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Plenary Speeches

Many lessons from a school: What classroom discourse analysis reveals

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In my talk, I foreground what I and my colleagues have learned about discourse in the numerous classrooms we observed in a four-year research study at an urban high school. While Jefferson High had a student body that was linguistically and culturally diverse, it was homogeneous socioeconomically, being labeled 'low income'. Some of the research I address reveals how the classroom discourse both co-constructed and was influenced by these phenomena. Additionally, my survey of the research reveals that theoretical frameworks shape the research process and, ultimately, what we learn about classroom discourse.

In the late 1990s, I and my colleague Cecilia Ford were fortunate to receive funding from the U.S. Department of Education for a longitudinal, ethnographic study of classroom discourse focusing on how academic discourse is developed.[1] Our research site, Jefferson High,[2] was a linguistically and culturally diverse urban high school, situated in a low-income area and bearing the label 'low achieving'. Sixty percent of students were Latino, 20% were African-American, and there were smaller numbers of Hmong, American Indian, and white students. Over the course of three years of data collection, we went to Jefferson twice-weekly, videotaping mainstream subject matter classes in science and social studies, as well as sheltered[3] civics classes for English language learners. Additionally, our research teams took notes during classes, collected handouts, and periodically interviewed teachers and students. To have an acronym by which to name the project, we came up with PALS – Project on Academic Language Socialization.

We were fortunate not only to receive the funding, but to have excellent, interested doctoral students who became part of the project as members of the research teams that went to the schools, as digitizers of the video, as transcribers of the many hours of talk, and so forth. During the project and the years since, many of us have analyzed the classroom data and published

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[1] The project, 'The socialization of diverse learners into subject matter discourse', Jane Zuengler and Cecilia Ford, Principal Investigators, as part of the Center on English Learning and Achievement (CELA), was supported by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) Award # R305A60005. However, the views expressed herein are those of the author and do not necessarily represent the views of the U.S. Department of Education or of CELA.

[2] All names of institutions and people are pseudonyms.

[3] 'Sheltered' classes in U.S. schools refers to subject matter classes for English language learners. The teacher endeavors to ensure that the instruction is comprehensible to the learners.

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our studies in a variety of journals, edited collections, project reports, and newsletters. In my talk today, I will show, in a very condensed way, what I see as the primary focuses of some of the published work from the PALS project and explain what this research has found about classroom discourse within each of the focuses. As a disclaimer, I should make it clear that this is MY 'take' on the body of work, and other authors may synthesize the work in quite different ways. At the same time, we are a group of researchers who share certain beliefs about classroom discourse: that, as any language use, it is socially situated and co-constructed. This is in contrast to the cognitive processing model of the psycholinguistic perspective that has been dominant in the field of applied linguistics. We all have looked closely at the discourse, conducting microanalyses; however, while some use a Conversation Analysis (CA) framework, others do not and draw on ethnographic data instead. Some of the work takes a critical perspective, while other work does not. Language socialization or community of practice theories are invoked in some of the studies. Though all use a qualitative method, one, Bishop's research, combines it with a quantitative corpus analysis.

1. Three main orientations emerging from the project

Please note that the studies I will refer to do not comprise all of the research. Nor will I describe all that I cite. This lack of comprehensiveness is due to my trying to be time-efficient, not because some of the work lacks relevance.

1.1 One orientation: Considering the interactional resources that are socialized and appropriately employed by students in co-constructing discursive practices

I first want to clarify that by 'appropriately' I am referring to what the education institution considers appropriate. In this section are studies by Ford & Zuengler (1998), Ford (1999), Zuengler (2004), Hellermann (2005a, b), Miller & Zuengler (forthcoming) and Zuengler (forthcoming). In his study, Hellermann (2005a) reveals how the common 'activity segment' or 'three-part sequences' are co-constructed by using certain linguistic practices. (These terms are what many have called the IRE or IRF ['initiation–response–evaluation/feedback'] interactional structure of the classroom. Gutierrez (e.g., 1992) refers to it as the 'recitation script'.) Hellermann argues that cohesion in these 'activity segments' is not for the most part achieved through focusing on the subject matter, but through LINGUISTIC markers. In his CA examination of the talk, both students and teacher orient to syntactic and prosodic cues in building the specific system of turn allocations that we have come to know as the common and asymmetric talk of the classroom. In other words, Hellermann reveals what I would call the 'linguistic architecture' of the IRF.

