The Affordances of Multimodal Interaction Analysis
for Studying the Beginnings of Literacy

Deborah Wells Rowe
Peabody College, Vanderbilt University

September 2012
Abstract

This essay examines the affordances of Multimodal Interaction Analysis (MIA) for analyzing young children’s literacy learning in classroom settings. MIA systematically examines multiple communication modes including gesture, proxemices, layout of materials, body posture, head movement, gaze, handling of materials, and talk. Participants’ perceptions of high intensity modes are identified through analysis of their reactions to modal shifts, and this information is used as evidence for inferring participants’ moment-by-moment understandings of literacy events. Though talk is an important feature of literacy learning events, embodied, material, and spatial cues are sometimes foregrounded by participants, and need to be analyzed in order to develop more complete understandings of the ways children and their teachers make sense of the multiple semiotic modes that are always present in face-to-face interaction. MIA techniques provide more complete data for inferring what young children understand about writing at an age when they are unlikely to have the language and reflective capacity to explicitly explain their writing processes. MIA is illustrated through analysis of two patterns in young children’s emergent writing. The importance of analytic methods that operationalize literacy learning events as not only linguistic and textual, but also as embodied, material, and spatial is discussed.
The Affordances of Multimodal Interaction Analysis for Studying the Beginnings of Literacy

My goal in this essay is to make the case for analytic methods that operationalize literacy learning events as not only linguistic and textual, but also as embodied, material, and spatial. During the preschool years, children are learning to express themselves through talk, print, and images at the same time they are learning locally linked patterns of gesture, proxemics, posture, and head movements, and the social meanings of writing objects and spaces. Despite theoretical discussions of the importance of embodied, material, and spatial features of literacy learning (e.g., Gee, 2003; Goffman, 1974; Leander, 2002; Scollon & Scollon, 2004), early literacy researchers continue to focus most of their analytic attention on adult-child talk and on children’s texts. In this essay, I argue that while talk and texts are important in early literacy learning events, they are not the only modes of meaning-making, and in some cases not even the most important ones. In fact, analyses that privilege talk and text can lead researchers to conclusions that are, at best, a partial fit for the data.

Multimodal Interaction Analysis (MIA) (Norris, 2004) is an analytic approach that has been useful in revealing patterns in the ways young children foreground and background the multiple cue systems that operate in early literacy events. A form of Mediated Discourse Analysis (Scollon & Scollon, 2004), MIA privileges neither discourse (talk) or social action, but instead:

“sees discourse as one of many available tools with which people take action. [MIA] provides a way of understanding how all of the objects and all of the language and all of the actions taken with these various mediational means intersect at a nexus of multiple social practices and the trajectories of multiple histories and storylines . . .” (Jones & Norris, 2005, p. 4)
Multimodal Interaction Analysis systematically examines multiple communication modes as cues to meaning rather than privileging language as the primary mode (Norris, 2004). The goal is to identify which modal features of literacy events children attend to, and also to document which cues are taken up, challenged, or ignored by other participants. In short, the output of MIA is a fine-grained view of the ways young writers act and react to people, objects, and spaces in literacy events. Multimodal analysis provides data that can support the formation of grounded hypotheses about children’s unconventional approaches to writing and reading at an age when they are unlikely to have the language and reflective capacity to explicitly explain their literacy activities. MIA techniques provide more complete data for inferring what young children understand about literacy. In this essay, I illustrate this point with two patterns in young children’s writing that were not easily understood through the analysis of talk and texts alone.

**Multimodal Interaction Analysis: Guiding Principles**

Multimodal interaction analysis brings together a wide range of tools for examining the multiple communication modes that are part of writing events. Methods of analysis draw on the extensive work done in each of the following areas:

- **talk**: sociolinguistic analysis of talk (e.g., Bloome, Carter, Christian, Otto, & Shuart-Faris, 2005; Bloome & Egan-Robertson, 1993; Gee, 1999)
- **gesture**: pointing, beat gestures, and other deliberately expressive moments (e.g., Clark, 2003; Goodwin, 2003; Kendon & Versante, 2003; McNeill, 1992)
• body posture: the ways people position their bodies in open versus closed postures; directionality in relation to people and objects (e.g., Kendon, 1990, 1992; Norris, 2004)

