of a social group as they jointly construct the everyday events of life within the group.

The description of the steps constituting the logic of inquiry created for this set of analyses demonstrates how discourse analyses, grounded in an ethnographic perspective and data corpus, enable the researcher to learn from the recorded actions of members of a social group. These steps illustrate how the juxtaposition of analyses at different levels of scale made visible intertextual relationships constituting classroom life. Such relationships are proposed, socially accomplished, recognized and acknowledged as socially significant by members of a group (Bloome & Egan-Robertson, 1993).
### TABLE 8.1

**Science in Three Parts of the Day: An Example of Vertical Intertextuality**

<table>
<thead>
<tr>
<th>Overviewing Schedule 18 minutes (8:20–8:38) students sitting in desk groups</th>
<th>Conducting class meeting 30 minutes (8:38–9:09) students in oval on floor</th>
<th>Preparing for field research 105 minutes (1:25–2:30) students in site groups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>indicating</strong> sequence of activities in class</td>
<td><strong>eliciting</strong> ideas from students on ways of organizing groups</td>
<td><strong>establishing</strong> boundary of event to come</td>
</tr>
<tr>
<td><strong>contextualizing</strong> an action to follow within the day</td>
<td><strong>foreshadowing</strong> ways of organizing into groups</td>
<td><strong>inscribing</strong> sketchbook as artifact for science project</td>
</tr>
<tr>
<td><strong>Telling students</strong> importance of science project</td>
<td><strong>discussing</strong> responsibility for project</td>
<td><strong>contextualizing</strong> project in moment &amp; over time</td>
</tr>
<tr>
<td><strong>requesting</strong> students listen to something important</td>
<td><strong>Inscribing/discussing</strong> three places</td>
<td><strong>reformulating</strong> project as complex</td>
</tr>
<tr>
<td><strong>giving</strong> date for future events—open house &amp; science fair</td>
<td><strong>inscribing</strong> a list of work involved in the fieldtrips</td>
<td><strong>reformulating</strong> project as multi-layered</td>
</tr>
<tr>
<td><strong>placing</strong> today’s work in sequence of work over time</td>
<td><strong>discussing</strong> doubts/questions adult leaders in each place have about student ability, maturity &amp; preparation</td>
<td><strong>establishing</strong> listening &amp; attending as conditions for learning complex ideas</td>
</tr>
<tr>
<td><strong>formulating</strong> the need to know what is expected</td>
<td><strong>signaling</strong> actions as discipline specific, not site specific</td>
<td><strong>inviting</strong> to student to remember three places</td>
</tr>
<tr>
<td><strong>reminding</strong> class mrs. B already mentioned science projects</td>
<td><strong>discussing</strong> how site determines questions to be asked</td>
<td><strong>listing</strong> three places</td>
</tr>
<tr>
<td><strong>presenting</strong> district requirement: every 4th grader must do a science project</td>
<td><strong>tying</strong> actions inscribed to the spaces for the actions to student identities as researchers</td>
<td><strong>reformulating</strong> 3 places as “out in community”</td>
</tr>
<tr>
<td><strong>linking</strong> 4th grade requirement intercontextually to project undertaken with mr. C &amp; mrs. H in 3rd grade</td>
<td><strong>asking</strong> student for attention (first time individual singled out to take up expected action)</td>
<td><strong>engaging</strong> students in thinking about prior work in search science projects</td>
</tr>
</tbody>
</table>
invoking student expertise

reformulating intercontextual and intertextual ties between 4th grade requirement & science in 3rd grade

reformulating request to “listen” and “don’t interrupt” as mr.c introduces the science project

defining what is meant by “it’s much bigger” (earlier reference)

inscribing three places graphically on the board

naming students as “researchers”

specifying what researchers do and prepare to do

reformulating “three places” as “three different places”

specifying science projects as “field research”

defining field research as involving particular activities: interviewing people, collecting data, collecting plant samples.

defining area of field research—are plants indigenous?

stating an outcome: learning about native plants

engaging students in thinking about prior work in earth science projects

contextualizing the notion of “concept” through prior work (earth science)

introducing life science concepts by reviewing earth science concepts

sharing 4th grade district requirements for learning science

linking what students know to requirements

inscribing purposes and expect outcomes for life science projects

guiding class in brainstorming questions & themes to investigate in three places

engaging students in small group in identifying potential questions & themes

inviting groups to share questions/themes with class
and are consequential for constructing local, situated practices, and content of classroom life within and across moments, events as well as across events.

The analyses at different levels of scale underlying the interactional ethnographic perspective to data collection, analysis, interpretation, and representation, also made visible that the challenges facing ethnographers who seek to understand the actions, interactions, and their outcomes in classrooms as cultures, are not unlike the challenges facing students. Like Arturo and Alex, ethnographers face daily challenges of gaining access to and interpreting the insider discourse and actions through which academic and social texts are constructed by the group as well as by individuals. As the essays and analyses in this chapter demonstrate, interactional ethnography, with its theoretically driven principles of practice, provides a descriptive language and a systematic approach to examining social construction of life in classrooms. Viewed in this way, interactional ethnography is a resource for students, teachers, ethnographers, and other researchers, that makes visible the often invisible work, accomplishments, and consequences of classroom life for both students and teachers.

REFERENCES


Video Research in the Learning Sciences

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http://www.videoresearch.org