In a short piece, Ford & Zuengler (1998: 5) emphasize that 'catching on to academic talk is not . . . a simple task'. Referring to the NEWCOMERS at Jefferson High, that is, the freshmen, Ford & Zuengler explain that at that level, much of the classroom discourse is oriented toward the regulation of RELEVANCE, with teachers functioning as 'regulators'. As the newcomers to high school, freshmen are constantly socialized into what to say – and what not to say – when.

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The excerpt below from Ford & Zuengler (1998: 4) shows how this is accomplished. Just before this exchange begins, Shawna said she wanted to go to the bathroom. When the teacher did not respond, she repeated it. (See Appendix for a key to the transcription.)

Teacher: er honey. Honey, did I ask you to wait?
Shawna: (1) no-o.
Teacher: Yes I did [several ((the teacher stands with mouth open))
Shawna: [you never said nothing
Allana: Yes she did. She said wait.

In her CA focus on seniors conducting a task in a physics class, Ford (1999) reveals the COMPETENCE they display as they coordinate their talk, gestures, and writing. 'Knowing how to collaboratively construct a task' is an interactional achievement, she writes, not to be taken for granted. 'These complex interactional practices', Ford goes on to say, 'are inseparable from what should be understood as the content of science' (p. 401). In the following excerpt that illustrates Ford's point, Kira, Delia, and Edith are working on a problem in a physics class that involves images in mirrors. The teacher comes over when he sees Edith doing the mazes, which are the last step in the task. Unbeknownst to the teacher, Edith is at the wrong point because the three students have not yet worked through the prior steps.

Kira: Two
(0.7)
Delia: Which mir[ror are we supposed
Teacher: [What you try to do as you go into the mazes is go as fast as you can. And then try to do it a second and third time and see if you can get even faster yet. It's kind of fun.
Kira: But we're not finished. ((to the teacher))
(0.7)
Kira: That's after. ((to Edith))
(2.2)
Delia: shhsss ((laughing))
(0.3)
Delia: Okay. (0.4) It says obtain a plate mirror, and touch your right ear, as you are looking into it.

As I mentioned, Edith had jumped ahead of where they were supposed to be on the task. As Ford (1999) writes, this exchange is a good example that shows the skills with which these students (Kira and Delia) attend to the teacher, but at the same time, keep their focus on the relevant part of the task. Their talk immediately following the teacher's comment (Kira: 'But we're NOT finished. That's AFTER') shows their self-confidence and competence in classroom task-based interaction. Kira and Delia attend to the teacher's comment with polite silence. Although the teacher has interrupted her turn, Delia does not continue speaking; nor does she respond by interrupting HIS turn. When the teacher finishes, Kira emphatically informs him that his comment is out of order. Then, she turns to Edith, continuing her assertion: 'That's AFTER'.

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In contrast to the freshman science classes, Kira's response to the teacher and assertion to Edith show that she has a firm understanding of RELEVANCE in task-based interaction. And Delia, as well, works toward a focus on relevance. She focuses the group squarely back on the procedure that she and Kira had begun before the teacher interrupted them. Delia begins with 'Okay', drawing the group back to order, and she then reads aloud from the procedure sheet. As Ford & Zuengler (1998: 5) conclude, referring to this same group excerpt,

> these students are now masters at orchestrating relevance. Kira has responded efficiently to the teacher's potentially disruptive off-task talk and to Edith's off-task action, and Delia has effectively brought the focus back to the relevant point in the lab procedure.