• head movement: open/closed positions; head moves to facilitate gaze (e.g., Altorfer et al., 2000)

• proxemics: the distance people take up with respect to others and relevant objects (e.g., Hall, 1966; Kendon, 1990)

• gaze: sequential gaze during a conversation, or arbitrary gaze to a random part of the environment while focusing attention on another mode (e.g., Goodwin, 1981)

• layout of space and materials: arrangement of objects in space, (e.g., Lefebvre, 1991; Soja, 1996)

• ways of handling materials: expected patterns of handling objects (e.g., Goffman, 1974; Scollon & Scollon, 2003); placing objects in meaningful locations in space, (e.g., Clark, 2003)

• print and other material texts: analysis of young children’s emergent reading and writing performances (e.g., Dyson, 1986; Pahl & Rowsell, 2010; Rowe, 1994; Sulzby, 1985)

• images: young children’s emergent reading and composing of images (e.g., Kress, 1997; Kress & Van Leeuwen, 2006)

As this brief overview suggests, human interaction is incredibly complex. Multiple communication modes operate simultaneously, and the significance and primacy of each mode is co-constructed in interaction rather than being given a priori. In the
sections that follow, I discuss five key observations about the multimodality of face-to-face interaction on which MIA is based (Norris, 2004), then propose a set of research questions that grow from these perspectives. I argue that these research questions form the basis for detailed analysis of multimodality in early literacy learning events.

**Modal Intensity**

In interaction, at any given moment, communicative modes have differing intensities for each actor. A mode is considered to have high intensity if it structures the event in such a way that eliminating or changing it significantly alters the interaction underway (Norris, 2004). Actors attend most strongly to high intensity modes of communication. For example, in writing events, the page often has high modal intensity, since the event would be something else entirely without attention to marks on paper. However, even in these events, participants do not foreground print at every moment. Instead, at some junctures, gesture or spatial arrangement of materials may have higher modal intensity, and at these points these modes play key roles in participants’ understandings of composing events. Research analyzing modal intensity addresses questions such as: Which modes are most important (i.e., of highest intensity) for understanding children and teachers’ participation in this event? Are there modes that are especially important for understanding particular patterns in interaction? What modes are participants attending to? What modes are participants reacting to?

**Interactional Perception**

Participants in social interaction do not attend to all communication modes at once. Norris (2004) notes that modes are not continuously expressed, but instead, have rest periods or pauses that precede and follow activity in the mode. For example,
gestures are not continuous, but instead start and end from a rest position. Even talk is discontinuous, as it is segmented by in-breaths. This allows participants to perceive modal cues in quick succession by focusing on a small amount of information then quickly shifting focus to other modes. As a result, attention is drawn to a mode at points when there is a shift in activity in that mode, and these modal shifts are prime locations for observing the modalities to which participants attend. For example, in classroom writing events, children may initially foreground talk, but shift attention to the physical act of mark-making as adults use gesture to point to the page. An important source of evidence about participants’ understandings of events are their observed reactions to modal shifts. Research analyzing participants’ interactional perceptions focuses on questions such as: Where are there shifts in each communication mode? Who initiates them? How do participants react to modal shifts?

**Personal Interest and Interactional History**

Participants may experience the same event differently because of differences in personal interests and interactional history (Kress, 1997; Rowe & Neitzel, 2010). MIA makes it possible to determine whether several participants’ perceptions of modal intensity, the modes that are highlighted for the most attention, are synchronous or asynchronous. This assumption is particularly important for the study of emergent literacy since adults and young children come to events with very different histories and purposes. For example, while playing a game of sending and receiving mail messages, adults foreground the messages sent through print. Young children, on the other hand, sometimes gave blank pieces of paper to the adult as their turn, having foregrounded the physical movement of materials between participants rather than the print (Rowe, 2008b).
Moment by moment tracking of the modes perceived by adults and children as having high intensity provides evidence of the ways each participant is constructing meaning from the interaction. Analysis of modal intensity provides a basis for understanding children’s unconventional writing processes and the guided participation practices used by adults (Rogoff, 2003; Rogoff, Mistry, Goncu, & Mosier, 1993). Over time, such analyses provide a means of observing the extent to which children learn local expectations for modal intensity as they participate in literacy learning events. Research exploring links between personal interest and participants’ understanding of multimodal cues focuses on questions such as: How are perceptions of high intensity modes related to each participants’ interests and histories of interaction in events of this kind? How are children learning culturally expected ways of foregrounding modes as part of locally constructed cultural models for literacy events?

