



# Speaking in Tongues: Coordinating Multiliterate Work of Tutors and Students Across Disciplines

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John Trimbur recently wrote that for writing centers, literacy has become redefined as “multiliteracy,” referring to the “multimodal activity in which oral, written, and visual communication intertwine and interact” (“Multiliteracies” 29). At once, broadening the term “literacy” complicates the role of the writing center in a university while clarifying how it can fulfill cross-disciplinary responsibilities.

Writing centers have long grappled with the fact that texts reflect intersecting and sometimes unfamiliar literacies. The trouble is that how these multiple literacies “intertwine and interact” and how someone acquires those literacies is somewhat mysterious. Clearly, one’s multiliterate expertise is built up through experience using genres, which embody the motivations and interests of practitioners in a field (Bamberg 12-13; Berkenkotter and Huckin 60-65; Miller). However, missing from this formula is a sense of the role that writing centers play in helping students acquire disciplinary multiliteracy, especially when that literate background is not shared by the tutor. Do practices exist that enable writing centers to engage students in “writing-to-learn” practices that help reveal the conventions of writing in their disciplines? I believe so, and by paying attention to genres and to texts as “tools” that reveal the routine activity those genres embody, tutors and students of different disciplinary backgrounds will find ways to share their expertise. To develop this position, we must first consider the role of genre in scaffolding a writer’s progress toward disciplinary literacy. Following this discussion, I will focus on texts and why they are not adequate tools for talking about the multiliterate uses of genres across disci-

plines. By discussing the results of a case study, I will argue for a new tool that supplements text, making it a richer tool that is capable of crossing disciplinary boundaries.

### Genre in the Writing Center

Irene Clark writes that one of the most important yet pedagogically difficult goals for writing centers is to “[h]elp students understand how the goals of academic writing are achieved through a text” (7). Clark suggests helping students become aware of the “functions” of text and how the genres from which they derive have historically determined social functions (26-27). Tutors help their students understand academic writing as a goal-driven, literate practice by highlighting the activity that the text supports (e.g., building credibility, articulating a position, defining a methodology). However, when tutors and students do not share a common disciplinary background, it becomes more difficult to invoke and sustain such a conversation because many goals in writing are discipline-specific.

One solution to the problem seems clear – delegate writing center duties to specialist tutors or graduate students within the various disciplines. However, it is important to remember that writing centers serve an indispensable function in their “willingness and ability to engage student writers sentence by sentence, phrase by phrase, word by word, comma by comma, one to one, face to face. No one else in the academy can or wants to do this work, but everyone wants it done – now” (Kail 25). Writing centers can help students from different disciplines, not just because of their hands-on, face to face work, but also because tutors understand how literacies “intertwine and interact” for a rhetorical effect. This rhetorical knowledge constitutes tutors’ writing expertise.

How multiliteracies “intertwine and interact” can be discussed abstractly, at the level of the genre, but it is an issue more specifically addressed at the level of the text. The problem with texts, though, is that they do not easily reveal the rhetorical motivations that led to their creation. A text alone fails to provide grounds upon which the tutor and student can articulate the intersecting literacies that inform a piece of writing. As a result, it is more difficult for a tutor to understand how a student’s ideas were shaped by his or her conceptualization of the genre. Our task is to develop tools to make this process easier.

## Texts: The Tools of Mediation

The word “tool” has a varied meaning. Vygotsky defines tools as “language; various systems for counting; mnemonic techniques; algebraic symbol systems; works of art; writing; schemes, diagrams, maps, and mechanical drawings; all parts of directional signs” (Vygotsky, “Instrumental” 187). Tools work by mediating human activity, by extending and constraining a person’s cognitive and physical activity (Cole and Engeström 9; Pea 57; Wertsch, *Voices* 12).

Tools can extend our physical abilities as a pole-vault does (Wertsch, *Mind* 27), our ability to perform complex cognitive tasks as a calculator or a map does (Hutchins 96-116) or by extending our sensory capabilities as a microscope does (Knorr Cetina 10, 15-20). Tools are also instrumental in teaching because they take an intrapersonal task (internalized) and externalize it, making it interpersonal (shared between people) (Vygotsky, *Mind* 74; Wertsch, *Mind* 36, 56-57).

