Commentary

Demystifying Data Construction and Analysis

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When I first became acquainted with the work of Larry Sipe I thought, “Anybody who studies reading aloud The Stinky Cheese Man has got to have something interesting to say.” In this “Reflections from the Field,” Sipe has done it again, here in collaboration with Maria Ghiso. They address the “how” of data construction and analysis, and in so doing teach us two important lessons. The first is that “data” in qualitative research must be found—they do not simply appear to the researcher—which is to say that they are not apprehended passively by the researcher as natural entities. Rather, each data point, each datum, must be defined and identified in a process of searching repeatedly through a set of information sources. Fieldnotes, interview transcripts, and archival records (as well as audiotapes and videotapes) are most appropriately conceived not as “data” in their unreduced form—they are resources for data construction within which data must be discovered. The second lesson is that patterns or themes in the data also must be found—they do not imply “emerge.” Rather, statable patterns and themes—assertions that make generalizations about actions and beliefs that were observed—must be searched for repeatedly within the total data corpus, in a process of progressive problem-solving.

These are two valuable lessons that disabuse us of two kinds of naivety about the processes of qualitative research. One is that these processes are simply subjective—the qualitative researcher finds conclusions through a combination of intuition and empathy that eludes reflection and thus descriptive reporting—that is, it is magic or art. The other naivety is that the processes of qualitative research are simply and unitarily objective; conclusions about pattern are found by processes based on low-inference coding judgments for which algorithms can be specified, and then more highly inferential layers of summary coding can be added in a nonproblematically stepwise progression upward in generality toward the identification of a statable theme or pattern. Either construal of the research process—as unitarily subjective or...
objective—misrepresents the actual process of progressive problem-solving in data construction and analysis. That process of using one’s mind and heart is neither entirely Apollonian—smooth, coherent, and algorithmic—nor is it completely Dionysian—turbulent, serendipitous, and idiosyncratic. Rather, in real-world practice it is a mix of both. Sipe and Ghiso have shown us how one version of this problem-solving actually works in exhaustive data analysis in which all the data that were initially “found” are finally accounted for analytically. Such an account demystifies the qualitative research process in a very useful way.

A note on the nature of the “qualitative” is in order here. Qualitative research is concerned with the identification of qualities (from qualitas)—the kinds of entities that exist in a particular local social world or “local community of practice.” Qualitative inquiry (at least that which is done in the broad interpretive tradition initially articulated for ethnography by Malinowski, and in the symbolic interactionist tradition in sociology) wonders about the kinds of things (and kinds of kinds) that are relevant to local social actors in the routine conduct of social interaction. The enterprise of quantitas first asks, “What amounts?” whereas that of qualitas first asks, “What kinds?”

In his doctoral research Sipe was trying to discover the kinds of actions students took in their talk in relation to picture books as they were being read aloud and discussed with their teacher. His aim was at first to identify the full range of kinds of actions (kinds of talk) by the children that happened during read-aloud sessions. He had observed and audio-recorded multiple read-aloud sessions in a single classroom that combined first and second grade students. He prepared transcripts of 45 of these sessions. Using the conversational turn as a unit for coding, Sipe then characterized each turn by one or more descriptors that identified differing kinds of talk about and around the books’ texts and pictures. Thus, he produced a primary data unit—a datum—that consisted of a conversational turn characterized by a descriptive category. This process of data discovery and analysis produced 29 different kinds, or subcodes, by which many of the conversational turns could become items of data. He then clustered these subcodes further into five higher-order codes or categories: (1) talk about a book as a cultural object; (2) talk about the language of the text; (3) talk about illustrations; (4) talk about the elements of narrative, plot, characters, theme, and setting; and (5) talk about the relationship between fiction and reality.