**Sedimented/”frozen” Actions**

It is not only embodied modes such as talk, gesture, and posture that structure writing events. Norris (2004) argues that objects, spatial layout, images, and texts function as “disembodied modes” that signify through “frozen actions” that occurred at a time prior to the event. For example, when teachers place paper and markers on open shelves near the writing table, children’s participation in writing is structured by these actions—despite the fact that they occurred prior to the event. Other researchers have made similar observations about the powerful role of objects and places in structuring interactions. Rowsell and Pahl (2007), for example, have demonstrated that children’s texts contain the sedimented identities of the authors and others in their family networks. Similarly, Brandt & Clinton’s (2002) analyses have shown how literacy objects and
spaces shape events in ways that reflect the ideological views of the persons who
sponsored and arranged for their presence. In short, materials and spatial layout play
active roles in the social construction of interaction (Lefebvre, 1991; Soja, 1989).
Analyses of material and spatial features of learning-to-write events focus on questions
such as: What objects, spaces, and texts are seen by adult and child participants as
relevant to this moment in interaction? How do sedimented/”frozen” actions inherent in
objects and spaces affect ongoing interactions?

**Backgrounded Communication Modes**

While participants consciously attend to high intensity communication modes,
some important modes function below the level of consciousness, rising to direct
attention only occasionally. This is especially true for proxemics and posture. Proxemics
may only be noted at the beginning of an interaction. After person-distance relationships
are established, proxemic cues are backgrounded, but continue to structure the event
(Norris, 2004). Similarly, postural cues may operate below the level of consciousness,
but still play a key role in establishing social relationships and roles for young writers.
For example, children entering classroom writing events may initially foreground
proxemic cues, using physical spacing and arrangement of people and materials as cues
to the social roles available to them. Proxemic cues then continue in the background until
the positions of people or materials change. Analyses exploring backgrounded modes are
guided by questions such as: What backgrounded modes have important structuring
influences on interactions?

**Summary.** Multimodal Interaction Analysis provides a lens for analyzing how
children and their teachers make sense of the multiple semiotic modes that are always
present in face-to-face interaction. Theoretically, MIA conceptualizes modal intensity as a sociocultural construction based in local events, but also shaped by participants’ personal histories and interests. From a research perspective, these ideas are operationalized through microanalyses aimed at recording observable cues to the ways that participants foreground and background a variety of meaning-making modes. To this end, MIA brings together analytic techniques developed across a number of disciplines, and that provide a more complete view of young children’s literacy learning than can be obtained from analysis of talk or text alone.

**Multimodal Interaction Analysis and the Study of Young Children’s Writing: Two Examples**

In the sections that follow, I provide two examples of the use of MIA to analyze patterns in early literacy performances that were not easily understood through analysis of talk and texts alone. Analyses were conducted as part of the Write Start! Project (Rowe & Neitzel, 2010) – a three year longitudinal study of the ways 2- to 5-year-olds participated in writing events in preschool classrooms located in two urban childcare centers in low-income neighborhoods. In the classrooms, I and research assistants collected qualitative data through participant observation and video recordings of interactions at the classroom writing centers. In addition, in the fall and spring of each school year, we videotaped the children’s writing in response to three individually administered tasks, collectively called the Write Start! Writing Assessment (Rowe & Neitzel, 2008). In all, 121 children between the ages of 2 and 5 years old were assessed over the three years. Since drawing and labeling pictures and photographs was a frequent activity at the writing table, we asked children to draw a picture of themselves, write their
names, and write a caption for a photograph showing them playing at school. Researchers followed standard protocols for three tasks that were designed to provide increasing amounts of adult scaffolding. In the examples that follow, I focus on data collected in a photo labeling task where children were told that they and the adult were going to make pages for a class book. The adult showed the child a photo of herself doing a familiar activity like reading a book. She engaged the child in conversation about the photo, then wrote a caption for her photo, reading the message aloud as she wrote. Next children were given their own photo pages, engaged in conversation about the play activity underway in the photo, then invited to write about their photo, read the marks, then add their names at the top of their pages. The pages were then slipped into the plastic sleeve of a class book that was later added to the class book center.

