

Accounting for Conflicting Mental Models of Communication in Student-Teacher Interaction: An Activity Theory Analysis¹

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Abstract

Using activity theory as a framework, this article discusses a naturalistic study of two college classrooms in which the instructors often relied on transmission models of communication—models assuming that stable, fixed meanings can be neatly transmitted from person to person. Particularly noteworthy was that these instructors seemed to rely on transmission models despite training in recent theories of communication and that, contrary to previous assumptions that people's communicative models are stable, both teachers shifted in and out of these models. Based on an analysis of the contexts surrounding shifts into transmission models, the article argues that these shifts happened in patterned ways. It then accounts for the resilience of transmission models within a broader sociocultural framework.

We have long seen as problematic reliance on transmission models of communication—models which do not recognize the role of context in shaping interpretation and which assume that stable, fixed meanings can be neatly transmitted from person to person. Reddy (1979) has noted English speakers' extensive reliance on this transmission model, or as he calls it, the conduit metaphor. Thanks to Bakhtin and others, however, a variety of academic fields now understand that people can and do interpret utterances differently because of the uniqueness of their personal histories, material conditions, and belief systems. Composition studies, in particular, has achieved a consensus in critiquing transmission models (Eubanks, 2001).

The data discussed in this article, however, suggest that two scholar-teachers trained in recent theories of meaning-making nonetheless relied on transmission models. They did so, moreover, both when communicating with students and when reflecting on that communication in interviews. Drawing on a qualitative research project examining student writing and teacher response in two college classrooms, I note not only that these teachers seemed to rely on transmission models but also that, contrary to previous assumptions that people's communicative models are stable, they shifted in and out of these models.

How is it possible that teachers trained in recent theories of communication can find themselves intermittently, but consistently, acting as if meaning were neatly and unproblematically transmitted? A useful account can be provided by activity theory, particularly as elaborated by Engeström (1996). Like other advocates of activity theory, Engeström points out that we need to broaden our unit of analysis when we examine complex human interactions; thus, in this study of

two college classrooms, the basic unit of analysis won't be discrete entities such as "the teacher," "the students," or "the student texts" but rather an entire system of student-teacher communication—a system that involves complex interconnections among teachers, students, student texts, and means of responding to those texts, in addition to the myriad beliefs, histories, material conditions, etc. that influence these people, tools, and practices. Engeström elaborates:

An activity system is not a homogeneous entity. To the contrary, it is composed of a *multitude of often-disparate elements, voices, and viewpoints*. This multiplicity can be understood in terms of historical layers. An activity system always contains sediments of earlier historical modes, as well as buds or shoots of its possible future. These sediments and buds—historically meaningful differences—are found in the different components of the activity system, including the physical tools and *mental models* of the subjects. (p. 68; emphasis added)

In the case of the research discussed here, activity theory helps explain "disparate elements" such as the conflicting mental models of communication that the teachers seemed to rely on; it helps us to better account for seemingly incompatible beliefs by seeing those beliefs as rooted in a complex system in which one shift in any part of the system can reverberate throughout the entire system.

These reverberations in the system will be apparent throughout the article as I account for why the two teachers shifted in and out of transmission models of communication. I suggest that, at least for these two teachers, transmission models were triggered by the arena of discourse in question (related to the teachers' training) as well as a complex interaction among a variety of other implicit theories, including perceptions of student competence and effort and perceptions of task difficulty. Then, suggesting that transmission models are both pervasive and resilient, I account for this resilience on a macro-social level. I conclude by recognizing that transmission models are sometimes appropriate and by discussing implications for research, theory-building, and teacher training.

Theoretical Background

Limitations of Transmission Models of Communication

Although scholars in the humanities and social sciences are keenly aware of the limitations of transmission models, a brief overview of recent thinking on this issue will help to lay out the specific sets of assumptions that are at play in the teachers' behavior and that they themselves critique in their stated beliefs. The limitations of transmission models are especially well-illustrated by recent theories of communication which hold that divergent understandings are an inevitability rather than a conversational aberration that can be avoided simply by being "open" and "honest." Among the primary scholars advancing this "miscommunication as the norm" claim are Coupland, Wiemann, and Giles (1991), who write: "language use and communication are in fact pervasively and even intrinsically flawed, partial, and problematic. To this extent,

communication is itself miscommunicative" (p. 3). These assumptions grow in large part out of ethnomethodology and discourse theory:

Some semantic "slippage" is common in the management of meaning transfer, and in fact there are many reasons to suppose that this is *inevitably* the case. If we acknowledge that speaking occurs (a) under real-time processing constraints and (b) within the lexical and syntactic confines of particular linguistic codes, we must doubt that there are such entities as pure, unsullied and perfect semantic representations. In the ethnomethodological tradition, language use, the making of meaning and its reconstruction, has been viewed as inherently problematic, strategic, and effortful. Garfinkel's (1967) perspective on talk as "accomplishment" acknowledges the probability of communicative inadequacy and incompleteness. Discourse theory (van Dijk, 1987) similarly asserts that utterances are intrinsically *indeterminate*. Because meaning resides in the interaction of linguistic form and social context, exchanges of meanings operate under inherent constraints and communicative acts are creative in compensating for the inexplicitness and indirectness of speech acts and texts. (1991, p. 5; italics original)

Particularly important here is the notion that "exchanges of meanings operate under inherent constraints [given that] meaning resides in the interaction of linguistic form and social context." Completely shared meaning, then, such as is assumed in transmission models, would require at least two (interrelated) phenomena; first, it would require a shared linguistic form, which is precluded by the fact that, even when people happen to speak the same dialect, each person speaks a slightly different idiolect. Second, it would require a shared context, which is precluded by the uniqueness of our personal histories. Even what may appear to be a shared context in the moment that two people are interacting is far more complex than it appears. While a given moment in time may be shared by two people, the lived histories of each person prior to that moment are unique. These unique histories (and concomitant assumptions and ideologies) shape each person's interpretation of that particular moment, and thus people's interpretations of a seemingly shared moment may be radically different. Thus, as Chin (1994) points out, it is important to examine not just particular material and social worlds but also people's individual readings of these worlds. Because each person's reading is necessarily unique in some way, we can see the limitations of assuming that our intended meanings are transmitted neatly from our minds to our interlocutors'.

The limitations of transmission models are further implied by Goodwin and Duranti's (1992) point that context—in addition to being multiple and contested within a moment (i.e., one speaker's "context" may differ from another's)—is also dynamic rather than stable. That is, even if two participants did share a similar context at a given moment of an interaction, that context is constantly shifting—and often doing so in different ways for different participants. Interaction not only reflects but also shapes and creates context. In a given interaction, for example, one person may invoke a new context by referring to a new topic that would cue different schemata. New contexts might also be invoked by contextualization cues (Gumperz, 1982), features of linguistic form such as prosody and lexical and syntactic choice that help signal contextual presuppositions. Gumperz notes that new contextualization cues may be introduced in the course

of an interaction and that some participants may fail to notice this. In sum, then, not only are transmission models inadequate given that meaning resides in the interaction of language and context—neither of which is totally shared by any two given people—but it becomes even more inadequate given that these contexts are dynamic.

Every "context" or aspect of the world is necessarily seen through the lens of our senses, thoughts, feelings, and assumptions. Thus we have interpretations of contexts becoming part of contexts which then shape interpretations which may in turn shape other contexts and interpretations, etc. Seeing context in this way—as dynamic, complex, multi-layered, and rooted in interpretation at every turn—confirms the limitations of transmission models.

Transmission Models of Communication: A Continuum

Because the term "transmission model" is used in different ways, and because scholars have different means of determining when such a model is being relied on, these issues are worth examining in more depth. To accomplish the work of monitoring the implicit models that shape how we communicate, it will be useful to conceptualize transmission models of communication not as a single entity but rather as a family of closely related models. Although many scholars who discuss transmission models do view them as a single entity (cf. Reddy, 1979; Rommetveit, 1988), this article will, instead, conceptualize them as a continuum. On one end of this continuum is the assumption that meaning is automatically transferred; at a mid-point is the assumption that meaning should be transferred but is occasionally blocked by a faulty sender or receiver (what could be called a "messy" transmission model); and at the other end is the assumption that a variety of factors such as "noise in the channel," faulty senders, and faulty receivers often block transmission of meaning. The research on which this article is based suggests that the latter point on the continuum—what might be called a "sophisticated transmission model"—is relatively rare in comparison to the previous two points, and it is these first two points to which I will generally refer by the term "transmission models." The alternative to transmission models is referred to as a "post-transmission" model; this term will be used to describe assumptions that interpretive difference is normal and that contexts shape interpretation. In both cases, the term "model" refers to people's implicit or explicit theories about how communication works.

Reliance on Transmission Models in Two College Classrooms

The remainder of the article will explore the influences that seem to trigger people's shifts into transmission models. These influences will be illustrated on a micro-social level by a semester-long naturalistic research project that examined both the written and oral response rounds occurring in two college classes. One of the goals of the study was to explore the models of communication relied on by the two teachers, who will be referred to by the pseudonyms of Rick and Lynn. In discussing these cases, the goal—like that of most case study research—will be to illustrate the existence rather than the typicality of the phenomenon in question. While I do

believe that transmission models are typical and pervasive, the case for this will be made later, in the macro-social analysis. In this section, the micro-social analysis should help readers decide how many of the patterns illustrated by Rick and Lynn apply to their own situations.

Methodology

Investigating the literate activity occurring over the course of a semester in a writing class and a film class at a large Midwestern university, the study was designed to address several questions, including the two that will be the focus of this discussion:

- How do teachers conceptualize the process by which they construct meaning out of students' oral and written utterances? How do they conceptualize the process by which students construct meaning out of their utterances? To what extent is it a transmission model that structures teachers' conceptualization of these processes?
- To what extent are teachers' implicit models of communication stable or dynamic? If they are dynamic, what are the influences that trigger shifts from one model to another?

