A Multimodal Analysis of Teacher-Student Interactions in Reading Recovery Writing Sessions

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A MULTIMODAL ANALYSIS OF TEACHER-STUDENT INTERACTIONS IN READING RECOVERY WRITING SESSIONS

By

CINDY HISAKO FUJIMOTO

Under the Direction of Dr. Peggy Albers

ABSTRACT

The day-to-day use of language and social actions in the classroom represents different modes of communication and are used as tools to negotiate the academic demands of the curriculum (Bodrova & Leong, 2007; Vygotsky, 1986). Teachers and students rely on verbal and nonverbal modes of communication to navigate teaching and learning in the classroom (Johnston, 2004; Lose, 2008; Mercer, 2008). Thus, a range of communicative interactions were examined through the lens of sociocultural theory within a worldview of constructivism as teachers and children engaged in learning. The purpose of this study was to identify the modes through which teachers and students communicated and interacted to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson. The following questions guided the research:

• What modes do teachers and students use to communicate in the writing portion of Reading Recovery lessons?
• To what extent do teachers and students read, interpret, and understand each other’s modal interactions in the writing portion of Reading Recovery lessons?

• What modal adjustments do teachers make to scaffold and adapt instruction for student learning?

This qualitative multi-case study design (Yin, 2014) investigated different modes of communication used with Reading Recovery teachers and their respective students in a one-on-one instructional setting focused on writing. Data collection included field notes, audio/video recordings, student work samples, and the researcher’s journal. Data was analyzed using multimodal interaction analysis (Norris, 2004) along with Navarro (2008) who also studies body language. The study found literacy learning involves a complex set of communicative practices and Reading Recovery teachers and students used a range of modes to communicate and respond to each other in the writing portion of the lesson. These modal responses foster or inhibit the co-construction of meaning in teaching and learning. This study adds to the literature that considers interactional and social dimensions of learning for students who struggle with some aspect of literacy learning thus preventing literacy failure and referral to special education.

INDEX WORDS: Multimodal interaction analysis, modal responses, Reading Recovery, communicative interactions, communicative practices, writing, multimodality.
A MULTIMODAL ANALYSIS OF TEACHER-STUDENT INTERACTIONS IN READING RECOVERY WRITING SESSIONS

by

CINDY HISAKO FUJIMOTO

A Dissertation
Presented in Partial Fulfillment of Requirements for the

Degree of

Doctor of Philosophy

in

Language and Literacy

in

Middle and Secondary Education Department

in

the College of Education & Human Development

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2020
DEDICATION

I dedicate this dissertation to the teachers in my life who helped me become who I am today. First, I dedicate this to my parents, Yoshio and Yoshiko Fujimoto, who were my first teachers. They set the foundation that established my love of learning, ongoing perseverance, stubbornness to figure it out, and to always reach for the stars. Second, I dedicate this to all the teachers and professors I have had since kindergarten until now. Each one has taught me more than just learning the curriculum, but more importantly how knowledge informs my view of the world and my life choices. I also, dedicate this to my fiancé, Art, and my two sisters, Debbie and Sonia, for their unfaltering moral support. They have always believed in me and knew I could see this through. Last, but not least, I dedicate this to my sweet dog Parker. He was there for me when I started this endeavor and supported me in this process over the years. I miss him dearly now that he is gone.
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CHAPTER ONE
INTRODUCTION

This study sought to understand the phenomenon of how teachers use multiple modes of communication to support student learning. The purpose of the study was to explore what can be learned from examining how teachers and students drew upon dialogue and physical actions to transmit messages around teaching and learning in the one-on-one instructional space of a Reading Recovery writing lesson. Reading Recovery is a short term (12-20 week) literacy intervention for first grade students who are having difficulty with literacy learning (Clay, 2005, 2007). A close examination of teacher-student interactions, as this study suggests, may inform how Reading Recovery teachers make decisions about when and how to respond to their students as well as what adjustments they make to scaffold and adapt the instruction for students. It is anticipated the knowledge that was generated from this study will inspire educators to consider the multimodal, interactional, and social dimensions of learning when teachers engage with students who are having difficulty with literacy learning, thus preventing literacy failure and referral to special education. This research used qualitative multi-case study methodology (Yin, 2014). Data was examined through the lens of multimodal interaction analysis (Norris, 2004; Norris & Jones, 2005; Scollon, 2001). Participants of this study were recruited using purposeful criterion sampling (Bloomberg & Volpe, 2012; Merriam, 1998) from a group of trained Reading Recovery teachers and their respective students.

This chapter begins with an overview of the background and context that frames the study followed by a discussion of issues addressed in the study. Also, included in the chapter is the statement of purpose, research questions proposed for the inquiry, and the theoretical perspective that guides the study. The chapter concludes with a discussion of the proposed
rationale and significance of the study as well as key definitions and terminology used in the context of the study.