To illustrate the potentials of Multimodal Interaction Analysis, I turn to two anomalous patterns in the photo labeling data. Both of the examples were drawn from analysis of the youngest children’s responses to the Write Start! photo labeling task. Because my research assistant and I had each been participant/observers in the children’s classrooms for 1-2 days per week across the school year, we knew the children well. This allowed us to conduct the Write Start! photo labeling task as an extension of our usual interactions with children in the classroom.

**Anomaly #1: Circling and Marking on Photos**

There has been considerable work describing the unconventional forms of marks that young children use for writing (e.g., Clay, 1975; Harste, Woodward, & Burke, 1984; Martens, 1996; Rowe, 2008a). In general, my own research (Rowe, 2008b) and that of others, has described a progression in which the youngest children’s scribbles move to
increasingly more sophisticated forms that display print features such as units, linearity, and left to right directionality. This work had led me to expect that many 2-year-old writers would produce unorganized, overlapping marks that are sometimes called “scribbles.” Matthews’ (1984, 1999) research on children’s first explorations with mark making identified three types of scribbling motions he labeled push-pull, horizontal arc, and bang dots. Indeed, some 2-year-olds in the Write Start! study produced such products using these movements in overlapping and relatively unorganized fashion to generate “scribbles” as seen in Figure 1. Others produced scribble units (Figure 2) or stroke units (Figure 3) each showing increased awareness and attention to print units, linearity, and directional patterns. For all children tested between 2 years 6 months and 2 years 11 months of age, 30% produced some kind of scribble, 25% percent produced scribble units, 25% produced stroke units, and 20% produced print-like writing forms such as personal manuscript or personal cursive (Harste, et al., 1984) (See Figure 4).

These patterns were expected. However, the pattern of marks seen in Figures 5 through 8 was not. In the fall, when children in the 2-year-olds’ classrooms were asked to write about their photographs, 69% (18 of 26 children) created the circling pattern seen in Figures 5 and 6. When the Write Start! photo labeling task was repeated in the Spring, 54% of these children 12 of 22 children), now older 2’s and young 3-year-olds responded with this circling pattern. In addition, children used a similar circling pattern to respond to other Write Start! Assessment tasks as seen in the circling of print on the adult’s demonstration page (Figure 7) and by the circles a child drew around his own self-portrait (Figure 8.) When I examined data collected composed outside of the assessment context at the classroom writing centers, I found other instances of these circling patterns, as
well. While this response was quite frequent for the youngest writers, 4-year-olds enrolled at the same childcare centers produced circling responses only about 15% of the time in both the fall and spring.

A second unexpected and often related response, writing on the photograph, is also seen in Figure 5 where LaTerell has marked on the photo to circle his head, and then colored over the portion of the photo showing the block he is holding in his hand. Overall, 35% of children enrolled in the 2-year-olds’ class (9 of 26 children) drew on their photos in the fall, and 41% (9 of 22 children) produced this response in the spring. Four-year olds at the same childcare centers produced no such responses in the fall and only 1 child marked on his photo in the spring.

These two marking patterns were striking, both because of their frequency and because, from my perspective, they were unexpected. While the circle texts seen in Figures 5 through 8 did not clearly display print features, they also did not display the random, overlapping marks seen in scribbling (cf., Figure 1). Children produced the circling marks with intentional relations to the other marks and the photo on the page – something not seen in true scribbles.

Likewise, when children drew on the photo, they did so intentionally and persisted in spite of adults’ gentle verbal redirection to write in the white space. Given the frequency of the response, it seemed important to understand why young children approached writing in this way.