To collect the data to address these questions, I did the following:

- Observed, took notes on, and audiotaped almost all class meetings.
- Collected copies of all handouts given to the students.
- Collected and copied students' papers and revisions after the teacher responded to them.
- Asked teachers to audiotape any one-on-one meetings they had with students.
- Asked teachers to forward to me any e-mail interactions they had with students.
- Transcribed selections of the student-teacher conferences, classroom discussions, and interviews.
- Conducted discourse-based (cf. Odell, Goswami, and Herrington, 1983) and semi-structured interviews with the teachers and selected students several times during the semester, using as objects of focus the students' papers, the teachers' responses, and transcribed dialogue between students and teachers.
- Read almost all of the assigned readings that I had not previously read.
- Saw many of the films that students wrote about (I had already seen all the films on the syllabus).
- Gave students an end-of-semester survey on their experience in the class.

These data were collected from most students; there were only a few students, for instance, who did not feel comfortable having their papers copied, their meetings with their instructor recorded, or their e-mail interactions forwarded.

The Classes Studied

The classes studied included a business and technical writing class and an introduction to film class. These courses were chosen for several reasons. First, they represented a "content" course as well as a writing course. Second, the instructor of each class had a reputation for being an excellent teacher, and both instructors were accessible and open to the research. Finally, I had previously taught both courses and thus had a rich understanding of both the concepts being covered and the institutional contexts that shaped each classroom.

The introduction to film class, which had an enrollment of 36, drew a variety of students ranging from first-years to seniors. The gender balance was fairly even, and the students represented a variety of ethnic backgrounds, including European-Americans, African-Americans, Asian-Americans, and Latinos/Latinas. Not specifically required but fulfilling a general college requirement, the course also drew students from a wide variety of majors. It was a particularly challenging course to teach not only because there might be a first-semester biochemistry major sitting next to a senior English major, but also because it met only twice a week for 50 minutes each day.

While the introduction to film class was large and diverse, the business and technical writing class had only 13 students and was relatively homogeneous. Much of this homogeneity resulted from the course's emphasis on technical writing; almost all the students were majoring in fields such as biochemistry, computer science, and engineering. Because first-years and sophomores could not take the class, moreover, all the students were juniors and seniors. With the exception of one woman, they were all male, and with the exception of two Asian-American men, they were all European-American. Unlike the film class, which was too large to foster much interaction between students, the business and technical writing class enjoyed a very friendly and even intimate atmosphere.

Both classrooms were, of course, significantly influenced by the two instructors. Rick, the film instructor, was going on his ninth year of teaching at the time of the study, and his name had appeared several times on the university's list of excellent instructors. He was a post-doc who had significant experience not only in film production but also as a publishing academic and a teacher of film and first-year composition. The most notable characteristics of Rick's teaching were his charisma, enthusiasm, and genuine interest in and concern for students. Particularly impressive was that his expertise in film didn't prevent him from identifying with a novice's experience of his film class; he was aware that many students were having difficulty switching modes from film-as-entertainment to formal analysis, and he tried to help put them at ease by explicitly noting the difficulty of writing about film.

Lynn, the business and technical writing instructor, was going on her fifth year of teaching at the time of the study. Like Rick, she was a dedicated teacher who had been named to the university's list of excellent instructors. Lynn had also completed a Master's degree which included significant coursework in composition theory, including a course entitled *Responding to Writing: Research, Theory, and Practice* that she found very influential. This course, Lynn said, helped her to become a much better teacher ((add quote elaborating on this)), and combined with the other composition theory courses she had taken, helped her to gain a solid theoretical background in teaching writing. This background was complemented by Lynn's caring attitude towards her students—an attitude that was clear in the incredible amounts of time and effort that she put into responding to her students' writing and designing her lesson plans and assignments.

Data Analysis

The techniques of prolonged engagement, persistent observation, and triangulation were used to produce credible analyses (Lincoln & Guba, 1985). A grounded theory approach (Glaser & Strauss, 1967) was used to explore the patterns that emerged from the data and to test these patterns against more data.

A particularly complex issue in the data analysis was how to assess which model of communication seemed to inform people's practice. The model of communication relied on by a person in a given situation is not necessarily readily apparent, although some (e.g., O'Keefe, 1988; O'Keefe, 1991) assume that communicative models can be inferred from the message design of what people would say in selected situations. Others (e.g., Bowden, 1993; Reddy, 1979) assume that we can determine people's implicit models of communication through the metaphors used to describe language. Reddy, for instance, notes that the meta-language we have for speaking about communication is dominated by metaphors of the English language as a conduit. Characterizing language as a pipe through which ideas and feelings can be sent, Reddy suggests that the conduit metaphor is typified in examples such as "Whenever you have a good *idea practice capturing it in words*," "You have to *put each concept into words* very carefully," and "Try to *pack more thoughts into fewer words*" (p. 167; emphasis original).

While Reddy suggests that we can determine which models of communication undergird our practice based on our predominant metaphors of language, and while O'Keefe suggests that we can make this determination based on an analysis of what people say in selected situations, the approach taken here involves triangulation of a variety of data. Particularly important, I believe, is to analyze not only the oral or written utterances made in a particular situation but also the meta-commentary, or comments about their comments, that people make. In analyzing teacher response to student writing and transcripts of interviews, whole-class discussions, and student-teacher conversations, I inferred that people were relying on a transmission model of communication when their comments and meta-comments suggested that at least one of the following applied:

- They expected their interlocutors to receive all of their intended meanings.

- They felt frustrated and blamed others for not complying with their suggestions rather than considering the possibility that others had divergent representations of what their suggestions meant. Blaming others for non-compliance without first checking for divergent representations suggests the assumption that one's interlocutors not only should have acted on the suggestions but that they necessarily understood them in the way they were intended.
- They were aware that they and their interlocutors had divergent representations of what something meant but did not seek to account for this divergence, assuming that it was due to a "faulty receiver" rather than different contexts. This is similar to the point above but does not necessarily involve frustration or blame; one might, for example, calmly assume that interlocutors did not "understand" because they were not smart enough.
- They assumed that everyone would have the same interpretation of a given text. (To assume that everyone will interpret a text the same way is to assume that the unique contexts people bring to and construct out of an interaction do not affect their interpretations.)
- They expressed absolute certainty in their interpretations (often despite apparent lack of support for those interpretations) in cases where other people would both see the need to gather supporting evidence and see the interpretation as such rather than a definitive statement of fact.
- Their interpretations were inflexible and stable over time, even when they came into contact with information that undermined these interpretations. Becoming aware of new contexts or new information tends not to make any difference to those relying on a transmission model, since meaning is not seen as contingent on context.

While the above list was used as a guide in determining whether a transmission model was relied on in a given instance, it is important to acknowledge that such an exercise calls for interpretive judgments rather than recognition of unequivocal facts. It is, for example, difficult to distinguish between a sophisticated transmission model, which assumes a high possibility of some sort of "interference" in the transmission, and a post-transmission model, which assumes that since context shapes interpretation of meaning, and since no two people share exact sets of contexts, intended meanings do not map neatly onto received meanings.² Either model, for instance, may lead people to check their understandings through a variety of metacommunicative strategies (e.g., paraphrasing a student's words and asking if the paraphrase was adequate, asking students how they would implement a particular writing strategy to see if information about that strategy had been adequately communicated, etc.). While a sophisticated transmission model and a post-transmission model may be difficult to differentiate in this respect, I inferred that, in cases where the teachers shifted out of a simple transmission model, the model they shifted into was in the post-transmission family. This inference was made on the basis of the teachers' references to the role of context in shaping interpretation and their implicit assumptions about whether interpretive difference was an annoyance to be gotten rid of or a normal phenomenon.

However, less important than determining which model was relied on in any given instance—and less important than neatly delineating the boundaries of each model—is the recognition that people may rely on different communicative models in different situations.

Exploring the Teachers' Shifts Between Conflicting Models of Communication

Using the approach just outlined, I examined the teachers' implicit assumptions about communication with a particular focus on the extent to which they relied on transmission vs. post-transmission models. Noteworthy was that, contrary to previous assumptions that people's models of communication are stable (e.g., O'Keefe, 1988; O'Keefe, 1991), the teachers' models were dynamic, shifting from situation to situation. The following section explores this dynamism, focusing on the influences that triggered shifts between models. For both Rick and Lynn, transmission models seemed to be triggered by the following set of influences: the arena of discourse in question (related to the teachers' training), the perceived difficulty of the tasks students were asked to perform, and perceptions of student effort and competence—most notably whether teachers had a deficit model of students. ("Deficit model" here refers to the assumption that students' failure to meet expectations stems from a personal deficiency rather than factors such as unrealistic expectations, failure to communicate expectations, and other more important responsibilities that the student must fulfill.) Deficit models, transmission models, perceptions of task difficulty, and arenas of discourse interacted in patterned and interpenetrating ways; one shift, for example, in assumption of task difficulty could affect other parts of the system such as deficit models and communicative models. Perhaps most striking was that transmission models and deficit models seemed to be mutually enabling.

Accounting for Rick's Shifts

For both instructors, the most salient trigger into or out of a transmission model was the arena of discourse in question, and this trigger was closely linked to the training that both teachers had received. As Lynn did when engaging in activities in which she had been trained, Rick tended to rely on post-transmission models when discussing film, his area of training. However, when assigning and responding to student writing, he often (not always) shifted into a transmission model. This resonates with O'Connor's (1995) finding that literature teachers read student papers with interpretive schema that diverged sharply from the schema that structured their readings of literary works. When the teachers he studied read student papers, they did so in a "text response persona" that was consonant with a transmission model, while their readings of literary texts were informed by more recent literary theories consonant with post-transmission models.