**Background and Context**

In spite of evidence that suggests it is possible to substantially reduce the number of children classified as learning disabled in literacy (Allington, 2001; Clay, 1987; Johnston, 2011; Mathes, Denton, Fletcher, Anthony, Francis, & Schatschneider, 2005; Mercer, 2008; Velluntino, Scanlon, Small, & Fanuele, 2006), American public school systems continue to be challenged with over identifying a disproportionate number of children as learning disabled due to difficulties in learning to read (Allington, 2001; Clay, 1987; Johnston, 2011; McGill-Franzen, 1987; NCLD, 2017; Rebora, 2011). In a 2017 report by the National Center for Learning Disabilities (NCLD), learning disabled (LD) remains the largest category of students served by special education. Of the 6.7 million school-aged children reported with all kinds of disabilities and who receive special education, approximately 2.6 million (39%) American public school students are being served with learning disabilities under the auspices of the 2004 Individuals with Disabilities Educational Act (IDEA). What is surprising is that many of these children are found to be of average to above average intelligence (LDA, 2019; NCLD, 2017). This begs the following questions: How is literacy teaching and learning occurring in the classroom for students who find literacy learning difficult? How do teachers understand the extent to which students who find literacy learning difficult understand their teacher’s instructional language? How to teachers understand and read students’ responses, verbal and nonverbal, to literacy tasks? More importantly, how can literacy failure and referral to special education be addressed when teachers and students understand each other’s communicative practices?
It is important to consider the complex nature of literacy learning and various factors that may contribute to difficulties with literacy learning. The Learning Disabilities Association of America (2019) found elementary aged children who failed to learn to read had a common literacy experience—literacy instruction was limited to a single reading method. In other words, differentiated instruction was not considered to meet the individual literacy needs of the child. This “one size fits all” approach proved to be problematic as it assumes a simplistic linear view of literacy learning that “guarantees” success for everyone (Bomer & Laman, 2004; Johnston, 2011; LDA, 2019). Clay (2005) argued that literacy-processing systems constructed by learners are complex and that success for our most at risk students hinges largely upon the instructional practices and expertise of the teacher. Therefore, a deeper understanding of discursive practices and social interactions tailored to specific learning styles of children would provide insight into ways in which to reduce special education referrals and more importantly, children at risk would be better served as they gained “access to intellectual and academic communities of discourse which, for them, are misunderstood or new” (Mercer, 2008, p. 121). In other words, heightened awareness of when instructional exchanges go awry would go a long way in helping teachers adjust their instructional tack so as to prevent children from being classified as learning disabled when in fact the disability may have been instructionally induced versus cognitively impaired. For example, a number of studies found that children who experienced repeated failures around literacy learning added to greater confusions and misunderstandings about literacy processing (Clay, 1987; Johnston, 2004, 2011, 2012; McGill-Franzen, 1987). As a result, these students often follow a path of academic failure and eventually referred and labeled as learning disabled, when in fact, the learning disability might have been instructionally induced.
The impact of a learning disabled (LD) classification is monumental in a child’s educational career. NCLD (2017) reported one-third of students identified with LD, have been held back (retained) in a grade at least once in their academic career; earned lower grades; and experienced a higher rate of failure. Only 65 percent leave high school with a regular diploma while 18 percent drop out and 11 percent receive a certificate of completion. There is, however, an underlying hope that with early identification and appropriate instructional opportunities, academic failure and years of academic struggle can be prevented (Allington, 2001; Clay, 1987; Johnston, 2011, 2012; LDA, 2019; Mathes et al., 2005; Mercer, 2008; NCLD, 2017; Velluntino et al., 2006). One provision for addressing academic failure was the reauthorization of IDEA in 2004. The intent of IDEA was to reduce the number of individuals with disabilities through a multi-tiered intervention approach, aptly named, Response to Intervention (RTI).

According to IDEA regulations (2015), learning disabled is defined as a neurological disorder that affects the brain’s ability to receive, process, store, and respond to information thus causing the student to struggle in school and fall behind the average of his/her peers. The National Center for Learning Disabilities (2014) describes LD as “significant difficulties in academic achievement and related areas of learning and behavior in individuals who have not responded to high-quality instruction and for whom the struggle cannot be attributed to medical, educational, environmental or psychiatric causes” (p. 3). At one point, LD was the fastest growing category of special education—increasing more than 300 percent between 1976 and 2000 (NCLD, 2017). In response to this rapid increase, IDEA was reauthorized into law in 2004. An aspiration of the law was to reduce the need for identifying individuals with disabilities rather than emphasizing the need to identify individuals with such labels as learning disabled through

Response to Intervention (RTI) is a decision-making process utilizing a multi-tiered approach with various levels of support to ensure early identification and support for students who demonstrate learning and behavioral difficulties (U.S. Department of Education, 2015). RTI takes into account that students with all levels of intellect (below average to above average intelligence) may still have problems obtaining academic knowledge which in turn causes a student to struggle in school and fall further behind the average of his/her peers (Johnston, 2011; NCLD, 2017; Rebora, 2011; U.S. Department of Education, 2015). The RTI process calls for early identification and high-quality instruction thus providing struggling learners with interventions at increasing levels of intensity to accelerate the rate of learning (RTI Action Network, 2015). As such, the intent of RTI is to serve as safety net for students prior to referral to special education.