While many of the studies of the classroom discourse at Jefferson High focused on the mainstream subject matter classes, some of them examined the discourse in sheltered civics classes for ESL learners. Zuengler (2004) shows how the use of popular culture – e.g., references to Jackie Chan, McDonalds, the local professional football team – helps the ESL (English as a Second Language) students participate and engage more in co-constructing the discourse. It was not only the Anglo (i.e. white, native English-speaking) teacher who drew on popular culture, but the Hmong aide as well, speaking in both Hmong and English to the students. In fact, it was the Hmong aide, rather than the teacher, whose popular culture references seemed more resonant with the students, possibly because he was younger than the teacher and more current vis-à-vis popular culture. I also point out in that article that while popular culture reference may help these ESL learners engage more in the classroom discourse, such references also serve to build 'cultural models', as Gee (1999) calls them, of consumer capitalism.

Miller & Zuengler (under consideration), who also looked at the ESL learners in a sheltered civics class, document how some of them display the PRAGMATIC proficiency they have acquired in English. In that paper, Miller and I focus on a long exchange with the teacher that was initiated by a girl with very limited English who wanted a change in the written exam that they would soon be taking. As the exchange unfolds and the student struggles to produce in English what it is she's requesting, several more proficient students displayed what we call 'discursive adeptness' in taking control of the girl's turn to both assist her and exploit her hesitancy by making their own – and different – request of the teacher. We authors point out that this ability to conversationally maneuver and exploit is, for better or worse, part of our proficiency in a language.

1.2 A second orientation: Finding and examining 'problematic' classroom discourse

In considering 'problematic' discourse in the asymmetric exchanges that characterize classrooms, it is usually the teacher who signals that there's a 'problem' with students' contribution to the talk. However, in some of the work I will cite here, it is the researcher, not the teacher, who identifies particular discourse as problematic for the students. The studies include Zuengler (2000), Hellermann, Cole & Zuengler (2001), Vavrus & Cole (2002), Cole & Zuengler (2003), Higgins, Thompson & Roeder (2003), Curran (2007), and Zuengler (forthcoming).

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It is both simplistic and unfair to point to the TEACHER in explaining how and why certain problematic discursive practices appear in classrooms. However, it is the power that teachers wield, as institutional authority, that has a major influence on the discourse, and we see this perhaps most clearly when the discourse does not go well.

For example, in their 2001 report, Hellermann et al. showed how discourse practices often differ from teacher to teacher, with problems resulting for students. CONTRASTING discourse practices present a challenge for students, as they typically enter a classroom not knowing what is expected of them by the particular teacher. Analyses of the discourse in a freshman biology class revealed how the teacher's socialization of the students emphasized their responsibility for their bodies. For example, they were to show institutionally-acceptable comportment as well as accountability for the subject matter. To illustrate, I will refer back to the biology class excerpt:

Teacher: er honey. Honey, did I ask you to wait?
Shawna: (1) no-o.
Teacher: Yes I did [several ((the teacher stands with mouth open))
Shawna: [you never said nothing
Allana: Yes she did. She said wait.

Much of the socialization in that biology class involved reminding the students to stay on-task and exhibit certain behavior (e.g., not talk too loudly, not interrupt, raise their hand when they have a question). However, when the same students proceeded to chemistry class the following year, they were NOT held accountable for their comportment. Interviews with the chemistry teacher revealed that, unlike the biology teacher, the chemistry teacher expected the students to have already internalized appropriate behavior. Consequently, she did not talk about behavior with the students, and only talked with them about chemistry. Students appeared unprepared for this practice. A few who 'caught on' right away were able to engage in chemistry talk, but did so individually with the teacher. The other students, the majority, not conversant with the new discursive expectations but realizing that they weren't held accountable for behaving in a certain way, spent most of the class time in off-task talk with their fellow students, not participating even passively in subject matter exchanges with the teacher. This excerpt from the chemistry class will serve as an illustration:

Pauline: why don't you go talk like I said
Yolanda: talk with me
Pauline: like I said, go and talk to (x)
((38 more lines about this and other topics))
Teacher: okay. ((teacher comes back to the board))
Yolanda: they took the flu shot (2) and they took it out I was like is it bleeding is it bleeding? And then the doctor said no and then the blood [started (xx)
Teacher: [eyeballs
Yolanda: and my and my face was ((pretends to faint))
Teacher: time out? Eyeballs up front? (2) okay what did you come up with here. What was some way that you could separate these into two categories. (4) ye:ah, Melissa.
Melissa: weight and (.) weight and temperature?

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This excerpt shows a lack of chemistry talk by students to accomplish the task that the teacher had assigned. They are not constructing themselves as recipients for subject matter exchanges. Instead, they take the time to discuss issues other than chemistry. During this time, the teacher also does not work to negotiate a role for students as recipients of subject matter exchanges. While working with another student at the side of the classroom, and when she returns to the front of the class, the teacher does not comment on students' lack of subject matter discussion. In this excerpt, the students AND the teacher work to establish the classroom as a place where student-to-student exchanges about the subject matter do NOT have to be done.

While an excerpt I presented earlier (from Ford 1999) illustrated the successful interactional resources displayed by students in a more advanced class (i.e., physics) at Jefferson High, Higgins et al. (2003) raise the concern that even the academically-promising junior and senior students at the high school – those who are in advanced-track classes – have not necessarily mastered the school's dominant discursive practices. As these authors show, such students can still exhibit some trouble and be marginalized for their contributions. Studying college-track physics and AP ('Advanced Placement' for college credit) history classes, Higgins et al. observed that students were given strict boundaries by the teachers for what was considered a 'correct' answer. One of their excerpts shows how a physics student produces the correct answer to a question posed by the teacher, but apparently because he does not use physics terminology in expressing it, his answer is not ratified, even though he repeats it several times in an effort to be heard. It is another student, who uses physics terms in his answer, whom the teacher credits as having the correct answer. The result is that the originally-correct student decides he is not going to participate; he is heard to say to another student that he is not going to answer the teacher any more because the teacher ignores him.

Vavrus & Cole (2002) look at student suspension, certainly a problematic event, showing how it is discursively co-constructed. They document how extreme institutional events such as suspending students often do NOT result from blatant acts of physical or verbal abuse by students in the classroom, but from a series of co-constructed turns, each of which might be determined by the teacher to be a candidate for 'disruptive behavior'. It is only when a student who counters the usual discourse pattern at a time when the teacher assesses the class as being out of control that that student's behavior is deemed disruptive and leads to her suspension. Vavrus & Cole point out that students know this; they know that out of a series of potentially disruptive acts, one is singled out for punishment by the teacher: student comments like 'Why was I busted, when everybody else was doing it too? That's not fair' show their recognition of how the process gets done. And they know that other times, in other discursive contexts in that classroom, virtually the same comment is NOT considered disruptive.

1.3 A third orientation: 'Doing science' as discursive practice

A number of studies of the discourse at Jefferson High have examined the discursive practices that are co-constructed as a means of 'doing science'. (Some of the work I will cite overlaps with the previous orientation, as it points to some problematic elements.) The studies that are relevant include Young & Nguyen (2002), Cole & Zuengler (2003), Bishop (2007), Cole (2007, 2008), Curran (2007), Hellermann (2007), Zuengler & Miller (2007).

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Young & Nguyen (2002) use systemic-functional linguistics to reveal how two resources – teacher talk and the textbook – each serve to socialize students in a physics class to thinking and talking about science, but do so in contrasting ways. The authors note that the physics students, in an interview, described the class as 'fun'. This leads Young & Nguyen to suggest that it is the teacher, not the textbook, who was able to bring humor and enjoyment into the discourse. And as such, not all resources have the same potential or success in socializing students into science.