**Multimodal interaction analysis of circling and drawing on the photo.**

Following in the tradition of language-centered analyses of young children’s writing, I first analyzed adult-child talk in each of the Write Start! photo labeling events where
children produced circles or drew on the photo. Transcription of talk showed that I and
my research assistant had followed the semi-structured protocol for writing a label for our
own photo page, then for inviting children to write a caption for their picture.

Interspersed with informal conversation and encouragement to write, we used the
following prompts to invite children to produce their own labeled photo page:

1. “Now I want you to write a page that tells about your picture.”
2. “What do you want to write about that picture?”
3. “What are you doing in the picture?”
4. “Why don’t you write about that? What don’t you write [suggest
message]?"
5. When the child appeared to be finished, we tapped the marks on
his/her paper with our fingers and said: “Read it to me. What does it
say?”

Analysis of talk showed no evidence that children were reacting to adult talk as cues
when they produced circling patterns or drew on top of their photos. Instead, analyses
showed that adults verbally attempted to redirect children’s writing away from the photo
into the white space with some consistency. (See Appendix A: Turn 15 for an excerpt of
the multimodal transcript recording interaction between LaTerell and me around the
production of the photo page seen in Figure 4.) Discourse analysis alone provided few
clues to children’s intentions for circling and coloring top of the photos.

As a next phase of analysis, I returned to the video recordings to create a
multimodal transcript that included not only talk, but also descriptions of changes in
gesture, gaze, and mark-making. For the latter, I noted the sequence, timing, and position
of each mark on the child’s text, and referenced the marks by number in the multimodal transcript. (See Appendix A, Figure A1 for an example.) Videos were watched with sound, and again with the sound turned off, so that it was easier to focus on embodied modes of interaction. In the course of these analyses, I noticed that pointing to the page, touching the page, and positioning the page on the table were frequent modes of communication for both children and adults. Pointing and placing moves marked important shifts in activity. Talk was often an elaboration of meanings already expressed through gesture.

While adults never made marks as part of their pointing gestures, they often placed the page strategically in front of the child as a means of orienting the child’s attention (Appendix A, Turn 3) and of indicating the page as the focal point of the writing/reading activity. Adults used an iconic “moving point” that demonstrated the location and the left to right directional path intended for the child’s writing (Appendix A, Turns 9 and 18). Especially when children produced unconventional circling responses, or otherwise strayed from adult expectations, adults used quick touches of the page as a means of drawing the child’s attention and of emphasizing the expected ways and locations for activity. Gesture was frequently a high intensity mode of communication for adults.

Children also used pointing to express meaning and orient adult attention to the portion of the photo or marks they wanted to discuss (Appendix A, Turn 5). Further, children’s circling and photo coloring often appeared to be tied to pointing gestures. Children sometimes silently used the circling or photo coloring marks as their response to my requests to write about their photo or to read their marks. Other times, children linked
pointing gestures to talk as LaTerell did in the Figure 1 event when he commented, “I circle my head” (Appendix A, Turn 13) as he drew the circle around his head on the photo. Using MIA, I generated the hypothesis that when children were asked to write about their picture, or to read what they had written, they sometimes relied on “pointing with a pen” to record the focus of their attention (e.g., the visual boundaries of their gaze, rather than what their marks “said”). As they pointed with marker in hand, they purposefully used it to leave a trace of their gestures. Overall, by redirecting attention to shifts between gesture, pointing, placing, marking, and talk, Multimodal Interaction Analysis provided evidence to support the grounded hypothesis that some 2-year-olds approached writing as a deictic activity. These young writers made marks to indicate the focus of their attention, either globally by encircling the entire focus of their gaze, or somewhat more specifically by coloring over specific parts of the display on the page. Though beyond the scope of the current discussion, this hypothesis was supported by research on young children’s use of pointing to reorient the attention of others so that an object becomes the focus of joint attention (Butterworth, 2003). MIA supported the idea that the youngest writers in the Write Start! study were adapting well-developed pointing skills to support their participation in writing at a time when their ability to communicate in print was also limited.