Reading Recovery is a research-based literacy intervention that meets the criteria for a tiered intervention (RRCNA, 2015; WWC, 2013). The goal of Reading Recovery is to undercut reading failure, retention, and/or referral to special education by providing one-on-one daily instruction delivered by highly trained teachers to first grade students who are having the greatest difficulty with literacy learning (Clay, 1998; 2005; RRCNA, 2015). Clay (1987; 1991; 1998; 2005) did not view students who struggle to learn as unable to learn, rather as students who need to learn in different ways from their peers. The teaching procedures used in Reading Recovery lessons are individually designed and delivered by highly trained teachers to address the specific needs of the student (Clay, 1987; 1998; 2005). In the Reading Recovery program, individual students receive a half-hour lesson each day for a maximum of 20 weeks with a
specially trained Reading Recovery teacher. The first two weeks of a child’s lesson series is referred to as Roaming Around the Known (Clay, 2005). The goal over the course of these ten lessons is for the teacher to find out how the child responds in a teaching relationship as they interact around continuous text. The teacher learns what is consistently known by the child (letters, sounds, words) and what processing strategies the student draws upon as he/she processes text. The teacher stays with what is known to the child, building his/her confidence as he/she actively participates and contributes to continuous text. The teacher acts as a co-worker, supporting the student in parts of the task outside of the student’s control, often demonstrating as she reads or writes, commenting on print layout, where to start, how to get helpful information from a page of print, or how to hear and record sounds when writing. The hope during these two weeks is to help children become confident in what they already know as a starting point towards building a firm foundation for strategic processing when instruction begins on the eleventh lesson. One-on-one instruction enables the Reading Recovery teacher to design lessons in response to the individual needs of the student—this includes adjusting instructional language and literacy activities so that students are presented with the “clearest, easiest, most memorable example with which to establish a new response, skill, principle or procedure” (Clay, 2005, p. 23) as they interact with continuous text. As students meet grade-level expectations and demonstrate that they are able to continue to work independently in the classroom, that is, to have an effective processing system that allows them to act strategically as they process continuous text and benefit from classroom instruction, their Reading Recovery lessons are discontinued and the student is replaced by another first-grade student who is finding literacy learning difficult.
Clay (2007) believed ongoing professional development was key to developing literacy expertise with Reading Recovery teachers and preventing literacy failure. All Reading Recovery teachers begin with an academic year of graduate-level study and receive monthly ongoing professional development in subsequent years. Reading Recovery develops the observational skills of the teacher as well as a repertoire of intervention procedures and specific instructional language tailored to meet the individual needs of students who are most at risk of literacy failure (Clay, 1998, 2005, 2007). As a result of this training, in the United States, approximately 75 percent of students who complete their Reading Recovery intervention demonstrate grade-level expectations in reading and writing (RRCNA, 2015).

This study was situated in Reading Recovery for two reasons. First, Reading Recovery teachers are literacy interventionists who are highly trained to work with students who are experiencing the greatest difficulty with literacy learning. Second, Reading Recovery views language as a social practice that is structured in that each participant takes turns building upon a previous utterance, thus supporting the idea that teaching and learning occur through every day interactions and conversations (Clay, 1998; Dyson, 2000; Gee & Green, 1998; Mercer, 2008). As such, Reading Recovery teachers value daily interactions with students and use language as a social function to establish and maintain social relationships for transmitting the curriculum (Cazden, 2001; Clay, 1998; Dyson, 2000; Gee & Green, 1998, Johnston, 2004). Clay (1998) wrote, “Just as a listener tunes in to a speaker, so a teacher must observe, listen to, and tune in to a learner” (italicized in the original) (p. 13). In other words, paying attention to the learner’s thinking through all modes of interaction, provides the teacher with insights in how best to respond to the student to ensure the child understands different aspects of the literacy task.
Why I’m Interested in this Study