So far this was a two-stage analytic process. First, he had identified 29 different kinds of talk. Second, he had identified five kinds of those kinds. Yet many of the instances of conversational turns in the data corpus did not “fit” neatly within either the subcodes or the higher-order codes. What to do analytically with this “remainder?” (This is analogous to the problem quantitative researchers have when they leave a substantial portion of the variance in their data “unexplained,” i.e. considered formally as “noise” [random variation] in relation to the “main effects” identified in the statistical analysis.) Sipe realized that
something was going on that was different from the variation he could describe using the five higher-order codes—there were other kinds of things beyond what his second stage of analysis had considered. His model of kinds was incomplete. Having read Bakhtin he realized that at an even higher order of contrast between kinds of things, there was a dimension that distinguished the instances of turns he could fit into the intial kinds of kinds model he had induced. This was the contrast between seriousness and play—between the everyday and the carnivalesque. As he looked at the instances in the “remainder” pile he realized that, one way or another, they involved students playing around with the mandatedly serious agenda of school learning. My colleague Kris Gutiérrez subsequently and independently has identified what appears to be the same phenomenon, calling it a “third space” (Gutiérrez et al. 1995; Gutiérrez et al. 1999)—an intermediate place between the “script” of serious, official school talk and the “counterscript” of student resistance in the classroom. This congruence of findings has significance both for research method and for substance. It can be considered as evidence for the hermeneutic validity of Sipe’s analysis and Gutiérrez’. It also appears that both Sipe and Gutiérrez have arrived at a significant insight about classroom interaction as a learning environment. When students and teachers collaborate in engaging academic subject matter in the playful ways that Sipe and Gutiérrez both report, this can be productive for learning morale in the classroom. Framed by a Batesonian metamessage “this is play,” such interaction has an emotional keying in that it manifests solidarity between teacher and students rather than antagonism and alienation from participation in learning.

When Sipe recognized the instances in the “remainder” pile as talk that was doing a very different kind of thing from the kinds of action by which the other instances of talk had been characterizable, he was able to account for all the instances in his remainder as “carnivalesque.” His subsequent discussion of the activities of children’s talking about books during read-aloud sessions had a two-dimensional quality that much classroom discourse analysis lacks, because Sipe was able to show “script” in contrast to and in relation with “counterscript.” In the more usual view of classroom social action and classroom talk (unimaginative, objectivist, one-dimensional), a qualitative category such as “off-task” is possible to hold as a distinction between one kind of thing and another—off-task in contrast to on-task. But any teacher who stops to think for a moment knows that a classroom of young children is not that uniform or monochromatic a social world—it is a place in which the colors and shadings of paradox and parody are being enacted constantly, verbally and nonverbally.

Moreover, constructing an analysis that makes contact with the inherent wackiness and funkiness of early elementary classrooms is especially appropriate for an analysis of reading aloud the book *The Stinky Cheese Man* because, as a deliberately postmodern genre-breaching text,
that book invites hacking around, goofing off. The text itself does that, in parodying the conventional world of children's picture book stories as a genre and in parodying itself repeatedly (e.g., the endflap text that says, “New! Improved! Funny! Good! Buy! Now!”). What may not be obvious is that as the children themselves imitate and mock this parody in the book, they are doing something that is anything but off-task—they are taking the stance of analytic distance toward literature that is one of the main purposes of rich literacy teaching. Carnival turns the social order and the semiotic order upside down and inside out—it plays critically with meaning categories, co-occurrence relationships, and many sorts of boundaries. So does the book *The Stinky Cheese Man*, and so does the talk that this particular teacher allows and indeed invites during read-aloud sessions, as the analysis by Sipe and Ghiso shows us. Stepping away a bit from a text is to take a critical stance toward it—and such a stance constitutes “grownup” reading, real reading, not the reading that much conventional “reading instruction” fosters and models, which no more resembles what we want genuinely literate people to do in their adult lives as they relate to written texts than a trained seal’s act honking of horns resembles an authentic musical performance.

What has resulted, in the analytic work of Sipe, as shown here by Sipe and Ghiso, is something quite wonderful. It is not only careful qualitative analysis that is described specifically enough so the analysis itself is demystified, it is also analysis that pays off substantively—giving us fresh insights into a multidimensional universe of kinds of student talk about picture books during read-aloud sessions, an analysis that points to the educative possibilities that reside in some kinds of talk, which, if conceived as a different kind of kind (as “off-task behavior”) would leave us clueless as to its relevance to the social actors in the actual, local scenes of discourse practice that were studied and to its pedagogical potential for teachers.