**The affordances of MIA.** This analysis of children’s initial approaches to writing demonstrates some of the special affordances of MIA for the study of early literacy learning. Multimodal interaction analyses highlighted the leading role of gesture in these early childhood writing events. Gesture served as a high intensity mode of participation for many of the youngest writers in this study. For these children, writing
appeared to be an extension of embodied activity (i.e., pointing), rather than an iconic representation resembling an object (i.e., drawing) or a symbolic representation of talk (i.e. print) as I initially expected. In fact, analysis of talk alone failed to explain mark-making patterns that were clearly intentional and occurred with some regularity. It was only when multimodal transcription linked gesture, talk, marks, and images that it was possible to see gesture (pointing) as the high intensity mode that structured other modes in these early childhood writing events.

These analyses demonstrate the importance of describing the communication modes that are of high intensity for child participants even though these modes may be asynchronous with conventional practices of adults participating in or observing the same event. In short, multimodal analysis provides a more complex and nuanced description of the ways children do writing—how they act and react to people, materials, and spaces. MIA provides powerful evidence for understanding the child’s perception and use of the variety of modal cues that are constantly available in all writing events.

Anomaly #2: Cues for Co-authoring Versus Individual Authoring

As I started to closely analyze the videos of the Write Start! tasks where the circle texts were created, I was not only struck by the central role of pointing for children, but also for adults. Though the assessment tasks were purposefully designed with different amounts of adult scaffolding, initially there were no plans to analyze either the interactions or the texts created during the adult’s demonstrations. However, as I closely analyzed children’s participation, I noticed that most of the 2- and 3-year olds I worked with had chosen to write on my demonstration page, essentially creating a co-authored product. Figure 7 shows the product that Reegan and I produced as part of my
demonstration. These demonstration pages were created in front of the children just prior to inviting them to write their own page. The intent was to provide a moderate level of scaffolding for children’s writing by giving them an opportunity to see an adult complete a similar task. The administration protocol for the adult demonstration read as follows:

1. Tell the child you want him/her to make another page for the book, and that you are going to make a page for the book, also. Look at one or two pages already in the book (as appropriate with time constraints). Read the other children’s pages.

2. Demonstration: Tell the child that you are going to make a page for the book with your photo. Think aloud about what to write. (e.g., “let’s see . . I’m playing blocks with LaKeesha. I really like that tower we built. I’m going to write about that. I’m going to write: ‘I am playing with blocks.’”) Read your message aloud slowly as you write the words. Then run your finger under your message as you read it again. Say, “I wrote [read your message.]”

Implicit in these administration directions was the assumption that children would observe the adult demonstration. However, beyond that, no specific directions were given about children’s activities during the demonstrations. As I analyzed the demonstration events, I noticed that some of the most interesting child writing behaviors occurred as they joined in the writing on my demonstration page. To explore a wider array of adult-child co-authoring interactions, I turned to the assessment events conducted by my research assistant with similar age students. Surprisingly, my initial scan of the videos showed that though she followed the same verbal protocol, none of the 13 photo labeling demonstrations she conducted with 2-year-olds resulted in co-authoring.
Hypotheses that might explain this phenomenon were developed, checked against the data, and eventually proven incorrect. Perhaps there was a difference in children’s physical access to markers. Perhaps other researchers conducting the assessments had only made makers available after children were invited to write on their own pages. However, analysis of the material layout showed that, whether the child wrote with me or another member of the research team, the markers sat in a caddy in easy reach of the child writer. I wondered if my talk invited co-authoring in a way that was different from my research assistant. However, analysis of transcripts of talk showed that we invited children to write in a similar way, guided by the task protocol. Analysis of the informal talk used to introduce the photo labeling task showed that, unlike me, my research assistant had frequently used first person plural in her talk: “We’re going to make a book.” “We’re going to write a page for the book.” – a surface structure that could be interpreted as an invitation to co-authoring. Nevertheless, it was only in my photo labeling events where children took up the role of co-author on the adult’s demonstration pages.

**Multimodal interaction analysis of co-authored and individual writing responses.** To investigate this second anomaly, I turned again to Multimodal Interaction Analysis, first transcribing talk, and then returning to the video for clues as to what other communication modes held high intensity for children and adults. As in the previous example, I examined the video for shifts in communication modes and participants’ reactions to them. Again, pointing and placing appeared to be consciously used by both adults and children to indicate and direct participants’ attention. However, it was posture and proxemics that seemed to differentiate the demonstration events that invited co-
authoring from those that resulted in individual texts. Children visibly reacted to shifts in adult posture and proxemics as cues to available authoring roles. Below, I illustrate how MIA’s broader analytic lens revealed how subtle proxemic and postural cues shaped the social roles offered to children during writing events.