Nearly fifteen years ago, I had the opportunity to simultaneously train as a Reading Recovery teacher and district trainer. I was familiar with Reading Recovery through my previous training as a literacy coordinator and longed for the chance to learn about the theory and methods used for teaching literacy. Upon receipt of the offer to join a small school district in the northwest corner of Georgia, I did not hesitate to leave my position as a literacy coordinator in Atlanta, Georgia. While this decision meant uprooting my home and leaving family and friends behind, I have never regretted this decision. I was more focused on what I would be learning. I wanted to know how to help children who struggled more with literacy learning than their peers to become successful readers and writers. Participation in this training program was rigorous and intellectually challenging. Throughout the training, I questioned and reflected on my previous beliefs about teaching and learning. This professional development was one of the most rewarding learning experiences I have ever had as it stretched my thinking about how to help children who are most at risk of academic failure and referral to special education due to their struggles with literacy learning. Unlike most district level positions, I stay grounded in the day-to-day instruction of students because of my dual role in the district—Reading Recovery teacher and district trainer. As a Reading Recovery teacher, I work daily, one-on-one with first grade students who are struggling with aspects of literacy learning. As a Reading Recovery district trainer, I train and support Reading Recovery teachers in the school district through ongoing professional development and one-on-one coaching visits. The teacher visits have provided opportunities for me to closely observe teachers and students as they interact around literacy learning in a one-on-one instructional setting.
My individual teacher visits with the hardest to accelerate children has fueled my interest in this study. Through these coaching visits, I began to notice a behavioral pattern with teachers as they interacted with students—in particular, students who were having the greatest difficulty taking on the literacy instruction provided by the Reading Recovery teacher. My close observations of teachers and students was shaped by my training and Clay’s (1991) insistence to first be an observer of children and their interactions with text. This kind of observation involves more than just watching children read and write every day. It involves attending to the interactions between teacher and student and noticing the child’s responses to the instruction—the language, the actions, and meanings that are co-constructed. It takes time to understand why children respond to instruction the way they do. Focusing on this understanding helps teachers uncover what children understand so that they can become more reflective and responsive to the negotiations of the child (Clay, 1991, 2005). In other words, noticing how the child responds to the literacy task around successful and unsuccessful interactions informs instruction. Noticing all the different ways teachers and students communicate, verbal and nonverbal, during instruction has caused me to wonder to what extent teachers and children understand each other’s communicative practices, and what they might infer from these interactions, especially through their nonverbal communication about literacy learning in a one-on-one instructional setting. Could closer attention to different aspects of nonverbal and verbal communication provide greater insight into where the difficulty in literacy learning lay for individual children? Additionally, could educators help children learn to have more agency in their own learning by learning to learn? The impetus for this study was to understand how to improve instruction in order to prevent literacy failure and referral to special education for children who need more support.
Issues in Teaching and Learning in Early Literacy Interventions Addressed in this Study

A number of issues with early interventions in literacy learning have emerged across the literature including early identification of students at risk of literacy failure; fidelity of implementation of RTI programs; teacher expertise; and the over identification of children with disabilities. Studies indicate that virtually all children can achieve grade level reading and writing proficiencies as defined by national and state guidelines (Allington, 2001; Clay, 1987; Mathes et al., 2005; Velluntino et al., 2006), if children who are most at risk of literacy failure are identified early and provided with instructional support from teachers who have the most literacy expertise and engage in discursive practices that foster agency (Johnston, 2012; Mercer, 2008). Johnston (2004) describes agency as when children act strategically because they understand the relationship between what one does and what happens. As students begin to act purposefully and strategically, they become independent learners responsible for their own learning (Johnston, 2004, 2012). Unfortunately, many children who experience difficulties with literacy learning lack the confidence to act strategically (Clay, 1987; Johnston, 2004, 2011, 2012; McGill-Franzen, 1987). In other words, repeated failures contribute to more confusions and greater misunderstandings following a path of academic failure. Eventually, these students are referred and labeled as learning disabled, when in fact, the learning disability might have been instructionally induced.

The intent of RTI is to prevent academic failure by providing students with early interventions. In recent years, studies have explored the success and challenges of RTI (Allington, 2001; Johnston, 2011; Lyons, 2003; Velluntino et al., 2006). Some challenges that have undercut its success include interventions that support linear views of literacy learning and the lack of highly qualified personnel delivering the intervention. Johnston (2011) found that
schools purchased packaged literacy programs that had a limited view of literacy learning—a belief that a linear accumulation of isolated skills was sufficient to meet federal RTI guidelines. As a result, if the child’s reading improved, it was assumed the instructional package worked; if not, then the child was framed as the problem and referred for special education, tagged with a learning disability. Johnston (2011) argues this is one of many unintended consequences of the 2004 reauthorization of IDEA in reducing the number of children with disabilities through RTI. He criticizes this approach because it assumes the packaged literacy intervention will transfer to different settings regardless of age, teacher experience/expertise, context, or instructional history of the student.

In contrast to the goal of the law, the current trend in public schools is to over identify individuals with disabilities rather than reduce the number of children with reading disabilities (Allington, 2001; Johnston, 2011). Furthermore, studies suggest that instructional models used in interventions should recognize the complexity of literacy learning and instruction should be delivered by teachers who are highly trained to design interventions that respond to specific student needs (Allington, 2001; Clay, 1987; Johnston, 2012, 2011; McGill-Franzen, 1987; Mercer, 2008; Velluntino et al., 2006).

Improving teacher expertise has longer lasting and more powerful effects in improving children’s literacy learning. Allington (2001), Clay (1987), and Johnston, (2012) found expert teachers to be the key to improving literacy achievement for struggling readers. In a qualitative case study, Ross and Gibson (2010) identified key characteristics of expert teachers—“demonstrated consistent application of literacy-related content knowledge, detailed perception of meaningful patterns in students’ responses, and engaged in reasoning and hypothesizing anchored to these observations” (p. 191). Additionally, expert literacy teachers demonstrate the
ability to adjust instruction to the individual needs of the students (Ross & Gibson, 2010). The challenge for educators is twofold. First, they must address how best to meet the instructional needs of struggling children with early interventions delivered by expert teachers (Clay, 1987, 1998; Johnston, 2004, 2011; McGill-Franzen, 1987). Second, they must understand the discursive practices and mediated interactions that occur during the negotiation of literacy learning to inform instructional practices (Lose, 2008; Matczuk & Straw, 2005; Van Bramer, 2003).