In using a tool, a person externalizes his or her thinking by taking a normally internal activity (e.g. counting) and demonstrating it by using a tool (e.g. counting on one’s fingers). In an environment where a person’s motivations or job duties are clear (e.g. the navigator of a ship) people in the same environment may share an experience of what the tool user knows by interpreting his or her use of a tool in light of the motivations or job duties the tool user is known to fulfill. However, shared understanding depends on both an onlooker’s ability to witness the tool in use and to understand how the tool’s user is motivated to use the tool. These preconditions for shared understanding are not always met, often due to the nature of the tools used. Some tools invite shared understanding by revealing the expertise involved in their use - others do not. Texts are tools that hide the expertise involved in both their creation and use.

Texts also enhance and constrain activity though in less visible ways. For instance, questionnaires used by architects to establish a room design elicit input from clients that is turned into a design. However, the client does not see what expertise guides the design creation because it is not visible in the questionnaire, only in the architect’s use of the answers (Ackerman and Oates 94-100). The questionnaire enables a working relationship between the architect and client without requiring them to share a way of interpreting the information.

The questionnaire is a tool designed to help architects make literate connections between data that clients provide. The means of interpretation are built into the format of the questionnaire, but the act of interpretation is still largely intrapersonal. Architects interpret the questionnaire data based on their literate way of “seeing” meaning in the data, an expertise that is rarely shared by the clients. Writers and tutors may have similar difficulties interpreting a text because they too rely on different expertise to “see” meaning. Since texts potentially hide the rhetorical motivations that give them meaning, a genre-based approach to cross-disciplinary work in the writing center is undermined because it relies on building an interpersonal, shared understanding of rhetorical motivation that a text cannot adequately support.

It is widely accepted that genres act as tools to scaffold a writer’s literate development and enculturation into a community of practice (e.g. Gee, Hull and Lankshear 104-124; Geisler, *Academic* 157-167; Prior 76-96; Dias, Freedman, Medway and Paré). When these tools (genres) are shared and used by groups of people, they act as “conscriptio devices” (Henderson 456) in that their use trains users to see their work in similar ways. For instance, corporate letter templates are used to reinforce ways of thinking about how information is communicated to clients. Similarly, report boilerplate builds notions of what “sounds right” in a report (Katz 179).

Unlike in a corporation, writers at a university compose for a wider variety of unrelated purposes. As a result, writing centers see many texts that have a variety of situation-dependent uses though they share a generic family resemblance. Under such work conditions, tutors and students rarely begin with a shared understanding of the text’s function, and therefore take longer to come to a mutual understanding of what the text does or should do. This disconnect partly arises out of a problem inherent in using a text as a symbolic tool across different disciplinary contexts of use, and is further exacerbated by the writing center’s role in the university.

### **Inflexible Texts and Flexible Writing Centers**

All objects used as tools to coordinate work practices (e.g. memos, sketches, texts) are comprised of tightly interlocking literacies and bodies of knowledge. In their shareable form (i.e. some physical form – not just ideas), the way in which these literacies and bodies of knowledge “intertwine and in-

teract” is unclear. In this regard, the tool is an inflexible object in that within these tightly interlocking points, it is difficult to decipher the exact motivation that brought the ideas together. The sum effect is that the tool remains the object of the creator’s expertise, making it difficult for others to see where their knowledge can contribute to the mutual creation or use of that object. The writing center’s institutional role amplifies this problem when it occurs between tutors and their students.

Tutors serve a dual and sometimes conflicting role: they are peers with whom students can discuss their writing, and experts to whom students should listen. In a tutoring session, this dynamic plays out in a peculiar manner because the text that is the focus of attention is an object simultaneously defined by two domains of expertise. The text is at once a disciplinary artifact (the student’s expertise) and a grammatical artifact (the tutor’s expertise) and each is eager to defer to the other’s expertise in shaping that text.

Moreover, the fact that many “successful, publishing academic professionals do not think of themselves as writers, and consequently, doubt their own ability to comment on and respond effectively to student writing” (Pemberton 120) puts pressure on the tutors to be both “experts” and “peers” and to negotiate the tension between those roles (see Trimbur, “Peer”). This contradictory role often leads writers to defer to tutors’ knowledge even though it may not be based in the same disciplinary tradition out of which the text was created. The fact that much undergraduate writing is based in recognizable genres makes finding common ground easier; however, text remains inflexible in so far as it is treated as an object exclusively defined by another’s expertise.