Figure 9 shows the typical layout of materials, body postures, and proxemic cues in the writing events I conducted, and where children joined me as co-author on my demonstration pages. As seen in the photo, Reegan and I sat side by side, at a close, intimate distance with arms touching. Markers were placed on the table near the child’s left arm. The midlines of our bodies defined personal work zones on the table with an overlap of shared workspace between us. Analysis of proxemic cues and layout shows that I typically placed the book in the shared workspace between me and the child writer - - a cue read by children as an indication that they could access the page and contribute as co-authors. From these analyses I concluded that layout, proxemics, and touch were high intensity cues used to gain Reegan’s attention and to define the page as an object for collaborative reading and writing.

Further, Figure 10 shows how body posture provided high intensity cues to social engagement in these demonstration events. In this postural arrangement, the child and I oriented our torsos so they were open and directed toward the page and each other. We leaned toward each other and over the page, cues both of us interpreted as defining our roles as co-readers and co-writers. In was through the modes of proxemics, posture, and handling of objects, rather than through talk, that children learned what social roles were open to them.
When my Write Start! photo labeling sessions are contrasted to those conducted by my research assistant, Jessica Waugh, it is clear that subtle differences in these cue systems can send powerful messages about what roles children are being invited to take up. Though both of us used talk to invite children to make a book and then demonstrated writing a caption on our photo page, the material and embodied features of our interactions were quite different. As seen in Figure 11, instead of placing the class book in the shared work space to invite joint reading, Waugh quickly held the book above the table in front of her own body – a space not easily accessible to Shakala, the child writer. The book was angled to allow a quick gaze, rather than touching or joint reading of the images. When my research assistant began her demonstration page (Figure 12), she laid her photo page in Shakala’s work space – a move that Shakala seemed inclined to interpret as an invitation to co-author. As Shakala discussed the photo with Waugh, she pointed to it with the tip of her marker. When she seemed poised to write, Waugh gently nudged her hand up and away from the page, without any verbal comment. Shakala read the cues from Waugh’s touch by sitting up, capping her marker, and putting it in the caddy. She then watched as Waugh completed the demonstration text. As seen in Figure 13, Shakala took up her marker again when Waugh put her photo page in the personal work space in front of her body. It was through proxemics, layout, and placing cues that Shakala learned that the adult’s page represented an individual authoring event. Once Shakala began writing on her own page, Waugh maintained a mostly upright posture with some distance between their bodies. Her torso was angled more toward the table than to Shakala, and her left arm was often held in the closed position across her lap. Through talk, Waugh provided cues that she was monitoring Shakala’s writing, but
it was through layout, proxemic, and postural cues that Shakala learned that she was expected to work on her page individually. Backgrounded postural and proxemic cues defined this event as a writing performance for an interested adult.

**The affordances of MIA.** Figure 14 provides a side-by-side contrast of the layout, proxemic, and placing cues used in events generating co-authored texts versus those that produced individual writing responses. These analyses demonstrate the importance of analyzing embodied and material cues to meaning in literacy learning events. While there has been increased attention by literacy researchers to the impact of adult talk on children’s literacy learning (e.g., the sophistication of vocabulary and conceptual richness (Dickinson, Darrow, & Tinubu, 2008)), it is clear children also construct meanings about early childhood writing through their bodies and the classroom geography. Proxemics, posture and layout provide high intensity cues that are constantly being read and negotiated by participants in preschool writing events. In the Write Start! study, proxemics and layout were particularly powerful in shaping preschool children’s access to different kinds of authoring roles and different kinds of collaborations with adults. These social expectations usually were unvoiced by adults. Though as adult researchers, we consciously arranged the layout of space and writing materials, we were less conscious of our own desires and expectations for child roles during writing events. The same is likely to be true of other adults as well. Analysis of embodied and spatial features of events can help researchers describe important features of adults’ personal and cultural models for literacy learning.