Ross and Gibson (2010) and Block, Oakar, and Hurt (2002) found highly trained teachers with the greatest expertise in literacy instruction made significant differences in the rate and depth of literacy growth in students. Both of these qualitative multi-case studies identified instructional qualities and characteristics that differentiated highly effective teachers from less effective teachers. Gibson (2008) and Matczuk and Straw (2005) examined instructional discourses used in writing instruction by highly trained teachers and found instructional discourses that provide specific feedback to students were deemed the strongest scaffolds used to promote and support problem-solving for students. Van Bramer (2003) further supported the power of feedback and found conversational patterns of initiate, respond, feedback (IRF) put students in an active stance to engage with the teacher in co-constructing meaning around literacy learning. O’Conner, Briggs, and Forbes (2013) showed feedback in response to the learner yields the greatest benefit to struggling learners. Results from their study found literacy achievement was linked to instruction that was contingent upon the child’s literacy strengths and needs, ensuring a successful response to instruction. Reading Recovery teachers are highly trained literacy specialists. The nature of this specialized training calls for effective teachers to learn how to observe, listen, and respond to children who are finding literacy learning difficult.
Reading Recovery teachers make informed decisions about the most appropriate learning opportunities for a particular child at a particular time in her/his literacy learning through conversational interactions and speechless demonstrations as students interact with continuous text.

The literature not only supports the need for early identification and early intervention with children who are finding literacy learning difficult, but stresses the importance that literacy instruction should be delivered by highly trained interventionists such as Reading Recovery teachers who have the knowledge and expertise in literacy to achieve the greatest gains (Allington 2001; Allington & Johnston, 2000; Clay 1987, 1998, 2005, 2007; Gibson, 2010; Johnston, 2011; Lyons, 2003; McGill-Franzen, 1987, O’Conner & Simic, 2002; Vellutino et al., 2006). Such expert teachers use instructional language that promotes strategic behaviors and independent problem-solving through specific praise, naming behaviors, and adjusting levels of support in response to student. Most research studies seem to focus on successful conversational exchanges rather than understanding miscues in communication and how the instruction might have been miscommunicated (Van Bramer, 2003; Van Dyke, 2006). An area in need of further research are studies that refrain from privileging one mode of communication (verbal) to instruct and assess children’s literacy learning. There has been little recent research focused on other modes of communication for literacy instruction, including nonverbal (e.g., gestures, body positions, head movements, among others) (Lose, 2008; McBane, Schnug, & Slinger, 2017).

The goal of this study was to add insights into Reading Recovery instruction and learning by focusing on a more comprehensive study of interactions between teacher-student that included nonverbal patterns and practices within these one-on-one sessions. Given that children are recommended for Reading Recovery because of their difficulty with reading and writing, a
focus on other modes of communication, specifically nonverbal, seems critically important to better understand how children communicate their mis/understandings within these sessions, and the extent to which teachers read and respond to children’s nonverbal responses and reactions. With an increased interest in multimodality in literacy research, this qualitative case study is timely and significant because it focuses on multimodal interactions within Reading Recovery sessions to understand the teaching and learning of literacy. This study hopes to contribute to how best to work with young children who find conventional reading and writing challenging by describing how expert teachers and their students respond to each other through verbal and nonverbal discursive practices and social interactions to communicate teaching and learning.

**Statement of Purpose and Research Questions**

The purpose of this study was to identify the modes through which teachers and students communicated and interacted to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson. Research questions included the following:

- What modes do teachers and students use to communicate in the writing portion of Reading Recovery lessons?
- To what extent do teachers and students read, interpret, and understand each other’s modal interactions in the writing portion of Reading Recovery lessons?
- What modal adjustments do teachers make to scaffold and adapt instruction for student learning?

The study design was a multi-case study (Yin, 2014) through the lens of multimodal interaction analysis (Norris, 2004; Norris & Jones, 2005; Scollon, 2001), and
involved three Reading Recovery teachers and their respective first grade students in their natural instructional setting. Multiple data sets (field notes, teacher, audio/video recordings and student work samples) were collected during the course of each Reading Recovery student’s intervention program, primarily through participant observation. This data explored the phenomenon in a real-world context and perspective (Bloomberg & Volpe, 2012; Bogdan & Biklen, 2007; Swanborn, 2010; Yin, 2014).

Multimodal interaction analysis (MMIA) (Norris, 2004; Norris & Jones, 2005) was used to analyze the data sets. Multimodal interaction analysis is a methodological framework that draws upon the disciplines of discourse analysis, interactional sociolinguistics, mediated discourse analysis, and multimodality (Norris, 2004; Norris & Jones, 2005; Scollon, 2001) and used to analyze discursive interactions and practices (verbal and nonverbal) between participants (Norris, 2004; Norris & Jones, 2005; Scollon, 2001). This study used multimodal interaction analysis to explore all communicative channels and modes of interaction that occurred during the instructional exchange. Communicative modes included both “embodied modes (like language, gesture, and gaze) and all disembodied modes (like music, print, and layout)” (Norris, 2004, p. xi). The data analysis described discursive practices and social actions that occurred in the one-on-one instructional space between a Reading Recovery teacher and their student.

