Video recordings of talk-in-interaction as data for studies of learning and teaching

Rogers Hall, *Vanderbilt University*
(Chambliss, Chapter 7, p. 162) Qualitative methods refer to several distinctive research activities: participant observation, intensive interviewing, and focus groups.

(Chambliss, Chapter 7, p. 173) Notes are the primary means of recording participant observation data (cite). It is almost always a mistake to try to take comprehensive notes while engaged in the field—the process of writing extensively is just too disruptive. The usual procedure is to jot down brief notes about high lights of the observation period. These brief notes then serve as memory joggers when writing the actual field notes at a later session.
Qualitative research aims to go, as we said at the beginning of this chapter, where real people live. It thereby can become, at its best, a form of literature, beautifully teaching its readers the deeper truths of the human condition. More modestly, many students simply find reading reports of qualitative research to be far more interesting than the statistics used in survey analysis.

But “interesting” is not always the same as accurate, correct, or even representative. [...] Like journalists, even the best qualitative researchers may be drawn to the odd, the unusual, or the available—and all of those may be poor substitutes for representative sampling, standardized questions, and other more sober approaches to learning about social life. The statistics of survey analysis and the control groups of experiments force us to face reality with self-discipline; they make it harder to find the patterns we want to see. (underlining provided by a prior reader in my copy)

Comparative analysis of cases, developing grounded theory...
Say/do problem… video recordings as “reality close” material (and only that)

Strategies for recording… fast, cheap and in control (mostly)

Comparative analysis of cases, developing grounded theory… multi-site, threaded character of learning and teaching in naturalistic settings
Fast, cheap and in control

Consumer grade cameras

Wireless microphones

Time-indexed field notes

Redundant audio
Following people and things on the move

An entomologist and a chemist, who follow termites at a “wildland” field site (BugHouse Project). One camera (Hi8), two wireless mics, one SLR camera, fieldnotes (Hall, John & Torralba)
Zooming over panning… operating a “follow” camera (*BugHouse*)
Panning with tight zoom… loses interactional context
Panning with tight zoom… loses interactional context

Zooming with minimal panning… preserves context
BugHouse past/future made present when assembling different orders of work (multiple sites, threaded)

If you were collecting them from... New England, down the coast, Florida, across the gulf coast, in INland US

And we take all the termites they’ve collected and then... only use profiles [...] we are at the end of the day give it some number, put it into a... jar and pull it out of a jar. And we DISREGARD geographic locations and what have you
*BugHouse* representational infrastructure ("wildland" site)
Finding “controls” in wood consumption analysis (from field to lab, routine “dirty work”)
Representations bind together human/termite time and place.

Fieldworker to termite time

Place to work units over time

Figure 2. Distribution of monitoring station at the California. Monitor locations designated as (●) in the figure, wooden stake locations designated as (+).
Learning by exchanging *routine* labor (field/lab work) for access to *innovation* (study design)
Indexing and content management…

One *!!&^* tape after another!
TABLE I

A hierarchy of contexts for the children and the teacher while reading the book

<table>
<thead>
<tr>
<th>School</th>
<th>Time in the classroom (5 hours)</th>
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<tr>
<td>Lesson</td>
<td>Time at the reading table (30 minutes)</td>
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<td>Instructional rounds</td>
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<td><strong>Turns to read by person(s) designated</strong></td>
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<td><strong>Group positionings during each reading turn</strong></td>
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<th>Actions</th>
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<th>Anna</th>
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<th>Ted</th>
<th>Perry</th>
<th>Maria</th>
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Individual movements which by way of form and apparent consequence are recognizable parts of the group's concerted activities: smiles, gazes, gestures, offerings, complaints, readings, fights, etc. Ideally, the effort of a context analysis is to account for all the moves of individual actors in organizational terms. This chart offers a considerable simplification of our context analysis, in that it allows the reader to assume that every action by every member is in fact constitutive of the group Positionings. Although there is truth in this simplification, we must note that other levels of concerted activity could be written into the chart between Positionings and Actions, particularly the many two, three or four person coalitions which develop within most Positionings. A thorough account of these and how they work in the production of more inclusive levels of behavior listed in the chart would greatly enhance the adequacy of our ethnographic description.

Comparative analysis of cases, developing grounded theory (Math@Work Project)

Studies of learning and teaching in statistical consulting across client domains (SCADS)

Data include video recordings of consulting meetings, ethnographic observation and video recordings of client work groups, collection of working documents produced and used in these activities, and semi-structured interviews with consultants and clients (both biographical and using artifacts collected in consulting or work studies).
How are statistical concepts made to mean the same thing across different domains of application, which are themselves complex work organizations?

Mark and Leah (field entomology)
1994

Bill (statistician)
1994/1996

Pam (stream ecology)
1996
Statistical consulting disrupts representational infrastructure *within* client projects and distributes concepts *across* conventional work practice.
Video recordings as re-usable “traces” of complex human activity

Figure 2. Two images showing a common difference in the way that children and adults interact with Tornado. The right image shows an adult male, standing outside to watch the vortex form. The left image shows a child inside the exhibit, running around the vortex (i.e., with the direction of spin). The left image also shows locations for relevant mechanisms: (1) a fan draws air up; (2) visitors may push and hold a button to stop the fan; (3) fog comes up through a grating in the floor, and (4) two vertical tubes with small holes blow air silently around the chamber.

Museum visitors review a video recording of their interaction with the exhibit, then return to the floor with new questions.

Figure 3. (a) The interviewer pointing out the part of *Tornado* visibly moved by a child’s breath. (b) Two adult visitors returning from the booth to the exhibit to discover the silent tubes that move air around the chamber.
VideoTraces augmentation to WaterPlay exhibit (LHS)

Figure 2. Signage used to augment the WaterPlay exhibit: (a) a still photo and question we seldom heard asked, (b) a photo of the Pong Blower as a direct physical analog, and (c) a photo of the Pong Blower making Bernoulli’s effect more striking.

Figure 4. Rogers setting up and then turning over the Pong Blower to a growing crowd of visitors.
Figure 5. Family of five and Rogers viewing a video trace produced by two sisters. Their younger brother, who produced an earlier trace document, stands in the background between his mother and father.

Figure 6. The older sister, in the context of an impromptu interview, enacts a model of lift produced by different air speeds traveling over and under the wing of an airplane. As it turned out, (to the left, off camera) her father works as a pilot, and he is the only visitor during the day to mention Bernoulli (we systematically avoided the name).
**VIDEO TRACES MEDIUM**

Trace = Base + Annotation

**Base** is image, moving or still

**Annotation** is speech & pointing

**Recording Interface**

Simple recording (like a VCR)

Annotate base image that you can slow or freeze as you watch

Respond to existing trace in variety of ways