It is unsurprising that Rick, like the literature instructors in O'Connor's study, relied on post-transmission models when interpreting texts within his area of scholarly expertise, for he was trained to do so. He illustrated this reliance on post-transmission models both in class discussion and in our interviews. In our last discourse-based interview, for instance, when we were discussing a particular student's paper, he prefaced a comment on how the student misread a film

by acknowledging the normality of different interpretations of a film: "Interpreting films is, you're always thinking, 'Well, this is debatable, and my interpretation vs. another interpretation.'" Rick's belief in the normality of different interpretations also came across both implicitly and explicitly in class discussions. On the second day of class, for instance, he told students that the meaning of a film is "open-ended and growing." He went on to encourage them to develop interpretations of films by accounting for the effects of a film, and he specifically referred to a film's "effect on me" rather than just the film's effect in general. This message was reinforced by a general discussion pattern in which he solicited students' interpretations of particular clips and encouraged them to support these interpretations with evidence rather than labeling them as "right" or "wrong."

Moving from conceptualizing meaning-making in film to conceptualizing it in students' discourse and his own pedagogical discourse, however, often triggered a shift into a transmission model. Within the pedagogical arena of discourse, Rick's communicative model seemed to depend on his perceptions of students' competence and his perceptions of the difficulty of the task students were undertaking. His default communicative model within pedagogical discourse seemed to be a transmission model; he shifted into a post-transmission model only when he perceived a student to be exceptional or when he perceived the task undertaken by a student to be especially difficult.

When students weren't exceptional and the task was not perceived to be difficult, Rick generally assumed that the intended meaning of both the assignment and his response to the assignment was conveyed to students. This phenomenon was already apparent by the third day of class, which covered both auteurism and some aspects of the first writing assignment. After class, Rick told me that he wasn't sure how class had gone. Asked why he thought that, he replied:

It's hard to tell because I, you know . . . it's hard to tell, I don't know what—I would think something would stick, you know, I blasted through some things, auteurism, uh, maybe some of that'll stick. *Obviously that stuff on the paper [will stick], I think.* We addressed, you know, some specific questions, nuts and bolts kind of details, *got a lot of that stuff out of the way.* So, yes, I think that probably went well.

In this and other excerpts of transcribed data, key phrases suggesting communicative models are italicized (and in some cases the influences triggering these models are also italicized); this use of italics should help readers focus on key aspects of the excerpt that will be analyzed. In cases where the speaker has emphasized a word or phrase, all caps are used.

In this case, the idea that hopefully "something would stick" is key, and it recurred frequently in the after-class discussions I had with Rick; when considering class discussion of course content, such as auteurism, he seemed to assume a "messy" version of a transmission model, implying that information overload, or perhaps the lack of elaboration on this information, led to interference in the transmission. In contrast, a shift into a simple transmission model was consistently triggered by moving from the realm of course content to that of assignments; when considering class discussion of the paper, for instance, Rick believed it to be "obvious" that that

information would "stick." His assumption that "a lot of that stuff" about the paper was now "out of the way" further suggests a transmission model; if they'd discussed it once, he implied, there was no need to discuss it again since the information had been transmitted. These assumptions stand in striking contrast to Rick's assumptions about meaning-making within film studies, for never, in this arena of discourse in which he had been so well trained, did he shift into a transmission model.

While shifts into particular arenas of discourse were often characterized by shifts into transmission models (in Lynn's as well as Rick's case), a look at the overall activity system suggests that other factors also influenced the instructors' communicative models. Here we can see the complexity of the ways these factors interacted to enable transmission models, for it was not always transitions into pedagogical arenas of discourse alone that triggered shifts into transmission models; it was often, for both instructors, the way that arenas of discourse interacted with the teachers' perceptions of student effort and competence. Rick tended, for instance, to rely on a post-transmission model with the student he perceived to be most competent and—often but not always—on transmission models with other students.

More specifically, for Rick (and, I'll later suggest, for others as well), transmission models often went hand-in-hand with perceptions of students as deficient; the two models seemed to be mutually enabling. Rick assumed, for instance, that students who wrote unsatisfactory papers had not listened in class or read the written description of the assignment; for him, the student as "faulty receiver"—a deficit model—was an explanation for the problem of weak papers. The deep entrenchment of this assumption became apparent when a student called to Rick's attention evidence to the contrary—evidence that much of the problem lay not in the student as "faulty receiver" but in a contradiction between Rick's private criteria and his written description of what students were to do. The student, Joel, had met with Rick after class to discuss the first draft of his first paper—a draft that, Rick told him, contained too much description and no argument. The student, however, had deliberately tried to structure the paper around Rick's written description of the assignment, which read in its entirety:

For one of the following: *Vertigo*, *Jaws*, *Rush*, *Alien*, *Reality Bites*, or *The Player*, do an essay of 500 words (two typed pages) in which you (1) precisely describe the graphic design of the film's title (opening credits) sequence and the events of its first story sequence, and (2) indicate how the story sequence, in its visual style and storytelling features, introduces some of the principal concerns which will figure in the film. Devote approximately equal space to each of the two topics. Type or computer print (double spaced) the paper and hand it in with this sheet on Thursday, Sept. 14. Most of the films should be available in the Undergraduate Media Center, and the rest at Rentertainment, Blockbuster, and other video stores around town.

Joel, who had as requested "precisely describe[d]" *The Player's* opening sequence, ended up with a description that was relatively long—not surprising since the assignment specified that students should devote as much space to the description as to the second part of the assignment. When Rick told Joel that the description was not only too long but that it needed to be "yoked" or "tied to" an "argument" or "thesis," Joel replied with an implication that this was not specified in the

assignment: "I read the handout." Rick then replied that Joel just needed to "give a QUICK summary, maybe one or two sentences"—advice that, seemingly unbeknownst to Rick, appeared to contradict the assignment's guideline to "devote approximately equal space" to description and analysis.

That Rick's written description had not succeeded in communicating his criteria is not surprising or unusual. Indeed, much research on writing in the disciplines has suggested that professors' criteria are largely implicit and often go unarticulated (e.g., Bartholomae, 1986; Herrington, 1992; Prior, 1991; Walvoord and McCarthy, 1990). It is also not surprising that Joel got a mixed message about how long his description should be; teachers frequently give students such mixed messages (e.g., Sommers, 1982; Freedman, 1987; Walvoord and McCarthy, 1990). Mixed messages and uncommunicated criteria are normal; after all, intended meanings are no more easily transmitted from a piece of paper to a reader than they are from Rick's, or anyone's, mind to a piece of paper. (This is not to say the criteria could not have been more successfully communicated; certainly this would have been possible.)

More interesting than the uncommunicated criteria is the fact that, even after Joel suggested to Rick that the writing prompt had not communicated Rick's intended meaning ("I read the handout"), so powerful was the transmission model that Rick nonetheless continued to hold students responsible for his intended meaning. Similarly, and not coincidentally, so powerful was the deficit model that this too persisted, again despite the contradictory evidence of Joel's extra time and effort. In the interview in which we discussed the first paper, for instance, Rick looked through a stack of graded papers, drew aside some "Cs"—including Joel's revision—and said:

The "Cs" and below, those are people that I usually, if I say "rewrite" or it's below a "C", it's I mean it's somebody that's betrayed just hardly any effort or time or totally bungled it or didn't get the ideas, I mean just didn't figure, *didn't even pay attention to the assignment, you know, the basic structure of the assignment.*

It is striking that Rick said this *after* Joel had initiated a meeting and showed him an "unacceptable" draft while also telling him that he'd read the assignment. We might think that Joel's initiative in seeking feedback, combined with his statement that he'd read the assignment, would have prevented Rick from assuming that students like Joel "didn't even pay attention to the assignment." My point here is not to criticize Rick—who uttered a hundred comments illustrating his dedication as a teacher for every one like that above—but rather to suggest that transmission and deficit models are so resilient that even highly trained experts like Rick can shift into them.

The mutually-enabling nature of transmission and deficit models makes sense, for if one expects that meaning should be transmitted but sees that it wasn't, one way to explain the lack of transmission is to blame the receivers—to think that they are somehow deficient. Thus, as we saw for Rick—and as I've seen with numerous colleagues throughout my teaching career—poor student papers can be accounted for by assuming that students "betrayed . . . hardly any effort or time," or a host of other instantiations of the deficit model. Rick illustrated this mutually

enabling interaction between transmission and deficit models not only when considering his writing assignments but also when considering his responses to student writing. He generally assumed, for instance, that the intended meaning of his comments would be transmitted and that, if it wasn't, it was because of a deficiency in the student. He once said of a student revision, for instance, "This pisses me off." This utterance seems to stem from blame—from deficit and transmission models which assume that the student should have not only understood but also acted on all the suggestions Rick had made on the previous draft.

Similar assumptions came to light in one of our discourse-based interviews when Rick generalized about his response to a student's paper: "I think it makes sense to the student, if they take the time to read the stuff." A transmission model is suggested by the assumption that his responses should "make sense to the student," and a deficit model is suggested in the assumption that, if the responses don't make sense, it's because students did not "take the time" that, by implication, they should have taken. Of course, it is sometimes true that students do not take the time to read teacher responses (often because previous responses made them feel denigrated and discouraged). However, as we know from a rich literature on teacher response, students and teachers often have divergent interpretations of teacher response—not through any fault of the student, but because communication doesn't work that way; intended meanings are not automatically transmitted. To assume that they are demands an alternative explanation when one finds out that they have not been—and that alternative explanation is often, as we saw with Rick, an assumption that the student is deficient.