I wish to demonstrate that one way to make texts more flexible is to break up the finality of their appearance. A text represents the end stage of a composing process, when all of the multiple literacies that shape it are so intertwined that it is difficult to separate them out and discuss their contributions. “Text” is a title reserved for writing that is finished and no longer subject to change (Geisler, “Accounting” par. 28, 29). Before its completion, the writing is pulled together from notes, pulled apart by reviewers, and reconstructed again. In these behind-the-scenes stages of writing, the text is a flexible object, a series of ideas building up to a final product. To make apparent the convergent, multiliterate activity that shapes

text, and thereby enable coordination between tutors and students, we need a tool that makes writing activity available for shared interpretation.

### **Visualizing Text: The Effects on Local Practice**

To design a tool that makes texts flexible, we must make writing activity visible because writing activity is an enactment of the expertise that allows us to create meaningful texts. Research suggests that problem solving and expertise are associated with how one “sees” the task environment (see Gibson; Lave). Even in composition, the connection between visualization and effective writing is well documented (see Matsuhashi, Gillam, Conley and Moss; Matsuhashi and Gordon; Sire).

The tool I propose focuses attention on the activity of writing, a more flexible medium through which tutors and students can negotiate their understanding of a text and thereby gain a better sense of the expertise implicit in its creation (Norgaard 50, 52). I will describe a tutoring session where a student’s text appears to become more flexible by viewing her writing activity. I will demonstrate this flexibility by showing how parts of the tutoring session mediated by screen captures of the student’s writing activity are associated with 1) more participatory interaction, and 2) greater coordinated discussion of the text across disciplinary boundaries. More importantly, I will show how knowledge about writing is more likely to be shared when drawn from observations of writing activity. The tool that supports this view is “textual replay.”

### **Textual Replay Technology**

Textual replays are computer videos comprised of successive screen shots taken of a writer’s computer screen as they are composing. The textual replays are used to supplement discussion of a printed text by providing a glimpse of a writer’s composing activity. The terminology (textual replay) has obvious roots in professional sports where recordings of an athlete’s performance, from the athlete’s perspective, are used to help coaches and athletes share an experiential perspective of the performance (Omodei, McLennan and Whitford 117).

The principal benefit of textual replay is that it creates a cross-temporal instructional site that coordinates even while it distributes both the student’s and tutor’s attention over the beginning, middle, and end points of a text’s creation. At any

given point during the textual replay, the writer will be able to account for his or her activity in terms of how that action contributes to the “resolution shape” (Lave 19) of the completed text. The textual replay can be paused, rewound, and fast forwarded, making it possible to see multiple stages of writing activity in relationship to one another.

### **Testing Textual Replay**

To examine the effects of textual replay, I asked three students to record their writing activities. Each student was asked to turn on the screen capture whenever they came to a point in their writing where, if I were there, they would ask for my opinion. We started the tutoring sessions by reading and talking about the texts, and used the textual replays only when they seemed appropriate and potentially useful. One student in particular, Rena<sup>1</sup>, provides an illustrative case revealing the effects of textual replay. This student was studying for the TOFEL essay exam and had what she felt was a consistent problem with transitioning.

### **Data Preparation and Measures**

The transcript of the tutoring session was separated into three progressively larger units to aid in the analysis of how texts and textual replays affect how tutors and students share ways of thinking about writing. The three units of analysis were clauses, interchanges, and mediation segments.

### **Clauses**

To study the ways that the two technological tools (text and textual replay) may have enabled shared understanding, Rena’s transcript was parsed into clauses. Each clause was coded for the knowledge that the speaker referenced. Previous research on mental models has supported the idea that verbalizations can be taken as representations of a speaker’s knowledge (Carley and Palmquist 602). The clauses were coded using the following definitions:

· *Text* defines any reference to the text as a textual object. This category accounts for talk that described the text and its features. These references included talk about past or future versions of the text. They also included talk about the purpose of the text because discussions of purpose were often cited as evidence to support specific alterations to wording and formatting.