**Constructivist Epistemology**

Epistemologically, this study is located in constructivism, or knowledge is constructed and co-constructed within social settings. Constructivism is a learning theory grounded in the assertion that people acquire knowledge and learn, thus knowledge of the world is always a shared human and social endeavor (Crotty, 1998). Therefore, constructivism has a direct
application to education as meanings are constructed by human beings as they engage in the world they are interpreting (Crotty, 1998). Mercer (2008) views constructivism in educational settings as the “guided construction of knowledge” where one person helps another to develop their knowledge and understanding. In other words, the act of teaching and learning. In this way, humans (teachers and students) construct knowledge and meaning from their experiences with each other.

Constructivism also proposes meaning making is always ongoing (Crotty, 1998). In this way, knowledge not only exists in the thought of individual people, but is also a joint possession that can be pooled together and continually shared with others (Crotty, 1998; Mercer, 2008). Mercer (2008) explains that teachers and students use language as a cultural tool to share experiences and collectively and jointly make sense of it. Thus, language is used as a means for transforming experiences into cultural knowledge and understanding. Crotty (1998) however, cautions that while meaning making is co-constructed, it is possible to makes sense of the same reality in quite different ways. This study examined different modes of communication teachers and students used to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson.

**Theoretical Perspectives:**

**Multimodal Interaction Analysis and Vygotsky’s Sociocultural Theory**

Two theories guided this study, Norris’s (2004) Multimodal Interaction Analysis (MMIA) and Vygotsky’s sociocultural theory. Vygotsky’s (1986) sociocultural theory shaped this study and reflects a worldview of constructivism and Clay’s (1991, 1998) theory of literacy learning. I will first discuss MMIA followed by sociocultural theory within the context of constructivism and the key tenets guiding this study drawing from the works of Vygotsky.

**Multimodal Interaction Analysis**

MMIA is both a theory and method of analysis. As a theory, MMIA is grounded in multimodal theory which is an interdisciplinary approach that understands communication and representation to be more than about written and spoken language (Kress, 2010). Multimodal theory looks at the many different modes people use to communicate with each other and to express themselves. Communication is defined as a “process in which a semiotic product or event is both articulated or produced and interpreted or used” (Kress & Van Leeuwen, 2001, p. 20). People communicate and interact with one another through modes (Kress, 2010). A mode is generally defined as a communication channel that a culture recognizes. Multimodal theory does not limit communication to just spoken and written language, but includes gesture, posture, gaze, font choice and color, images, video, and even visual modes such as art, music, and dance (Kress, 2010). Multimodal theory argues that people communicate in a variety of ways and that in order to fully understand someone, the many modes they use must be observed and recognized (Kress, 2010; Kress & Van Leeuwen, 2001). There are three theoretical assumptions that underpin multimodality. First, representation and communication draw upon a multiplicity of modes, all of which contribute to meaning. It considers all the modal resources people use to communicate and make meaning including verbal, nonverbal, and semiotics. Second, modal resources are socially shaped over time to become meaning making resources that articulate the social or individual meanings created by different communities. For example, technological advancements from print to digital have shifted the mode of writing to the mode of image
In this way, new modes have been created and made available to people, such as gifs and emojis, that carry particular social and cultural messages and shared within communities, places, and times. Third, people orchestrate meaning through their selection and configuration of modes. Thus, the actions, materials, and artifacts people select to communicate operate under the influence of the motivations and interests of the people who use them (Kress, 2010; Kress & Van Leeuwen, 2001).

MMIA is a methodological framework for analyzing human interactions, drawing upon mediated discourse (Scollon, 2001) and emphasizes mediated actions and multimodality (Kress, 2010). MMIA highlights the importance of considering other semiotics such as music, color, and gesture (Norris, 2004). In this way, MMIA crosses the boundaries between linguistics, nonverbal behavior, and the material world expanding the study of communicative modes people use in everyday interactions. MMIA identifies the way modes operate together in an interaction to understand and describe what is going on in a given interaction, mediated by each mode in combinatorial relationship.

There are five underlying assumptions that drive the analysis in MMIA. First, all interactions are multimodal. Norris (2004) argues when people interact, they seldom communicate only through language, rather, people, consciously or unconsciously, use a number of modes to communicate. MMIA does not privilege one communicative mode over others but considers how they operate together in an interaction. For example, spoken language is only one mode among many and may not take the central role in some interactions. Gesture, gaze, and head movement may be more dominant in a given interaction while language is less prevalent or even absent altogether. Second, all modes carry interactional meaning when they are perceived by an individual. Each mode is used interdependent of one another and carry
meaning in any face-to-face interaction (Norris, 2004). For example, moving images, still
photos, or signs all communicate meaning to the viewer, as do nonverbal channels such as
gesture, posture, or the distance between people. These communicative modes can and do carry
meaning in face-to-face interactions. Third, MMIA considers ways modes of communication
may or may not have functional structures (Norris, 2004). For example, gaze may be
sequentially structured during a conversation, but in other interactions, such as jogging through
a park, gaze may be random. MMIA examines the functional structures of communicative
channels on a micro and macro level through video analysis as well as other multimodal data
(Norris, 2004). Fourth, different modes of communication possess different materiality. For
example, spoken language possesses an audible materiality while gestures, print, or room
arrangement of furniture possesses visible materiality. Fifth, MMIA is concerned with
analyzing the awareness and attention that individuals in an interaction express and how others
react. Norris (2004) explains, what individuals express and react to in specific situation is
always co-constructed because interactions are “the exchange of communicated (expressed,
perceived, and thereby interpreted) experiences, thoughts, and feelings of participants” (Norris,
2004, p. 4).