Conversely, Rick's rare shifts into a post-transmission model within the arena of pedagogical discourse seemed to be triggered by views of a student as extremely competent. Rick was particularly impressed by a sophomore named Jason:

I mean, here's a kid that borrows books from you, comes to your office and talks about papers, and returns books that he borrows from you, and [laughs] you know, drops, drops more ideas in, in one page than m-, than some kids do all semester long, counting in-class comments, so— Um, y'know, what's, what's his background? Uh, how, how was he brought up? What's his gene code? How, what, how, you know, how come he, he puts me to shame when I was an undergraduate?

It is possible that this view of Jason as exceptional helped enable Rick to adopt a post-transmission model when reading Jason's papers. For instance, in response to Jason's first paper, on the film *Reservoir Dogs*, he wrote:

It is a pleasure to critique an essay that begins at a level of analysis and writing already beyond what most will ever accomplish in this class. One can, though, judge something at the level it aspires to, which is what I hope to do in the following. . . . *With your essay, I could never decide how much the gay subtext of Dogs was a clear (but hidden) aspect of the film that any viewer might understand/experience, and how much was a "reading against the grain."* [He goes on to explain this term and contrast it with a Freudian repression model.] . . . Part of the solution would be to tell readers up front if you are developing a Freudian repression model, or if you think *Dogs* is a

mischievous attempt by Tarantino to undercut the hyper-masculine/homophobic gangster/crime genre, or if you are reading against the grain, or if it's a bit of all three.

When he read other students' papers, Rick seemed to assume that students' intended meanings were unproblematically transmitted to him; here, however, he explicitly notes that he doesn't know what Jason's intentions were. Although it is difficult to demonstrate, I believe this atypical assumption that he did not have access to Jason's intended meaning can be traced to the very sophisticated nature of Jason's text and to his belief that Jason "puts [him] to shame when [he] was an undergraduate." Although Rick himself believed that there was nothing in *Reservoir Dogs* to suggest an undercutting of the hyper-masculine gangster genre, he successfully avoided imposing his interpretation of the film onto Jason's paper—something he did not succeed in doing with other students—perhaps because he saw Jason as being able to "out-interpret" him. At the very least, his belief that Jason was as competent as he was, if not more so, may have enabled his assumption that Jason might have a different—and valid—interpretation of a film. While the data quoted here do not demonstrate a solid relationship between Rick's reliance on a particular model of communication and his assumptions about Jason's competence, it suggests the possibility of such a relationship—especially given that it is part of a larger pattern that characterized not only Rick's reading of student texts but also his assumptions about how students read his responses.

When conceptualizing how students read his responses, Rick's shifts out of a transmission model were again triggered by Jason. In contrast to statements such as "I think it makes sense to the student, if they take the time to read the stuff" stands Rick's comment on his response to Jason's third paper: "[The response is] fuzzy. . . . hopefully a stimulating, uh, you know, footnote to his paper, or something that maybe opens up, uh, you know, extends his thesis a little bit further." The shift out of a transmission model is suggested by his description of the response as "fuzzy" and by his assumption, implied by the words "hopefully" and "maybe," that he couldn't predict the effect his response would have. His reliance on a post-transmission model with Jason was further suggested by his appreciation of revisions that frequently did not address his comments on the original draft. In contrast to the previously-discussed student revision that "piss[ed] [him] off," Jason's revisions did not seem to bother Rick a bit; he spoke very positively of them and never commented on the numerous suggestions that went unaddressed.

Rick's high opinion of Jason, of course, did not trigger the shifts into a post-transmission model in a vacuum, for interacting with his assessment of Jason's talent was the nature of Jason's texts and the nature of his responses to them. Given that Rick thought Jason to be one of the very best undergraduates he had ever taught, it is not surprising that his papers were very impressive, both in the ideas presented and in his control of language. These papers elicited from Rick a different type of response—a response that, rather than imparting an expert view of what exactly a paper needed in order to be improved, sought to provide food for thought from the stance of a colleague who realized that his ideas may or may not be accepted. Thus when Rick reveals a shift into a post-transmission model by saying that his response was "fuzzy" and would "maybe" extend Jason's thesis a bit further, it is important to realize that the shift into a post-transmission

model was triggered not just by a single factor but by the *interaction* among Jason's texts, the nature of Rick's responses, and, perhaps most saliently, Rick's perceptions of Jason's competence (as influenced not only by Jason's papers but also by his visits to Rick's office and his borrowing and returning of Rick's books).

Another important influence that triggered shifts between transmission and post-transmission models was the teacher's perception of task difficulty. As we will see Lynn doing too, Rick tended to shift into a post-transmission model when he saw the task undertaken by students as difficult. A case in point is the task of formal analysis, an endeavor that Rick repeatedly referred to as very challenging. Discussing his response to a student whom he had told to do more formal analysis, Rick's language implies a post-transmission model:

I end up saying the same things to students . . . more formal analysis, and I'm just wondering if this isn't some sort of mad quest I'm on, or something. Uh, 'cause it is that, I mean, it's, it's one of those things, it's, talk is cheap. It's easy to say, "Do it, and, uh, and make it matter. Make it worth something," but, uh, I don't know.

A shift out of a transmission model (or at least out of a simple transmission model) is suggested by Rick's view that "talk is cheap" and that he may be on a "mad quest" when he tells students to do more formal analysis. It is easy to understand Rick's point here, for when the task is difficult, it is logical to assume that intended meaning won't necessarily be transmitted; the more difficult the task, the less likely it is that someone will be able to easily follow directions. The problem here is that, as we know, many tasks perceived as easy by the teacher are in fact very difficult for students (witness Joel's attempt to fulfill Rick's expectations in the first paper).

The teachers' perceptions of task difficulty may go hand-in-hand with their assumptions about student competence, for when teachers recognize how difficult a task is, they are probably less likely to judge a student as deficient for not initially succeeding at the task. This potential interrelationship between perceptions of task difficulty and perceptions of student competence echoes the interrelationship we saw between deficit and transmission models. Understanding these interrelationships, and the importance of influences such as the teacher's training and arena of discourse, will ultimately help us gain insight into how we can address the problem of transmission models (in cases where we deem them a problem, which will probably not be every case). This understanding will be further enriched by discussing Lynn's case, which illustrates many of the same patterns we've just seen with Rick.

Accounting for Lynn's Shifts

As was the case with Rick, Lynn's shifts in and out of a transmission model were triggered by a complex of interrelated factors, including the arena of discourse in question, perceptions of student competence and effort—including deficit models of students—and perceptions of task difficulty. Especially salient in Lynn's case was the availability of alternative explanations to account for her students' actions and interpretations; this availability, I believe, played a key role in enabling particular communicative models. Interacting with these factors was Lynn's training.

As was the case with Rick, Lynn had been trained to view certain types of discourse within a post-transmission framework, and she was thus more likely to use this framework in conjunction with these particular types of discourse.

Just as Rick's training in film contributed to his shifts into a post-transmission model in the arena of film interpretation, Lynn's training in response to student writing seemed to have triggered similar shifts for her, for she assumed the possibility of different interpretations when considering both students' readings of her responses and her readings of students' texts. Not coincidentally, both of these areas were addressed in the course Lynn had taken in the research, theory, and practice of response to student writing. Largely because of this course, Lynn was very aware that responding to student writing within a transmission model was problematic. Moreover, for another graduate course in composition theory, she had done naturalistic research examining one instructor's responses to his students' writing, and she was struck by the divergence between what the instructor intended to convey and his students' interpretations of his responses. This awareness of divergent interpretation in this arena of discourse was very evident in both Lynn's practice and the ways that she talked about her practice. In describing her response practice, for instance, she said:

. . . sometimes I'm trying to emphasize that ME as a reader felt this way. Like I'm not the universal reader um, but you know, it did make me feel this way . . . it also sort of highlights that this, this is ME. And one thing I don't want them to think that like I know all the answers. You know, I've had people argue over a grade and I've changed my mind.

Rather than assuming that language is a conduit allowing the same meaning to be transmitted to all readers, Lynn not only recognizes the possibility that a different reader would have a different interpretation but is willing to seriously consider these different interpretations, even sometimes changing grades.

The influence of Lynn's training, and the way it shaped Lynn's practice within this arena of discourse, was also apparent when I asked her what qualities she thought were necessary to be a good respondent to student writing. She replied that a key factor was being a good reader. Elaborating on this, she said:

I guess I feel like in part that means, you know, sometimes you give an assignment and you just get stuck in the way it wants to look, you know, you've got your little four part model, better look like that. You know, you just see if it matches and you X off the parts that don't match. I guess I've tried to become like a little more open to other ways of doing things or if I see something that first strikes me as odd to keep my mind [open]. Okay, you've taught this assignment twice before, you're stuck on your model. You know, where is this person coming from?

Here a post-transmission model is suggested by Lynn's efforts to be "open" to "where is this person coming from"—to imagine other interpretations of the student's writing. As with the previous quote, we see an important outcome of a post-transmission model: the willingness to change one's mind. This is suggested by Lynn's statement that she will keep her mind open if she

sees something that "first strikes [her] as odd." (Recall that two of the criteria I used to assess reliance on a transmission model included "absolute certainly in . . . interpretations" and interpretations that are "inflexible and stable over time," especially despite disconfirming evidence.)

Lynn's reliance on a post-transmission model within the arena of discourse of response was also apparent in her view of a professor in her department who did not seem to be aware that there might be different interpretations of student writing. Bringing him up in one of our interviews, she said, "I think like professors, like Smith with his 31 grades, who has the GALL to think that he is that kind of objective reader, you know, that is really nervy." For Lynn, this professor's "31 grades" (his habit of giving a paper, say, an 86.5%) seemed to imply his belief that he was an objective reader, that there was indeed a unequivocal difference between an 86% and an 86.5% and that he was a qualified judge of that difference because he had access to what the paper really meant. So strong was Lynn's commitment to recognizing readers' subjectivities that she was visibly annoyed by this professor's attitude.