· *Process* defines any reference to the act of composing, past or present. The aim of this category was to find all references to the processes that shaped or would shape the text. Students often spoke about their texts in terms of what they did or planned to do. *Process* is here restricted to visible processes as well as those articulated in the tutoring session. The “writing process” in its entirety is far too complex to accurately code. Also included is discussion of strategies and specific actions taken in writing, as well as talk about writing resources (e.g. wizards, templates, guidebooks, etc.) used in the process.

· *Rhetorical Situation* defines any reference to the rhetorical situation into which the text fit. References to the local knowledge of the text’s composition, publication, audience or distribution were coded as *Rhetorical Situation*. In addition to these macro-level rhetorical considerations, references to the rhetorical relationship between parts of the text (e.g. “this paragraph introduces your first argument”) were also coded, as these comments are indirect indications of how the text will be used by the intended audience. Finally, references to an idealized form of the text (e.g. “as a proposal this text should clarify the problem”) were also coded as *Rhetorical Situation*.

· *Content* defines any reference to the meaning of the text. This category was meant to find those statements that focused on what the text says. Any comment about the meaning or accuracy of a text’s information was coded as *Content*.

The data were best analyzed in clausal form because clauses were large enough units to be clearly described as being a particular type of knowledge reference. Smaller data units were too ambiguous to code clearly and larger units were too broad to code distinctly. The analysis of clausal data is consistent with previous research using verbal data (see Haas, 1989; Flower and Hayes, 1980).

## Interchanges

To show when the participants of the study shared a common way of understanding and talking about the text, the clauses were aggregated into interchanges. An interchange is a unit of conversation beginning with the initiation of a topic, and continuing so long as that topic is referenced nominally or pronominally. When participants make knowledge references of the same type, within the same interchange, it is easier to make an argument that such references indicate a shared understanding of the text.

## Mediation Segments

To examine the mediating effect of tools (text and textual replay) on the ability of the participants to develop a shared understanding of the text, the interchanges were aggregated into mediation segments. Each segment designated a different focus of attention for the participants: on text or on textual replay. For instance, if in the first 10 interchanges the participants looked at and pointed to the text, those interchanges were collectively referred to as Segment 1 – Text Mediated. When the focus of attention shifted, a new segment began<sup>2</sup>. The following measures were used in the analysis of the data.

· *Level of Activity*: Henderson observed that when the engineers of different disciplines in her study were given inflexible objects to use, they would use them infrequently (464). The same effect is expected when participants use text (inflexible object). The number of interchanges and the number of clauses per interchange within a mediation segment will show if textual replays (flexible objects) are associated with more activity than text.

· *Level of Participation*: Henderson also observed that when work objects were flexible, the activity around them became more participatory and interactive compared to inflexible objects. An analysis of the average amount of speaker change per interchange in each mediation segment will indicate if more participation is associated with more flexible objects.

· *Level of Coordination*: One benefit of a tool is that it potentially enables one to share knowledge with others. To see shared experience, knowledge references will be tracked within interchanges. Coordinated referencing by both participants (references of the same type by each participant) will be taken as an indication of a shared understanding. Better coordination between participants on issues of text and process in textual replay mediated segments is expected. As textual issues are more often associated with a tutor's expertise and process with a writer's, coordinated discussion of this type of knowledge may indicate cross-disciplinary expertise sharing.

## Quantitative Analysis Activity

In the segments of the session mediated by the text, there are more interchanges (40) compared to the textual replay

mediated segments (35), indicating that with text there were more shifts in the subject of conversation.

There were also more clauses in the text mediated segments (244) compared to the textual replay mediated segments (206) showing that there was more conversation. However, the amount of conversation per interchange was, on average, lower in the text mediated segments (7.10 clauses per interchange) than in the textual replay mediated segments (8.72 clauses per interchange)<sup>3</sup>. When Rena and I were focused on the textual replay, it appears that we were more likely to speak at greater length about the topics. This finding suggests that both Rena and I found more to talk about, and that we were not content to let one person control the conversation.

## Participation

Though the differences appear slight, Table 1 shows a difference in speaker change between the mediation types favoring textual replay (2.69 per interchange) over text (2.03 per interchange).