MMIA identifies the way modes operate together in an interaction. Norris (2004) used
modal density circles (Figure 1) as a tool to visualize the complexity and multiplicity of
interdependent and interplaying communicative modes used in interactions (Norris, 2004). The
dimensions of the circles are dependent upon the intensity and the weight that a mode in a
specific interaction carries. The communicative modes are depicted as dotted intermittent circles
to illustrate the fact that modes are not bounded units.
Figure 1. Modal Density Circles

The significance of MMIA is that it opens the exploration of communication to include a wide range of modalities to understand how messages are communicated by people in interactions and the extent of how these modes are attended to, received, interpreted, and understood by others to co-construct meaning. MMIA is apt for Reading Recovery because it considers the context of teaching and learning literacy tasks that goes beyond spoken language. MMIA allows the exploration of how all modes operate in combinatorial relationships between teachers and students as they interact around engagements of literacy learning in the one-on-one instructional space of a Reading Recovery writing lesson. Examination of the many modes teachers and students use to communicate reveals the complexity of literacy learning (Clay, 2005) and the many ways students use different modal responses to express their understandings and confusions around literacy instruction. Thus, MMIA provides educators an open window into all the ways teachers and students communicate around literacy learning.
Understanding Modal Communication

This research relies heavily on how teachers communicate with students and how students communicate with teachers. To explain communication for this study, a model and example are provided here. With the aforementioned discussion of communication through modes, explained above, this study understands that basic communication includes a sender (speaker), message, and receiver (audience) and a channel, or the medium (modes) through which the message is sent and/or received. For example, a teacher (sender) sends a message (letter-sound relationships), to the student (receiver) through a channel (gesture, posture, head movements) who attempts to understand the message. (Figure 2).

![Figure 2. Modal Communication Cycle](Diagram)

Figure 3 demonstrates this process using data from this study. To send this message, the teacher sits up straight and leans into the student while the teacher articulates each sound slowly and says, “You were thinking and looking”, pointing to each of the words. The student leans back in her chair, looks directly at the teacher, with fingers on both hands touching with pen retracted, and looks straight up at the teacher and gingerly nods her head (feedback). Feedback enables the teacher to rethink her next teaching move.
Vygotsky Sociocultural Theory

Sociocultural theory was put forth by Lev Vygotsky (1986). Important to this perspective is how the social context plays a role in influencing cognitive development. Vygotsky (1986) not only believed that children construct their own understandings, but the construction of knowledge is always socially mediated. Therefore, it is necessary to not only engage in physical manipulation when learning, but also to engage in social interactions for cognitive development to occur (Bodrova & Leong, 2007; Mercer, 2008; Vygotsky, 1986). For this reason, I view the construction of knowledge for learners to be multi-faceted and guided by verbal and nonverbal interactions provided by more capable others within the context of different social structures (Clay 1998; Mercer, 2008; Norris, 2004; Vygotsky, 1986). Vygotsky (1986) viewed the social context as “everything in the child’s environment that has been directly or indirectly influenced by culture” (Bodrova & Leong, 2007, p. 9). Thus, social structures such as schools influence a child’s cognitive development. Vygotsky (1986) stressed the importance of identifying what the child understands through thoughtful exchanges with a more knowledgeable other. This underscores the active role the learner plays in the learning process within the social context. At first learners need greater assistance, but gradually become more independent as they take over
the task of learning and developing agency (Vygotsky, 1986; Tharp & Gallimore, 1988; Clay, 1998; Johnston, 2004). Therefore, key tenets of sociocultural theory guiding this study include:

- Higher order functions develop from social interactions and social structures enacted by others;
- Scaffolding supports learning socially and academically;
- Cognitive development depends upon the zone of proximal development (ZPD) (Vygotsky, 1986).

Higher order functions developed from social interactions is a key feature of Vygotsky’s theoretical framework. The idea that social structures and cultures influence cognition is critical because the child’s entire social world shapes not only what s/he knows, but how s/he thinks (Bodrova & Leong, 2007). Norris’s (2004) framework of multimodal interaction theory aligns with Vygotsky’s theory that verbal and nonverbal interactions are seen as language used as tools to assist students with learning in an instructional setting. From this perspective, learners participate in a broad range of joint activities and internalize what they are learning as more knowledgeable others scaffold the acquisition of new strategies and knowledge about the world. Reading Recovery teachers demonstrate and coach students through ways of engaging and problem-solving text. This is accomplished through specially designed literacy lessons with consideration of the individual child’s competencies in mind. Reading Recovery teachers provide students with literacy activities that consolidate their current understandings about literacy processing, as well as stretch their learning to the next level with teacher support.