Within the arena of discourse of response, Lynn's reliance on a post-transmission model was apparent not only in her metacommentary in interviews but also in many of her actual responses to students' writing. Her written responses were rife with such phrases as "If I understood what you meant . . ." and "Does this make sense?," which she often asked of her own responses as a way of encouraging students to let her know if they felt confused by what she'd written. Not only did she usually not assume she understood students' writing and they her responses, but, as these excerpts of responses illustrate, she made explicit her assumption that transfer of meaning was not something to be taken for granted. Her oral responses, given in class and in office hours, likewise made use of such phrases and additionally took advantage of the back and forth nature of the interaction to explicitly check her understanding of her students as well as their understanding of her.

Lynn herself attributed this response style, as well as her flexibility in reading student writing, largely to the training she'd had in the research, theory, and practice of response to student writing. This course had changed her practice so much, she noted, that her course evaluations became significantly better—and I believe this significant improvement happened because she became a better teacher, not because she had suddenly become even more charismatic and caring. (Any of these factors, in my experience analyzing both course evaluations and observing those same instructors teach, can account for very good evaluations.) Observing Lynn teach for a whole semester, interviewing her students several times, and reading all her responses to student writing confirmed my sense that much of her excellence stemmed largely from general reliance on post-transmission models, which in turn stemmed largely from the course in response.

While Lynn usually relied on a post-transmission model—and while she always seemed to rely on this model within the arena of response—she did shift into transmission models in other arenas of discourse. The most salient arenas in which Lynn sometimes relied on a transmission model were class discussions of the assigned readings and her own classroom discourse on the writing assignments. While these arenas alone didn't trigger a transmission model, they did when

interacting with particular assumptions about student competence, especially (but not only) deficit models of students.

A transmission model was sometimes cued, for instance, when a particular point had been discussed in class but wasn't apparent in a student's paper *and* when Lynn had a deficit model of a particular student. (When she liked students and perceived them to be dedicated, she tended not to rely on a transmission model in this arena of discourse.) Of all her students, Max was the one who triggered the most significant deficit model. A senior rhetoric major who was staying up late most nights working on a play, Max had been very late to class several times, and Lynn questioned his respect for her. His name came up when I asked Lynn how, out of all the possible issues in a student paper to comment on, she selected the ones that she did. She replied((After mentioning the higher vs. lower order distinction, she went on to say)) in part:

If it's something that we just covered in class . . . you know, I may or may not comment on it. It depends on the other comments um but *if we covered it in class then, you know, I feel like you are responsible for it. I am gonna say something if it, you know, if it didn't happen. 'Cause sometimes I get a little irritated when somebody's like apparently been zoning out. Max has not gotten on my good side this semester* [laughs]. He did something, you know, in the introduction. It was very, like, writer-oriented . . . "I really learned a lot" [quoting Max's introduction]. *You know, I'll like definitely comment on something like that if it's just something that's been real directly addressed. Um, I feel like I really can't let that go.*

Thus while Lynn typically did not assume that she understood students' papers or they her responses, she sometimes did assume that students understood—or should have understood—what was said in class (cf. her assumption that if Max had not been "zoning out" he would have understood). Not only was meaning supposed to be transmitted from Lynn's mouth to Max's head, but it was then apparently supposed to be transmitted from Max's head to his paper. Along with this transmission model, a deficit model is suggested by Lynn's statement that she gets "a little irritated when somebody's like apparently been zoning out," for she had no evidence that Max was "zoning out"; she was merely making an inference (suggested by her word "apparently"), assuming the worst. Although my field notes do not note how attentive each particular student was on each day, Max was generally a diligent note-taker who seemed to be very attentive.

The interrelationship between deficit and transmission models within this arena of discourse is further illustrated by Lynn's reaction to Tom, a senior in civil engineering who appeared not to have put much time into his information interview report. Alluding to the classroom discourse on the writing assignment, Lynn said of Tom's report:

I'm not sayin' it's always wrong but it WAS explicitly what we talked about in class. . . . I don't mean to stick too much to my own model, but. . . . that kind of discourse is not usually effective with anyone but your parents and maybe you know an admissions essay or maybe a thank you letter to somebody. . . . I mean it did happen all the way throughout [Tom's memo] but it bugged me in the first paragraph because that's the only part of the

example that we got to look at [in class]. Um, he just didn't put enough time into it is my impression. . . . The grammar stuff was distracting.

Like Max but unlike other students in the class who didn't trigger a deficit model, Tom was held accountable for not receiving the information transmitted in the class discussion of the writing assignment. That he should have received the transmission (a "messy" transmission model) was suggested not just by Lynn's comments above, but also by his low grade on the assignment. Finding an appropriate measure of accountability, of course, is a gray area; while teachers shouldn't say, "Well, I can't expect the intended meaning of the assignment to be transmitted, so everyone gets an 'A,'" neither can we say, "None of the students in the class fulfilled the assignment so they all fail." What is striking here is less that Tom was held accountable than that other students (as we'll see later) weren't. As with Max, this differential treatment seems to have been triggered largely by a deficit model of Tom, suggested by Lynn's comments that "he just didn't put enough time into it" and that the "grammar stuff was distracting." These comments suggest that the grammatical problems betrayed a lack of time and effort—a deficit assumption that, as with Max, presumed the worst about the student. While I do not know how much time Tom put into the assignment, he did mention that he came from a high school in the rural Midwest—one that did not, he felt, prepare him to succeed in college.

Lynn's shifts into a transmission model, then, were sometimes triggered by a combination of deficit assumptions and whether or not a particular topic had been previously discussed. Previous discussions of a topic alone were not enough to trigger the model, nor did certain students always trigger the model. Particular students seemed to trigger the model only when something had been discussed in class that their writing did not seem to reflect *and* when Lynn had a deficit model of them. ((here cite PP--both 91 and book.)) ((Also quote her actual responses to Mike, Tim, and Matt--here? later?))

As in Rick's case, deficit and transmission models seem to be mutually enabling, with one difference. With Rick and Joel (as well as other students in Rick's class who triggered a deficit model), a transmission model seemed to enable a deficit model rather than the other way around. Rick thought badly of Joel and the other "C" students because he expected the language of the assignment to have been transmitted to them; it was only when he saw that they hadn't fulfilled his idea of the assignment—when he saw that his meaning hadn't been communicated—that he adopted a deficit model. While a transmission model seemed to trigger a deficit model for Rick, a deficit model seemed to trigger a transmission model for Lynn; the deficit model, I believe, was primary in her case. Because of Max's consistent lateness, for instance, Lynn had been irritated at him and tended to assume the worst of him from the beginning of the semester. It was largely her pre-existing irritation with him, I believe, that prompted her to hold him accountable with a transmission model. Similarly, with Tom the deficit model also seems to have been primary, as suggested by the differential treatment that he received; seemingly diligent students, for example, were not held to the transmission model, even when they, like Tom and Max, did not follow Lynn's oral advice.

This differential treatment is illustrated by the case of Mick, a junior in electrical engineering. In this and other cases, Lynn liked the student and relied on a post-transmission model. That Mick, unlike Max and Tom, was not held accountable despite not following Lynn's oral guidelines is illustrated in an interview with Lynn:

I always like Mick's stuff too. Seems like he really interviewed somebody impressive. I still don't totally understand what DSP [a term in Mick's report] is. *I asked him to like clear that up a little bit in office hours and it didn't get a lot clearer. Um, but that may be just me.*

While Max and Tom were expected to understand, retain, and act on what Lynn said, Mick was not. We see a post-transmission model not only in Mick's not being held accountable, but also in Lynn's thought that "it may be just me"—that another reader might not have a problem with the explanation of DSP. That this post-transmission model stems at least in part from Lynn's prior perception of Max's competence, as opposed to the quality of his current work, is suggested by her statement that she "always like[s] Mick's stuff." In addition, it was clear from other interviews and from Lynn's personal interaction with Max that she liked not only "Mick's stuff" but also Mick himself. It is easy to see why; in addition to being very personable, Mick took the initiative to speak often in class and to see Lynn often in her office hours. The contrast to the cases of Tom and Max is striking, and this contrast is not atypical; there were at least two other students besides Max whom Lynn liked and did not hold accountable with a transmission model, despite work that didn't follow the guidelines discussed in class.

In Lynn's case as well as Rick's, it was not only the teacher's perception of student competence and effort that triggered a transmission model but also the teacher's perception of task difficulty. And again as with Rick, these two influences were interrelated. At several points throughout the semester, for instance, Lynn assumed that if the reading was short and relatively easy and that if students were silent or seemed confused, it meant they had not done the reading; she seemed to assume, in other words, that if they'd done the reading, its meaning would have been transmitted to them and they would have been able to discuss it. Of course failure to do the reading sometimes *is* why students are silent or confused, but Lynn typically assumed that this was *the* explanation rather than a possible explanation. During the second week of the semester, for instance, the class was discussing an assigned reading that I had also done and that I had found confusing. Lynn, describing how she felt about class that day, said:

Then I felt like when I asked some of these questions today, I think it was Don, I asked, "Well, what do you think? Do you like what Kurt . . . said?" He said, "Well, I'm confused." You know, I felt like I was lookin' around and seein' people not really clear. *I think they would have been clear if they'd done the reading. . . . You know, I know the reading doesn't all flow, but at the same time, some of the reading is three pages long, you know, from tech writing textbooks, they're easy. Or it's from Locker. It's just not that confusing compared to the other stuff they have to read.*

In assuming that students had not done the reading (cf. Lynn's statement "I think they would have been clear if they'd done the reading"), Lynn was assuming the worst—arguably a deficit

model. This assumption, along with Lynn's perception that the readings were "easy," seemed to trigger a transmission model. This makes sense, given that the more accessible something seems, the more likely people are to feel that they have understood it, and the shorter it is, the easier it is for some people to process it. "Easy," though, was from Lynn's point of view, not mine or Don's. Don, an electrical engineering major, was probably not used to reading the technical writing textbooks that Lynn referred to, and he may well have found the reading as confusing as I'd found it.