<i>Mediation</i>	<i>Speaker Changes per Interchange</i>
<i>Text</i>	<i>2.03</i>
<i>Textual Replay</i>	<i>2.69</i>

*Table 1 – Participation across Mediation*

Textual replay mediation is associated with slightly better turn taking than with text mediation. Examined from another angle, the increase in speaker change is more prominent. Of the total number of speaker changes in the session (151), 54% occur in segments mediated by textual replay (81) and only 43% occur in those segments mediated by text (70). More frequent speaker change in the textual replay mediated segments suggests that both Rena and I were able to sustain conversation about the text. The finding also suggests that the knowledge referenced in the session was not treated as the exclusive expertise of one person, but was instead treated as a subject on which both could contribute. Together, increased activity and greater participation take on more prominence through an examination of the kinds of knowledge referenced.

## Coordinated Knowledge Referencing

It is clear from Table 2 that in the segments mediated by text, Rena and I made fewer knowledge references (i.e. references to “text,” “process,” “rhetorical situation,” or “content”) per interchange (9.05) compared to those segments mediated by textual replay (11.88).

<i>Mediation</i>	<i>Knowledge References per Interchange</i>
<i>Text</i>	9.05
<i>Textual Replay</i>	11.88

*Table 2 – Knowledge References per Interchange*

While the segments mediated by textual replay appear to be associated with greater knowledge referencing, it is important to see this figure in relation to the total amount of coordinated referencing. Rena and I were coordinated when we both referenced the same type of knowledge within a single interchange. An analysis of coordination revealed a pattern along mediational lines.

Of the total number of coordinated references within all interchanges (46), those segments mediated by textual replay accounted for more coordinated references (59%) than those mediated by text (41%). As the data in Table 3 show, each mediation is strongly associated with certain types of knowledge referencing. Those segments mediated by text are strongly associated with coordinated references to Content (60% of all coordinated Content references) and Rhetorical Situation (67% of all coordinated Rhetorical Situation references). However, the references to Rhetorical Situation and Content were so few as to overstate the importance of the finding<sup>4</sup>. Segments mediated by textual replay are associated with stronger coordinated referencing to Text (68% of all coordinated Text references) and Process (58% of all coordinated Process references). As predicted, textual replay was associated with greater coordination in discussion about text that crosses lines of expertise.

<i>Segments</i>	<i>Mediation</i>	<i>Content</i>	<i>Text</i>	<i>Rhetoric</i>	<i>Process</i>
2,4,6,8,10,12,14	<i>Text</i>	3	6	2	8
%		60%	32%	67%	42%
1,3,5,7,9,11,13	<i>Textual Replay</i>	2	13	1	11
%		40%	68%	33%	58%

*Table 3 – Coordinated Knowledge References across Mediation*

These foci on different types of knowledge references are similar to those found in other studies of mediation. Christina Haas, for instance, argues that when working with a text onscreen, students find it more difficult to “get a sense of their text” (185) and that they will do less work exploring, organizing, and elaborating than arranging text and deciding on wording (200-201). I too have found that the textual replay is associated with a focus on textual issues. However, unlike early research, the mediating artifact in this session is writing activity as opposed to another version of a static text, perhaps accounting for the strong number of coordinated references to Process. There are two points of significance in the findings summarized above.

The first finding is that Rena and I coordinated in a discussion of the text that crossed lines of attributed expertise. With textual replay, Rena and I coordinated in discussion about text issues – normally seen as the exclusive expertise of the tutors. In the same segments, we coordinated in discussion about process, which is more likely to be part of the writer’s expertise. With text mediation, Rena and I were more strongly coordinated on issues of content, which might normally be seen as the student’s discipline-specific expertise.

The second finding is that the types of knowledge references on which Rena and I were coordinated in textual replay indicate that the quality of that participation was especially well suited to the goals of writing centers and the canonical ideals of effective teacher response to student writing. I will explain by first setting these findings in the context of tool theory.

Henderson remarks that the engineers in her study were able to “move back from the weak structure of the layout drawing [inflexible object] to the strength of its building blocks, sketches [flexible object], to fill in the site-specific detail” (461). This observation suggests that people may combine uses of flexible and inflexible objects, make them speak to one another, and in doing so derive specific details on which they base future work. This activity appears to be paralleled in the tutoring session where Rena and I go back and forth between the text (inflexible object) and the textual replay (flexible object) coordinating our ways of thinking and speaking about the text in ways that reveal details to work on (revisions to the text).