That said, I want to make a few more observations. First, as Sipe and Ghiso tell us, reading Bakhtin was crucial to explaining how and why the analysis took the course that it did. What if Sipe had read Stanley Fish instead, or Michel Foucault, or Jürgen Habermas? The higher-order dimensional contrast of carnival–noncarnival probably would not have occurred to Sipe. Rather, something else about readers and texts, or the panoptical surveillance of children as subjected to school as a Discourse, or about technical rationality in talk might have occurred to him. (My friends and colleagues John and Jenny Gumperz told me that in the same years that Sipe was reading Bakhtin, as it had become the next “cutting edge” thing, they put a post-it note on their refrigerator that said ironically, “Be wise—Bakhtinize.”) My point is that, again contrary to the notion of qualitative analysis as mainly inductive, by processes that can be algorithmic, such analysis is never theory-independent or theory-neutral. One must, therefore, be careful in what one reads while doing fieldwork and qualitative analysis. There is no formula for making wise choices in that. Temperament, prior experience, all sorts of
personal idiosyncracy enter into the research process, and we should 
not be pretending otherwise.

Second, I would have gone about this analysis differently, from the 
top down rather than from the bottom up. Whether this would have 
“worked” better is an unanswerable question, and I should not be read 
in the following remarks as criticizing the ultimate results of what Sipe 
did. I simply want to point out that there is another way to do exhaustive 
analysis of a qualitative data set, once that set has been constructed. I 
think there are problems with the “bottom-up” approach that some writ-
ers on qualitative analysis advocate and that has been built into various 
computer software programs for qualitative data analysis. Because this 
advice is so widely read, and the software packages built along those 
lines are so widely used, I feel compelled to make the observations that 
follow.

Exhaustive analysis of qualitative data in a whole data corpus can be 
thought of as parsing; in grammar, this is dividing a whole sentence 
into its constituent parts. One way to think of the progressive problem-
solving process in qualitative data construction and analysis is to see it 
as trying on alternative ways of parsing a data corpus until one finds a 
line of “best fit” in the parsing that also accounts for every item of data in 
the corpus. This is what I see Sipe as having done. But the way he started 
was from the “bottom up”; he began by trying to assign a descriptive 
code to each conversational turn in a set of transcripts of student talk in 
read-aloud sessions. (This is also what the software packages say—try 
coding each line of fieldnotes, or each action of someone in the scene 
being described in the fieldnotes.) After trying these subcodes for size 
and adjusting them for “fit” (and, it should be noted, that process was 
not described in detail in the Sipe and Ghiso article—a bit of that would 
have been helpful, I think), Sipe induced the five higher-order categories. 
This is a bottom-up strategy—the “This is the house that Jack built” 
method.

Another way to proceed would be to listen to each of the original au-
diotapes continuously and write the equivalent of observer’s fieldnotes 
on each read-aloud session recorded. Alternatively, one could review 
each transcript and write a narrative descriptive version of the action the 
researcher saw in the transcript—a simulacrum to fieldnotes. (I assume 
that Sipe did not make classical fieldnotes on site because he partici-
pated actively in the classroom as he observed.) Then one would read 
each set of notes and ask, “What are the different kinds of things going 
on in the children’s talk here—and especially, what are the biggest differ-
ences in kinds of talk?” Having read and made written comments on all 
the fieldnotes, one might say, “One big contrast is that between serious 
talk and playful talk—or just serious and “other.” Another big differ-
ence is between kids talking about the book and about something else 
entirely during the read-aloud sessions (e.g., a fire drill, requests to go 
to the bathroom, last night’s thunderstorm, the classroom hamster that 
died over the weekend). Then, within the category talking about the book,
one might distinguish between talking about the text and talking about the pictures. Within talking about the text, one might distinguish between talking about the book as a whole and talking about some aspect of its parts. Within some aspect of its parts, one might distinguish between reading the text (Sipe category 2b) and questioning the meaning of a word or phrase (Sipe category 2e). Within any of these categories, one might distinguish between being serious or being playful, or being something other than serious or playful. After one had fiddled with this system awhile, I would take it to a transcript, try to use it on conversational turns, readjust the system for better “fit” with that transcript, and then try the system on more transcripts.