That teacher perception of task difficulty played a key role in enabling a transmission model was further confirmed by another typical case of an "easy" reading. Significantly, this particular reading had been assigned for a Thursday, but since class time had run out, Lynn and her students were discussing it on the following Tuesday. An after-class interview suggested that Lynn's reliance on a transmission model was again triggered in part by the students' silence (and a possible deficit model) combined with the short length of the reading:

- Lynn: They didn't read. Nobody remembered what a mirror question is, and I'm assuming that nobody read it originally. It's like two pages. Um, this is just not as good of a class as I had last fall. . . . I wasn't giving as much work [then]; I think people were reading, but I wasn't giving as much work. . . .
- Kathy: So you're kind of getting the impression that, what gives you the impression that they're not reading?
- Lynn: They're not answering, that when I said OK go through and find the information, nobody seemed like they had read that. Of course they're not gonna remember all of it, it's five pages long. A good deal of it's background, though, that *if they read it once, I feel like they would know, they wouldn't be going back to look at the first page again*. Um, it was just silent for ten minutes while people were reading.

Here we can see the interaction among a transmission model, a deficit model ("this is just not as good of a class as I had last fall"), and the teacher's perception of task difficulty, which seems to be a primary driver in this situation. Not coincidentally, in both this and the previous case in which Lynn expressed an (arguably) deficit frustration with students' silence and apparent failure to read, she mentions the short page length of the assignment ("some of the reading is three pages long" and "[i]t's like two pages"). She seems to assume that, largely because of this short length—because of an easy task—students who had done the reading would not only understand it but also remember the key points. Indeed it is likely that if the students had done the reading, and if it had been discussed on the Thursday it was due, students would have been less silent. However, the delay in the discussion until the following Tuesday is an alternative explanation for why students could not discuss the reading. I suspect that I, for instance, like Lynn's students, would be unable to comment on a mirror question after a five-day delay. Still another alternative explanation, of course, is that students did the reading and remembered their understanding of it but were not confident enough in this understanding to participate in the discussion. Less important than identifying the "right" explanation for students' silence—or any such problem—is an awareness that such alternative explanations exist.

That Lynn's own perception of task difficulty shaped whether or not she shifted into a transmission model was further suggested just two days later, when Lynn did find the assigned reading difficult. She and I talked about this reading and the class discussion of it:

- Kathy: That was just interesting, you know, that whole discussion of what the hell did [the author] MEAN.
- Lynn: Yeah, yeah, I mean it didn't say EITHER people could do this or they could do that.
- Kathy: Uh-huh.
- Lynn: Um, it was unclear to me. I read the thing four, you know, many times actually. I knew that wasn't [clear]; that's why I picked that sentence [to discuss in class]. I know that that wasn't clear to them, that it couldn't be clear to them. . . . In fact when we were talking about it, I didn't care that much what they, you know, eventually decided, you know, it's still a little confusing.
- Kathy: So you didn't care what they decided it meant?
- Lynn: I care, you know, they took it apart but *it's hard to tell what they're saying, so somebody may argue it a little bit different*. As long as they work through it and sort of do that process. . . . You know, yeah, I will go through [their writing assignments] and make sure they have the recommendations that are actually in the article, that are relevant, but on the other hand you know that maybe somebody else has a conception, you know, this reader or the situation is, maybe, you know, some detail, something being irrelevant, you know, *they just have a different picture, you can never give somebody a complete scenario. Different assumptions or whatever*.

Here Lynn has shifted out of a transmission model; her difficulty with the reading seems to trigger her assumption that her students will interpret the article differently—that "you can never give somebody a complete scenario"—and that this is normal.

As the cases of Rick and Lynn suggest, then, teachers' reliance on transmission models are often accompanied by concomitant theories, however buried and unarticulated, about students. If we assume that a given meaning should have been transmitted to a student, we often develop a concomitant theory about why this transfer did not occur; sometimes this theory may be a deficit model, sometimes not. We saw, for instance, how Lynn theorized that students must be too busy to do the extra level of reading that she had added during the semester of the study. She also frequently referred to her students as "overloaded." In one interview, she revealed yet another theory about her students that worked hand in hand with her reliance on a transmission model. She noted that for her to lecture about the reading would be "sort of wasting time" since her students were so smart. She explained:

I mean, they've already proven that they can read a standard textbook. At least, you know, even the ones who seem like they're not as on the ball as other people, you know, they're at a pretty high level.

The assumption here is that the students' "high level" enables a transmission of meaning to occur. This goes hand in hand with the assumption that, if they didn't seem to understand the topic covered by the book, they must not have read, for if they would have read, they would have understood. Along these lines, it is not a coincidence that Lynn judged Max, one of the specific students whom she had held to the transmission model when she assumed he'd been "zoning out," to be one of the best writers in the class. While Lynn's reliance on a transmission model and her concomitant theories of why students were supposedly not reading sometimes assumes the best about her students (e.g., "They were overloaded"), it is noteworthy that other teachers' theories, like some of Lynn's other theories, do not always see students in such a light ((cites)).

((confirms (Chin's and Holland and Reeves') impt pt. that our interp. of meaning shaped not just by context but by our *interp.* of context. Impt. to see our interp. as such, to interpret our interpretations (Berthoff). Make this pt. here, or maybe later. Probably later.))

It is key to realize that a transmission model was not triggered by a stable set of factors but rather that such factors combined in different configurations to trigger the model in different situations. Both Rick's and Lynn's shifts into this model seemed to be influenced by a combination of their training, the arena of discourse in question, theories about students as groups and as individuals, and the perceived difficulty of the tasks performed by students. Some of these influences constituted available alternative explanations to account for students' actions and interpretations—explanations that helped enable transmission models. All of these influences formed a complex system in which one shift in, for instance, a theory about a student could then affect the whole system of interlinked assumptions and implicit models. While the complex of influences that triggered the two teachers' shifts into a given model of communication may be unique to them, understanding something about this complex will help us know where to start looking when we consider other people's models of communication. Equally important, our look at Rick's and Lynn's shifts illustrates the complexity of why we rely on a given model in a given instance. Recognizing and respecting this complexity is an important step in being able to reflect on—and thus gain more control over—the models of communication that shape how we communicate with each other.

Accounting for the Resilience of Transmission Models

The previous discussions of Rick and Lynn have illustrated, I hope, not only the influences that triggered shifts into transmission models but also the resilience of such models. This resilience is suggested by the fact that even Rick and Lynn—both of whom have been trained to recognize the problematic nature of transmission models—nonetheless consistently shifted into these models. I believe that many of us also shift into these models. I constantly notice myself and my colleagues making such shifts, and whenever I present data from this research at conferences, people in the audience tell me they realize that they too shift in and out of transmission models. Why, we might ask, is this model of communication—which we know is not robust—so resilient? While the previous section accounted for reliance on transmission models on a micro-

level, this section will account for this reliance on a macro-level, examining some of the broader sociocultural contexts that contribute to the tenacity of these models. Although not every factor outlined will shape each instance in which the model is operant, complex interactions of some of the factors should account for much of the resilience of transmission models.

Part of the explanation for the resilience of transmission models is Reddy's (1979) point that the conduit metaphor (as he refers to this model of communication) is a key semantic structure in the English language and thus leads us to believe and act as if the metaphor were true, as if language really were a conduit. This is an important point, although the causality here may not be one-way—in other words, the predominance of conduit metaphors and our tendency to think of language as a conduit may be mutually enabling. The sheer number of conduit metaphors certainly is great enough to be significant; in addition to the examples of conduit metaphors previously cited, Reddy points to over a hundred other examples of how the conduit metaphor describes communication as "the physical transfer of thoughts and feelings" (p. 167), and he notes that at least 70% of the "metalingual apparatus of the English language" is "directly, visibly, and graphically based on the conduit metaphor" (p. 177). This is significant given Eubanks' (2001) reminder that "In chorus, metaphor researchers have admonished us that metaphor is not mere decoration but the very essence of much human cognition" (p. 112). Certainly the mutually enabling relationship between language and thought provides us with a partial account of why transmission models are so resilient.

Just as fundamental to this account is that transmission models often do bear a gross resemblance to the way communication works; the conduit metaphor, like all metaphors, is grounded in some degree of reality. If, for instance, I tell my partner to pick up a paper on the way home from work, he does; if my mother tells me to bring my camera to the family reunion, I bring it. Likewise, if a teacher tells a class that papers are due on a given day, most students will indeed turn in their papers on that day. And, if a few students don't turn in their papers, they usually give reasons for not doing so, thus suggesting that they too knew they were supposed to—that the teacher's meaning had been transmitted to them even if they were unable to act on it. In many arenas of everyday life, then, enough of our intended meanings are transmitted in order for us to get what we want. We're surrounded with what seems to be evidence that the transmission model works.

Not only, in many arenas, do we get what we want by asking for it, but we are likely to assume that the fact that we got it means that our intended meanings were transmitted. Taylor (1992) speculates that we rely on the problematic assumption that mutual understanding is empirically verifiable. In other words, if we *act* like we understand each other, we take this as evidence that we *do* understand each other. For instance, I told the coordinator of a teaching program that I would no longer be able to teach for that program and explained why not, and she replied that she understood and took my name off the list of teachers for the next year; she acted as if she understood my intended meaning, so I was surprised to hear another teacher paraphrase the coordinator's explanation of why I could no longer teach for that program. It was not at all what I had meant to communicate, yet I assumed I had communicated my intended meaning since she acted as if I had. Had I not happened to run into the other teacher, and had we not happened to

talk about that issue, I would have continued to believe that I had communicated my intended meaning. More often than not, though, we don't happen to talk to someone who happened to talk to the person we originally talked to about the very issue we talked about, so it is easy for us to assume that we have transmitted our intended meaning based on the fact that people act as if we have.