This “interactive use of conscription devices” allows people of different disciplines to combine their expertise to accomplish a project (Henderson 461-462). Conscription devices represent a person’s expertise in terms of how it contributes to the common work goal, thereby coordinating that contribution with those of other experts who jointly use the same object. Though the textual replay appears to increase the flexibility of Rena’s text, allowing it to act as a conscription device, it is important to measure the value of textual replay in terms of how it can help produce better writers by allowing tutors to engage writers in a discussion of their texts. A crucial question is: What is the quality of response coming out of textual replay mediation?

Responding to writing is an evolving practice that has undergone much scrutiny over the past twenty years. Teachers of writing have concerned themselves with finding less antagonistic ways to respond to writing (Sommers 149-151) and to find new ways of understanding what students are trying to say through their writing (Brannon and Knoblauch 162-164) by creating opportunities for them to talk about their rhetorical motivations. What studies of response point to is the teacher’s need to understand what the writer was trying to do and to find evidence of that motivation in the text. When a teacher demonstrates an understanding of the writer’s intentions, the writer becomes more receptive to revision suggestions. That Rena and I coordinated in our discussion of text and process more often in textual replay mediation than in text only mediation (68% and 58%, respectively compared to 32% and 42%, respectively) suggests that we were able to sustain a conversation of these vital issues whereas under text mediation it was more difficult.

In the next section, I offer a narrative analysis of select portions of the tutoring session to illustrate how Rena and I moved between text and textual replay mediation and how these shifts were associated with changes in the way that we talked about the text. As the results on coordination suggest, each tool (text and textual replay) was associated with coordination on different types of knowledge about a text. As the earlier discussion of tools suggests, watching how a person uses a tool to accomplish a task creates an opportunity for two people to share the knowledge required for that task. Rena and I appeared to experience the same effect through our use of the available tools.

## Narrative Analysis

At first, Rena and I focused our attention on a textual replay and used it to discuss the purpose of the initial paragraph of her text. The discussion, while coordinated in the sense that both Rena and I were talking about features of the text, was not focused on the reasons for including the paragraph. Toward the end of the first textual replay mediated segment, Rena and I spoke about issues of content, but not in a coordinated way. After we switched our attention to the text in the next segment, we were coordinated in our discussion. By switching to content, we were able to establish the meaning of the paper, which was necessary before considering text and process issues.

Rena# . . . I don't like my using the word "money" in this.

Jason# Okay, that's interesting. So, you don't even think that that is really a good argument? You think that there are better issues. What better issues do you think can come out of this ... in ways that address the question?

Rena# I think performance is the most important thing,

Jason# Yeah

Rena# Because the topic itself is on performance and they're matching performance with money...and question performance and the education system.

Jason# Okay, so the reform of the educational system. So, that's interesting. So how did you use performance to address the issue of teachers being paid? Because the topic that they bring up is that people, teachers should not get paid if their students don't learn. How can you use performance to argue for or against that?

Throughout our session, Rena and I chose which tool to mediate our conversation. Realizing a need to establish content before moving to text and process issues, Rena and I chose a tool that best represented and afforded a discussion of content (see Norman 49). The words in a text are static, better affording discussion of what they mean as opposed to how they were selected.

After establishing a firm understanding of the argument, it was easier for me to share an understanding of Rena's writing process. As the textual replays showed how the text was built up, by revealing the activities that contributed to it, one might expect to find more coordination on issues of text and process in those segments. The segment excerpted below is typical of segments mediated by textual replay.

Jason# It is interesting that you are pausing here. What are you trying to figure out?

Rena# Uh-hmmm I'm thinking.

Jason# Are you looking for words, or are you ...?

Rena# Words ... how to start a paragraph. Like I knew that I'm going to write more about incentives and benefits ... that argument that I made in the first paragraph, but how to start the paragraph properly? How to start it as nicely as the other paragraphs?

Jason# I see, you want it to be linked up ... so it sounds like transition sentences are really something you want to work on. How do you see this as being related to the paragraph before it?

Rena# Like in the previous paragraph I'm talking about personal attention and more time for students ... Here I'm trying to say that they should be encouraged to do a better job.