Curran (2007) considers the use of personal narratives in the classroom discourse of a biology class working on a neighborhood study of asthma. She underscores the power of students' personal, lived experiences in their learning of science and scientific processes. These experiences are especially crucial for building the students' critical understanding of asthma and its contributing factors, since the contributing factors – pollution and poverty – are part of THEIR everyday environment. However, Curran found that in the classroom discourse on asthma, it was only the teacher's, not the students', narratives that were ratified as 'relevant' in the co-construction of meaning surrounding asthma. In this excerpt, the students and teacher have been talking about pollution. The teacher asks whether they can do anything about it personally.

Shavonne: I mean, everyday person, like ok Miss Belmontes. How many kids you got living in your house with you. (lines omitted) four kids, right? Ok when you get home after a hard day, driving that long two hours, (.) from school to your house, when you get home, (.) you don't be thinking about (.) how can I make the air clean you be like da:ng I got to cook for my kids, you know I got to make sure they homework did, make sure they ain't get in no trouble, looking out for safety (continues)
Teacher: but you know what? (..) wrong. you don't-you might not g:o home
[and once you get home think about =
Pamela: [excuse me
Teacher: = cleaning the air. (.) but you can do this. For example, I could do this. You know I live far away right?
Shavonne: yeah.
Teacher: [so then-
Ss: [(xxx) the bus.
Teacher: s- no busses there. Ok but what I can do is this instead of getting home and saying oh well now I'm going to go to the gro:cery store, now I'm going to go the:re, and the:re? what I do, is I stagger my trips. That means (continues)

As we see, it was only the teacher's narrative that got taken up. Curran argues that incorporating STUDENT narratives into the discourse enables students to be relevant participants in a deeper, more critical understanding of not just asthma, or science, but of any subject matter.

Finally, Zuengler & Miller (2007) take a community-of-practice approach in studying the discourse of the same activity within the same biology class that Curran studied. The asthma project, which involved students conducting a survey and analyzing and reporting results, was introduced to them as 'real science'. Zuengler & Miller focus on the various identities – of students and teacher – that got co-constructed and positioned as students and teacher

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proceeded through the project. The outcome was that both teacher and students failed to acquire core participation and empowering identities, leading the students to remark that science is boring and exploitative. The authors argue that one of the causes of the failure to get students positively engaged in 'doing real science' was Jefferson High's identification as 'low-achieving, minority school'. Institutional identity powerfully affected Jefferson student identity, leading to marginalization of the Jefferson biology students AND their teacher by other schools and agencies working with them on this 'real science' effort. Zuengler & Miller conclude that what is exceptionally important in planning science (or other subject matter) activities is ensuring (insofar as possible) that discourse practices of science be affirmative of students' identities, hopefully leading to a positive relationship of student to science.

2. Conclusions

I conclude my presentation by suggesting several ways in which the research findings I have just talked about can be applied to our teaching. Firstly, we can draw on students' lived experiences and bring students' narratives into the co-construction of the subject matter discourse whenever possible. Secondly, we can try to create and normalize other discursive structures besides the IRF. Finally, we can make conscious to students – continuously – the expected, institutionally-approved discursive practices and work with them on acquiring them.

Appendix

Transcription key (modified from Atkinson & Heritage 1984 and Schegloff 2000):

[	overlapping or simultaneous talk
=	latched utterances (no break or pause between utterances)
(( ))	non-verbal behavior
underline	stressed word or syllable
(0.7)	pause in tenths of a second
(2)	pause in seconds
(.)	micropause
(..)	(. . .) longer pauses, not timed
yea:h	one or more colons means the preceding sound is stretched or lengthened
(xxx) or ( )	unintelligible sound

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Note: An asterisk (*) before the entry indicates a publication that uses data from the Project on Academic Language Socialization (PALS).

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