The resilience of transmission models can also be accounted for by our tendency to make sense of the world by reducing complex data and overgeneralizing. Since it is not unreasonable, for instance, to expect that our intended meaning is adequately transmitted when we tell students to turn in their papers on the requested day, we may overgeneralize to more complex situations. Thus a teacher might assume that a class of first-semester students will receive the intended meaning of "be sure to support your claims" in the same way that they receive the intended meaning of "turn in your papers on October 1"—even though concepts such as "support" and "claim" are complex and variable in ways that concepts such as "turn in" and "October 1" aren't. Even for people who are aware of the problems inherent in a transmission model, the complexity of everyday life, with all its required tasks, does not always leave us room to analyze each situation individually in terms of its being adequately covered by a transmission model.

Still another reason transmission models are so resilient may be the pervasiveness of deficit models, for as suggested earlier, the two models can be mutually enabling. Deficit models are deeply entrenched not only on a micro-social level, as we saw with Rick and Lynn, but also on a macro-social level. Hull, Rose, Fraser, and Castellano (1991) write:

For almost two centuries the dominant way to think about underachieving students has been to focus on defects in intellect or character or differences in culture or situation that lead to failure, and to locate the causes within the mind and language of the individual. We are primed by this history, by our backgrounds and our educations, to speak of students as deficient . . . (p. 315)

As illustrated by the discussion of Rick and Lynn, we are more likely to see students as deficient when we hold simple transmission models; such models lead us to expect meaning to be transmitted, so when meaning is *not* transferred, a handy explanation is a faulty receiver, a deficient student. Recall, for instance, Rick's assumption that "C" students "didn't even pay attention to . . . the basic structure of the assignment" and Lynn's assumptions that her students didn't produce the oral and written discourse she wanted because they didn't do the reading, were "zoning out," or "didn't put enough time into it." This interrelationship between deficit and transmission models can also be seen with teachers other than Rick and Lynn; the analysis of Minick (1996) that appears later in this section, for instance, suggests among other things that the "deficit/transmission trap" is pervasive. Indeed, I often see myself starting to fall into this trap, and I frequently hear colleagues bemoaning how students "just don't listen." It is normal to feel frustrated when students' don't receive our "transmissions," and it is unfortunately all too easy to explain the problem by assuming a deficiency on the part of students. The historical entrenchment and easy availability of this explanation is unfortunate, not only because deficit models hurt people but also because they further perpetuate transmission models.

Transmission models are perpetuated not only through deficit models and the previously mentioned influences but also through our vested interest in their success. There are many ways in which life would be easier if these models did accurately describe how communication works. Reflecting back on her experience as a student, for instance, Wink (2000) notes that when she was grappling with the concept of critical pedagogy, she wished that this concept could have been transmitted from her professors' minds to her own:

One of the frustrating aspects of the study of critical pedagogy is our tendency to want others to transmit their knowledge of what it means to us. "*Just tell us what it means!*" During my initial encounters with these concepts, I was exactly like this. I felt angry, alienated, and excluded from this new knowledge. Repeatedly, I went to my professors to implore them to "just explain it." (p. 36; italics original)

Not only would life often be easier if others' ideas could be transmitted to us, but it would also be easier if our own ideas could likewise be transmitted to others. We want to control the meanings that we convey to others. Rommetveit's (1988) personal reflections on his relationship to a transmission model, which he calls the "myth of literal meaning," provide a powerful illustration of this:

My present phobia against writing, I think, is somehow profoundly related to my somewhat morbid and personal concern with the myth of literal meaning. I may perhaps, and to an extent I would not like to admit, myself have been enslaved by the myth ever since I entered the academic world. This enslavement had in my earlier and more optimistic days a magic effect which made me euphorically go on writing. What happened, I suppose, was that I attributed entirely unwarranted features of credibility and truth to my own feeble and not-fully-thought-through ideas the moment I "saw" them materialized in print, in principle preserved for eternity. This magically derived mood, however, has faded away. I have instead felt more and more stunned by realizing that whatever goes to print is beyond the scope of my modification and repair. Potential readers may freely modify and even erase it without any more mercy than I show when reading texts of authors I do not know.

My dilemma may hence perhaps be summarized as follows: I wish that what I write were written in a universally valid code, so explicitly and with such accuracy of expression that what is meant by it were, in principle, unequivocally and literally available to anyone. Something deep down inside me—the intellectualized lust for power, Derrida might say—thus wants the myth of literal meaning to come true in my own prose. (p. 35; emphasis added)

Rommetveit also notes that others have a vested interest in transmission models and that this model is pervasive, or in his words, "lived" by "enlightened lay[people]." Who wouldn't agree with Rommetveit that the fantasy of writing in a "universally valid code" is appealing—that having our intended meanings be "unequivocally and literally available to anyone" would be an advantage?

Indeed this advantage is often seized, unwittingly or otherwise, by people in power; certainly any account of the resilience of transmission models must recognize that high status—the ability to control people and situations—and the perpetuation of transmission models can be mutually enabling. Rommetveit explicitly notes, for instance, that priests, scientists, and textbook writers have a vested interest in transmission models. This makes sense, for such models say that there is one "obvious" interpretation—and those in power get to say what it is. Carey (1989) notes that "the centre of this idea of communication is the transmission of signals or messages over distance for the purposes of control" (p. 15). Transmission models, then, are so resilient in part because they allow people to control meaning, and thus may be used often by those who both want this control and have the power to exercise it.

This problematic control interacts not only with transmission models but also with deficit models; these influences can work in interpenetrating ways to further buttress transmission models. This interrelationship will be illustrated by analyses of Mehan's (1996) and Minick's (1996) work. Minick, who studied six elementary school classrooms, notes that the teachers he observed frequently used a transmission model, or as he calls it, "representational speech." Defining representational speech as "attempts to construct close relationships between what is meant and what is said, between what is made known through an utterance and what is explicitly represented in language" (p. 346), he argues that representational directives appeared as a "distinguishable speech genre" (p. 358) in all classrooms observed and that indeed "formal training in following [them] is a recognized part of the school curriculum, beginning with the introduction of what are commonly referred to as 'listening exercises' at the kindergarten level" (p. 358).

This genre of representational directives appeared, Minick found, only when the students' actions threatened to interfere with the teachers' plans—only when control was an issue. One teacher, for instance, wanted to end a discussion of the library books that the children had in front of them and begin work on a story in the basal readers that were under the children's chairs. She told her students, "Please put your books under your chair. And, we are going to read a story which you are going to enjoy" (p. 355). Some children responded by putting all of their books under their chairs, but one student, Todd, saw the teacher begin to look at her basal reader and, putting his library books under his chair, took out his own reader and began to look at it, just as the teacher was doing. A few other students, watching Todd, did the same. Minick notes that the teacher "did not object to the children's 'misinterpretation' of her utterance until it became apparent that their looking through their readers might interfere with her effort to review new vocabulary before beginning to read" (p. 357). Only when her plan was threatened did she shift into a transmission model by saying, "Todd, did Mrs. W. say 'Open your book to . . . ' Did she? No, she did not" (p. 356) and "Excuse me. I have not good listeners today" (p. 357). Deficit and transmission models are implied by the assumption that, because the children interpreted the teacher's utterance in a way she didn't intend, they were not "good listeners." It is significant that this transmission model was triggered, as Minick notes, by the teacher's need for control, for teachers and others in similar positions of authority often need control. Given this pervasive need for control, the resilience of transmission models is even easier to understand.

Just as the analysis of Minick's study suggests the interrelationship among transmission models, deficit models, and the need for control, so too can we see this interrelationship through an analysis of Mehan's (1996) case study, "Beneath the Skin and Between the Ears: A Case Study in the Politics of Representation." Mehan studied a meeting held to determine whether a child, Shane, should be labeled as LD. Shane, who was tested as having a verbal IQ of 115, was intimidated by many classroom tasks, although his actual performance of those tasks was fine. Among those present at the meeting to discuss Shane's case were the school psychologist, Shane's teacher, his mother, and the school principal. Although Mehan's focus is on the extent to which these participants locate the problem "beneath [Shane's] skin and between [his] ears," and although he doesn't mention the transmission model per se, his description suggests that the participants in the meeting were using such a model. Those listening to the psychologist, for instance, seemed to assume that her intended meaning should have been transmitted to them, for while the mother and teacher were asked to clarify what they meant, the psychologist was not asked to do so, despite the fact that she spoke in the highly technical terms of her field—terms that were almost certainly unfamiliar to the others. Not only did the other participants act as if the psychologist's intended meaning was, or should have been, transmitted to them, but they unquestioningly accepted her recommendation—which they had disagreed with going into the meeting—that Shane should be labeled as LD. Mehan writes:

When technical language is used and embedded in the institutional trappings of the formal proceedings of a meeting, the grounds for negotiating meaning are removed from under the conversation. Because the speaker and hearers do not share the conventions of a common language, hearers do not have the expertise to question, or even to interrupt the speaker. To request a clarification of the psychologist, then, is to challenge the authority of a clinically certified expert. The other members of the committee are placed in the position of assuming the psychologist is speaking knowledgeably and the hearer does not have the competence to understand. (p. 259)

Reliance on a "messy" transmission model—the assumption that the psychologist's intended meanings would have been conveyed if not for the "faulty receivers"—is part of what enables her control of the situation, for it allows her analysis and recommendations to prevail. This transmission model is related not just to this need for control, but also to a deficit model (suggested in the assumption that "the hearer does not have the competence to understand"). Again, the interrelationship among deficit models, transmission models, and the need for control helps account for the resilience of transmission models, for the more pervasive one is, the more pervasive they all are.