Rena and I use the writing activity preserved in the textual replay to talk about her writing process and strategy for approaching the topic. I related her motivations to the actual words on the page, and then showed how the words and arrangement of topics were an enactment of the expertise that she wanted to demonstrate. Together, we engaged in a discussion of transitioning that was both rhetorical (tutor's expertise) and process oriented (student's expertise).

Jason# So you didn't feel like talking about benefits and incentives was clear that you ... why would you go there after talking about money? You didn't feel like these two were connected?

Rena# No, I thought that I need to put different thoughts on the issue, but they are related somehow, but I don't show the relation.

Jason# Oh, I see. You know that is probably why you are not comfortable with your transitions. That is what a transition does. It shows a relationship between different subtopics. Well, I'm glad you pointed that out . . . I mean that's what a transition is.

By jointly using the textual replay as a tool to talk about process and motivation, Rena shared my understanding of how her writing expertise was enacted in her writing. Through Rena's description of the motivations underlying the activity visible in the textual replay, I shared an experience of her rhetorical motivations for writing.

At this point in the conversation (segment 13 - *Textual Replay Mediated*), Rena and I concluded that we had different understandings of “transitioning.” By coordinating our different ways of understanding “transition,” in terms of its rhetorical function and the process for writing them effectively, Rena and I began to share an understanding of what her text should do.

One noticeable change in the session was that Rena and I switched between roles. I started by responding to Rena’s text as a reader, trying to understand what her text was saying to me. This role was supported by the text, which affords a response as a reader. The textual replays, on the other hand, afforded me a more facilitative role, allowing me to respond to the writing as a writer. Because the textual replay allowed me to come closer to understanding Rena’s motivations for writing, I was better able to help her produce effective writing for her intended audience.

## **Limitations and Suggestions - What to do about Tools**

While the data above do suggest that textual replays can be used to negotiate expertise and coordinate ways of understanding writing across disciplinary boundaries, there are clear limitations to this analysis and to the adaptability of such a technique to the writing center.

First, consider the limitations of the study. This is a case study of one student and one tutor. I do not yet have data that compares the session described above to one where the only mediation available is a text<sup>5</sup>. Though the analysis of references across the different segments of the session indicate patterns of coordination and participation that may be associated with different forms of mediation, comparative data is clearly needed. Additionally, as I was a participant, the results may be unduly influenced by my preconceptions about how the textual replays could be used. However, a more recent study of textual replay use, involving other participants, has shown identical patterns of activity, participation and coordinated knowledge referencing.

The second limitation of this study deals with the applicability of textual replay as a tutoring technique. Many review sessions in writing centers are tightly constrained by time. Students have about 30 minutes to meet with a tutor, talk about their writing and get specific revision suggestions. Us-

ing textual replay requires more time. The writer must record his or her writing before a tutoring session, and the actual review takes upwards of an hour to complete. This problem is partly technological, and it underscores the implicit theme of this paper: We should be considering the kinds of technological mediation that we would like to develop and introduce to the writing center to better facilitate its cross-disciplinary, multiliterate work.

My point has been to show that in writing centers where work is increasingly becoming multiliterate and cross-disciplinary, tutors need to consider issues of mediation to determine how the tools available to us can work for or against our efforts to share writing expertise across disciplinary boundaries. What I offer is a new way to think about writing center work as well as a way to conceive of a new generation of tutoring tools that take advantage of the socio-cognitive properties of technology that is increasingly becoming a fixture in the academic landscape.

## Notes

<sup>1</sup> A pseudonym.

<sup>2</sup> Mediation segments are all composed of complete interchanges.

<sup>3</sup> Many of the quantitative results reported here do not reach statistical significance. However, the descriptive statistics used to compare the two mediational technologies do show differences in the expected direction. These trends may reach statistical significance in a larger study.

<sup>4</sup> The fact that so few references to Rhetorical Situation occurred at all is interesting. In a related study, I tracked face-to-face segments in addition to those where participants were focused on text or textual replay. I found that segments where the participants spoke face to face accounted for a similar percentage of Rhetorical Situation knowledge references out of a much larger total. In the same study, a much larger number of coordinated Content references were associated strongly with text mediation.

<sup>5</sup> A comparative study is currently underway.

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