It seems to me that working in this way from whole to part, from top to bottom, would map over in many ways what Sipe did in working from bottom up. But it also seems to me that it usually works better to parse analytically from whole to part and then down again and again, successively identifying subsequent next levels and their constituents at that level of contrast than it does to start by trying to identify parts first and then work up analytically from there. I say this because I think that is what social actors do. In my interpretation, children are not appropriately characterized as aggregating sets of discrete “moves” in the scene of a read-aloud session. Rather, I see them as doing a read aloud session as a whole (and doing whatever it takes by way of constituent activities in order to get such a session done.) I say this because early in my career I read Gregory Bateson, Harold Garfinkel, Albert Scheflen, Erving Goffman, and Adam Kendon, among others, rather than Robert Bales or Anselm Strauss. Following the examples of my mentors I look first for the biggest shifts in activity within the interactional occasion as a whole, then for the next biggest shifts, and so on. I am looking continually for lines of contrast, but I do it from the top down rather than from the bottom up.

In my experience this process results in better analysis than does the bottom-up approach. But what Sipe and Ghiso have shown us is substantively wonderful as well as procedurally clear, so who can tell? From my point of view, what Sipe did when he realized the possibility of the carnivalesque was to make a leap upward in the analysis to a top-level parsing—carnivalesque/serious. One of the reasons I think the top-down approach is better is that it invites parsing all the rest of the way down on both sides of that analytic divide. Sipe and Ghiso do not report an analysis of the constituent parts on the carnivalesque side of the analytic contrast that Sipe discovered because he had read Bakhtin, and so I am assuming that analysis was not done. Everybody has to stop somewhere, in what otherwise is an endless process of analytic induction. However, I wish that Sipe, or Sipe and Ghiso, had explored some of the differences in kind that must be apparent within the set of instances of conversational turns that apparently became globally characterized as carnivalesque. And I think that might turn up further interesting insights. (It is not too late—they still have the transcripts.) But I also think that a top-down
approach might have invited differentiation at the first branching in that analytic divide—carnivalesque/serious.

Of course, the top-down approach also can be criticized for inviting too many binary or trinary distinctions, for collapsing multidimensional orders into two-dimensional visual representation and then reifying the tree-like branching diagrams that result. It is entirely possible that tree diagrams, themselves a constructed formalism, do not represent the order inherent in the interactional conduct of everyday life as well as do rhizomes (see Deleuze and Guattari 1987; Kamberelis 2004). But some kind of parsing from larger analytic constructs to smaller constituent ones is an alternative to the more usual “bottom-up” coding procedures as described in the literature on qualitative data analysis. And, in my judgment, it is a superior alternative. That is literally and admittedly a judgment call.

Now a third and final point. Whatever the means of making analytic distinctions—working from the top down or the bottom up—the ultimate validity test (at least in the interpretive, Malinowskian tradition) is whether the categories and frameworks constructed by the analyst can be shown to have some relation to the meaning perspectives of those whose actions are being analyzed. Such relations are demonstrated by looking downstream at what happens next in the course of social interaction: Are different kinds of antecedent actions, as the analyst has identified them, consistently followed by certain sets of consequent actions rather than others? To use Sipe’s categories as examples, what follows after a student questions the meaning of a phrase (category 2e)? Or at a more molar level, what follows after a shift from relatively serious discourse to a sequence of actions that are carnivalesque? What do other students do? What does the teacher do? Those matters are not mentioned in this article. To rephrase Bateson’s (1973:428) definition of information as a “difference that makes a difference for a system as a whole,” are the analytic points of difference those that “make a difference,” or are the variations in behavioral form that are differentiated in the analysis those that are not apparently related to distinctions of meaning for the participants who are behaving in those ways? I assume that Sipe’s thesis addressed this crucial issue, as well as what the teacher and other students did after one of the kinds of talk by a student happened—but that is not reported in this “Reflections” piece.

To conclude, Sipe and Ghiso have left us very much in debt to them for this candid and effective portrayal of one version of the qualitative research process in a study that produced genuinely fresh insights into the conduct of classroom discourse as social and cultural practice, and that in addition suggested pedagogical opportunities for teachers as they read books aloud with their students. This Reflections from the Field is “New! Improved! Funny! Good! Buy! Now!” But don’t treat it as an imitable model. Try to learn from it to build your own version. And try constructing your analysis both ways, from top down and bottom up, until you find an analytic framework that fits your data and you find
data that are consonant with your framework. I said at the outset that in qualitative research one must construct both data and their analysis together. Sipe and Ghiso have shown you that. Now do it for yourself.

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References Cited