Interacting with communicative models and the issue of control are ideologies of selfhood and task accomplishment. Discussing his fieldwork in Samoa, for instance, Duranti (1993) notes that Samoans do not generally expect speakers' intended meaning to be transmitted into the listeners' received meanings, and he argues that this model of communication is rooted in Samoans' view of self and task as jointly accomplished. If, in other words, tasks and selves are seen as joint accomplishments, then meaning is likely to be seen this way too. Control, I'll suggest, is also a factor here, for if tasks, selves, and meaning are seen as joint accomplishments, then no one

person has control—that, too, is distributed. Duranti contrasts this "joint accomplishment" view to a notion closely related to the transmission model, the Western "personalist" view of meaning outlined by Holquist. Note the interrelationship between a sense of individuality and models of meaning-making:

[The "personalist"] view holds that "I [as speaker or writer] own meaning." A close bond is felt between the sense I have of myself as a unique being and the being of my language. Such a view, with its heavy investment in the personhood in individuals, is deeply implicated in the Western Humanist tradition. (Holquist, as cited in Duranti, 1993, p. 40)

Again, interacting with a transmission model here is the notion of control (suggested by the idea that the speaker or writer can "own" meaning) and a model of the self-as-individual. This relationship between local theories of selfhood, control, and models of communication is further confirmed by Duranti when he notes an exception to the Samoans' treatment of meaning as negotiated. He tells us that people of high status are seen as "owning" their own meaning and that their words are taken as the truth. Not coincidentally, these people are also allowed to be "more individualist" (p. 44). While most Samoans, for example, do not have exclusive access to household commodities, a high chief can own commodities just as, Duranti tells us, "he can also 'own' . . . the meaning of his own words and expect others to comply with his own interpretation" (p. 44). Again we see a mutually enabling relationship among a transmission model, control, and a local theory of selfhood. Given that Western cultures are so steeped in ideologies of individuality, it is no wonder that concomitant transmission models (and the control that they enable) are so pervasive.

Transmission models, then, are buttressed by a complex, dynamic, and interpenetrating host of influences. As we saw with our micro-social analysis of the cases of Rick and Lynn, particularly salient influences that can enable transmission models include the arena of discourse (related to the teachers' training), perceptions of task difficulty, and perceptions of student competence and effort (especially deficit models). The macro-social analysis also suggests that deficit models are key influences, along with the pervasiveness of the conduit metaphor in our metalingual apparatus, the real resemblance between transmission models and the way communication actually works, our tendency to reduce complex data and overgeneralize, assumptions about what counts as evidence that mutual understanding is empirically verifiable, our vested interest in being able to communicate our intended meanings, the power and control enabled by transmission models, and ideologies of individuality. Although this is surely an incomplete account of the resilience of transmission models, it nonetheless suggests why people—even teachers trained in post-transmission models—are likely to rely at times on a transmission model.

Looking Forward

Because our understanding of student-teacher communication, and communication in general, is impoverished without the notion of communicative models as a category of analysis, more research needs to be done in this area. We need to analyze the influences triggering reliance on

transmission models in a wider variety of contexts, beyond the two classrooms examined here. We should also explore more fully the sub-families of models within each larger family and interrogate boundaries between models. Not only will this interrogation help us to better delineate models (for instance, post-transmission vs. sophisticated transmission models), but it should also help us to recognize and examine fluidity across boundaries.

Even more important, we need to consider the implications of our ability to raise implicit models to conscious awareness and thus to gain more control over which models we draw on. As we saw, for instance, training helped Rick and Lynn avoid relying on a transmission model in many situations; indeed, they did not rely on this model within the arenas of discourse in which they were trained. Teacher training, then, could encourage teachers to self-monitor their models of communication within arenas such as the following: writing prompts; readings of student work; response to student writing; and classroom discussion, including but not limited to discussions of readings and assignments.

Teacher training could also help prospective teachers to better assess task difficulty. Given that several of the tasks Rick and Lynn assigned were more difficult than they realized, and given how these assumptions about task difficulty seemed to enable deficit models and transmission models, this training could be invaluable.

That training and conscious reflection can give us some control over which models we draw on raises the question of whether we should try to rely on a given model relatively consistently or whether shifts between models are useful. This is an important issue, for determining which model of communication is used in a given situation clearly has political implications. At the heart of the issue, as previously suggested, is who gets to control meaning. Consider, for instance, the study of the two college classrooms against the discussions of Mehan, Minick, and Duranti: when Rick and Lynn, like Mehan's psychologist, Minick's elementary school teachers, and Duranti's high chief, make use of a transmission model, it is their interpretation of utterances—not others' interpretations—that counts. Transmission models, it appears, can reflect and enable unequal relationships.

Our initial response to this political problem may be to wish that everyone would always draw on a post-transmission model—to wish that people did not privilege their own interpretations as the "real meaning." Indeed, this article has problematized reliance on transmission models because many of the instances in which Rick and Lynn relied on them had problematic outcomes. (Many of these instances and problematic outcomes are not discussed here; they will be elaborated in subsequent work). Many situations, however, do not necessarily warrant the rejection of transmission models. Recall for instance the "Honey, pick up a newspaper" and "papers are due October 1" scenarios; as previously mentioned, I can reasonably assume that, having uttered these statements, I will get what I ask for—or that if I don't, it is because someone forgot and not because there was a divergent interpretation of the utterance. While there may indeed be situationally insignificant divergences such as the word "newspaper" having a different connotation for my partner (maybe he finds most of the stories to be sensationalized while I find

them to be valuable), it is not unreasonable to assume a high degree of transmission of meaning here.

Indeed, there are situations where we should assume transmission of meaning—where people should be held accountable for having understood an utterance in the way it was intended. A case in point is the feminist motto "Which part of 'no' don't you understand?" Eubanks (2001) makes the important point that without the transmission model (or as he calls it, the conduit metaphor), "we have little basis for ethical objections to lying, concealment, failure to warn, failure to be responsive, and so on" (p. 99). We may find, paradoxically, that in some situations we feel a moral imperative to rely on a transmission model while in other situations we feel an equally strong imperative to reject this model. Looking forward, it will behoove us to think carefully about how to distinguish one situation from the other.

It will also behoove us to continue seeing people's implicit models of communication through the lens of activity theory, for this lens emphasizes that our models of communication don't exist in a vacuum but rather shape and are shaped by a complex system of interrelated micro-social and macro-social contexts. Using activity theory as a theoretical lens, moreover, should help us break out of one of the most pernicious outcomes of relying on transmission models: the tendency to assume that student texts convey clear transmissions of students' intentions and abilities. Prior (1998) astutely notes that often "Student texts are seen as crystallizations of students' intelligence, knowledge, skills, attitudes, and effort, magic mirrors teachers gaze into to discover who is the most literate on the roster" (p. 142). We tend to see student texts in this counterproductive way only when such texts are decontextualized—only when we act as if context doesn't shape meaning and thus as if students' texts clearly transmit to us their intentions and ability. More context-sensitive approaches such as activity theory motivate us, instead, to seek out more knowledge of context—knowledge both about what students intend to communicate as well as the logic that underlies these intentions.

Activity theory, in addition, helps us both to appreciate the significant influence of past history as well as to hope for future change. Recall Engeström's (1996) point that the disparate elements within activity systems can be understood in terms of historical layers and that these systems contain "sediments of earlier historical modes, as well as buds or shoots of its possible future" (p. 68). Certainly we see earlier historical modes when we note the role of a deficit model in enabling transmission models; recall for instance Hull, Rose, Fraser, and Castellano's (1991) observation that the deficit model has been the dominant way to think about underachieving students for almost two centuries. Moreover, as we saw with Minick's study and Rick and Lynn, teachers apply deficit models not only to underachieving students but to many other students as well; the historical entrenchment, then, is likely to be even broader than Hull, Rose, Fraser, and Castellano suggest. Like deficit models, transmission models have been dominant for centuries (cf. Carey, 1989; Longo, 2000). Moreover, we might infer from Minick's study that every one of us—for we have all been students—has intermittently but consistently been held to a transmission model. And given that not only the general population but more specifically all teachers have been students for many years, we can see how this historical entrenchment fosters a self-perpetuating phenomenon. Marshall and Smith (1997) write:

. . . we have a substantial body of research that suggests that the teaching we witness will powerfully shape the teaching we practice. Dan Lortie in his 1975 study of teachers pointed to our "apprenticeship of observation": twenty or more years of watching teachers perform cannot help but influence new teachers as they make their way into the profession, and that influence will, almost by definition, pull instruction back in a conservative direction—to the way it was done before. The "voices of teachers past" inhabit us—and perhaps haunt us—as we find our own voice in the classroom and, in a Bahktinian sense, we may find ourselves speaking their words with our mouths, reproducing the speech genre that is instructional discourse each time we lead a discussion. (p. 264)

However, these "sediments of earlier historical modes" are being counter-balanced—and may eventually be overcome—by the "buds . . . of [a] possible future." Composition studies, for instance, has been amassing a rich and valuable literature problematizing the deficit model (e.g., Chin, 1994; Hull, 1999; Hull and Rose, 1990; Hull, Rose, Fraser, and Castellano, 1991; Porter, 2001; Shaughnessy, 1977, among others), and we will continue to pursue this important line of thought. We have also amassed a body of work problematizing transmission models (e.g., Bizzell, 1982; Bowden, 1993; Longo, 2000; Miller, 1979; Reddy, 1979). This work on transmission and deficit models, combined with the previously mentioned approaches in teacher training, has the potential to make a real difference—especially if we respect the resilience of what we are up against and redouble our efforts accordingly. Ultimately, many of us will strive for the active and continual maintenance of trust that it will take to counter deficit and transmission models, and we will learn to actively reflect on—and gain more control over—the models of communication that can so significantly affect students' learning and lives.

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Notes

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² It might be argued that there is some overlap in these families of models insofar as a sophisticated transmission model might see context as the "interference."