**Summing Up:**
A Call for a 21st Century Approach to the Analysis of Children’s Literacy Learning

Classroom-based literacy research has naturally been affected by the affordances, cost, and availability of the technologies for recording human interaction. In the late Twentieth Century, the availability of inexpensive and easily portable audiotape recorders helped to push sociolinguistic analysis of talk to the forefront of studies of children’s learning in homes and classrooms. Though researchers now have easy access to video and digital photography of learning events, too often we continue to approach Twenty-first Century video data with a Twentieth Century mindset. Too often, data showing visual, spatial, and embodied ways of meaning making go unanalyzed while researchers focus on the audio channel alone. In this essay, I have made the case that there is much we will never understand about young children’s literacy learning by relying exclusively on language-based analyses of literacy events.

Children and adults draw on their cultural understandings of a variety of modes of communication to negotiate the meaning of writing and reading events. Though as a field we’ve often privileged language as the primary mode in such events, my analyses suggest that these events are what they are because they are embodied as well as linguistic. The primacy of language fluctuates from moment to moment across an event. Part of becoming a member of a Discourse community is learning how members use, perceive, foreground and background multimodal modes of communication in different kinds of events. For young children and the adults who work with them, writing is very much an embodied and spatial accomplishment. The multiple coding of meaning across a variety of complexly intertwined modes supports young literacy learners and gives them multiple
entry points to the social meanings of the group. Postural, proxemic, and layout cues appear to be especially important in establishing the social roles children are expected to take up in writing events, while pointing establishes joint attention to specific communication modes and/or specific spaces and objects. Adults’ gestures (e.g., “moving points”) illustrate how writing proceeds directionally in space as well as in temporal match to speech. Placing and repositioning of objects are often preparatory moves indicating what is supposed to happen next in the event. The spatial arrangements of materials and furniture affect the accessibility of writing materials and differentially afford opportunities for body-body and body-material arrangements.

We now have the technology to record spatial and embodied features of everyday events in our pockets. Smart phones have more powerful video capability than the VHS camcorders used by researchers in the 1980’s and 1990s. Researchers would do well to look carefully at the research possibilities that are available through rapidly developing digital technologies. Indeed, some researchers are using GPS and other newer technologies to study an even broader view of learning geographies than the ones made visible in this paper (Leander, Phillips, & Taylor, 2010). Literacy learning is a complex multimodal enterprise. Our challenge as researchers is to take this seriously, and to more fully utilize available technologies and multimodal analysis techniques to leverage our understandings of the social construction of literacy.
Figure 1

Figure Caption: Scribbles

I/am writing and drawing.
Figure 2

Figure Caption: Scribble Units

I am sliding.
Figure 3

Figure Caption: Stroke units

I am washing dishes.
Figure 4
Figure Caption: Personal Manuscript
Figure 5

Figure Caption: LaTarell’s Photo Page: Circling and Drawing on the Photo
Figure 6

Figure Caption: Reegan’s Photo Page: Circling the Photo

I am making a car.
Figure 7

Figure Caption: Circling Print on an Adult Demonstration Page
Figure 8:

Figure Caption: Circling a Self Portrait

This is De’Kain.
Figure 9

Figure Caption: High Intensity Modes: Layout, Proxemic, and Placing Cues in a Co-authoring Event

The book’s midline bisects the shared work space.
Figure 10

Figure Caption: Postural Cues in a Co-authoring Event
Figure 11

Figure Caption: Handling Materials in an Individual Authoring Event
Figure 12

Figure Caption: Asynchronous Perceptions in an Individual Authoring Event
Figure 13

Figure Caption: High Intensity Modes: Layout, Proxemic, and Placing Cues in an Individual Authoring Event

Materials are placed in individual work spaces.
Figure 14

Figure Caption: Comparison of Layout, Posture, and Proxemic Cues in Co-Authored and Individual Writing Events

- Class book is open and placed in shared workspace.
- The page for writing is placed in shared workspace.
- Both adult and child touch the page.
- Body and arm positions are open to other participant.
- Distances are close and intimate.
References