Scaffolding is the term used to describe ways in which teachers support and assist children in learning. Scaffolding is represented through helpful social interactions between a more knowledgeable other and a learner to do something beyond the learner’s independent
efforts (Mercer, 2008; Wood, 2002). Scaffolds are initially used for support and gradually taken away as the learner becomes more competent and independently successful (Vygotsky, 1986; Clay, 1998). Cazden (2001) defined a scaffold as “a temporary framework for construction in progress” (p.6). The construction of a scaffold occurs in the zone where the child may not be able to explore his learning alone. However, with the assistance of a more knowledgeable other, the child is able to reach beyond what he could accomplish left to his own devices. Social constructivists refer to this bridge between assisted performance and independence as the zone of proximal development (Vygotsky, 1986). The goal of teaching in Reading Recovery is to assist the child to construct effective networks in his/her brain for linking up strategic activity needed to work on texts. In Reading Recovery sessions, teachers always foster independence, allowing the student to read or write anything that s/he knows. However, as the rigor of learning increases, Reading Recovery teachers teach through demonstration and then scaffold student’s learning with prompts. A prompt is a call for action to do something within the child’s control (Clay, 2005).

Another aspect of Vygotsky’s theory is the notion that cognitive development depends upon the zone of proximal development (ZPD)—the range of skill a child can acquire with assistance. Vygotsky (1986) argued that to understand the relationship between learning and development, two developmental levels must be distinguished—the actual and potential levels of development. The actual refers to accomplishments that a child can demonstrate or perform independently. The potential development is what the child can do with assistance. Therefore, the zone of proximal development is the distance between the actual level of problem solving the child can do independently and the potential level of problem solving a child can do with adult guidance or in collaboration with more capable peers. Vygotsky believed development
occurs as children learn concepts and principles that are generative and can be applied to new tasks and problems. It is through participation in activities that require cognitive and communicative functions that draw children into using these functions in ways that scaffold their success.

In this study, Vygotsky’s theory (1986) offered direction in how teachers and students interact, both verbally and nonverbally, in Reading Recovery sessions. Quality interactions acting as supportive scaffolds are critical as the teacher adjusts instructional language and interactions to adapt to the student’s competencies (Clay, 1998, 2005; Ross & Gibson, 2010). Erickson (2004) and Mercer (2008) view teachers and students as social actors using social actions and language as tools for constructing meaning in shared activities. Therefore, knowledge is co-constructed, using language as a “cultural tool that enables us to think logically and to learn new behaviors” (Bodrova & Leong, 2007, p. 65). Additionally, it has a greater influence than just content—it impacts thinking and the acquisition of new knowledge and understanding about tasks.

Teachers who have greater expertise in literacy instruction respond to students in ways that support independence and agency (Allington, 2001; Clay, 1987; Johnston, 2004, 2011). For instance, Block et al. (2002) and Ross and Gibson (2010) found teachers who were more attentive to student responses and interactions in literacy learning, seemed to respond more quickly to students with teaching decisions that adjust instructional support than less attentive teachers. Lose (2008) examined the role of nonverbal communication within the context of early literacy learning. This study documented many different ways in which teachers and students use nonverbal communication to convey information that signals underlying meanings about what each participant understands within the context of the instructional setting. Lose
(2008) argues for teachers to consciously attend to nonverbal communication as useful feedback to refine teaching interactions and optimize student learning. Thus, effective literacy instruction is dependent upon the nature of the quality of interactions between teacher and student to co-construct new learning.

Clay’s Reading Recovery and Complementary Theoretical Perspectives

As Vygotsky (1986) theorized, Clay (2005) suggests, too, that literacy processing systems constructed by learners are complex and that success for our most at risk students hinge largely upon the instructional practices of the teacher. My case study incorporated Clay’s (1987, 1991, 2004, 2005, 2007) complex theory of literacy learning. The theoretical foundations of this complex view of literacy learning includes: reading and writing are constructivist activities that are reciprocal and interrelated processes; knowledge is co-constructed; systematic observations inform teaching; language plays an integral part in assisting students with literacy learning; and clear communication is essential to successful interactions around literacy learning. The following describe these key tenets underlying Clay’s complex theory of literacy learning and its connection to Vygotskian theory.

Clay (1987, 1991, 2004, 2005, 2007) views reading and writing as reciprocal processes in that they are two different ways to learn about the written code. The knowledge one has about reading can also be used in writing and vice versa. Clay (2005) defines reading as a “message-getting, problem-solving activity and writing as a message-sending, problem-solving activity” (p. 1). The task for teachers supporting early acquisition of literacy processing is to link patterns of oral language with visible symbols used in the written code. In essence, they scaffold the child to recognize the complexity of language processes, and move them towards independence. An example of this is reading a simple story or composing and transcribing a simple message.
This marks the beginning of early acquisition for literacy processing. These complex in-the-head processes are described by Clay (1991, 1998) as “working systems”; that is, the perceptual and cognitive working systems used to complete reading and writing tasks. For example, experiences with writing stories help build the working systems that draw upon knowledge of how to construct a message—ordering written language in appropriate sequences; coordinating movement patterns required for dealing with print; visual scanning of letters and words; and analysis of sounds in words. These represent key foundational aspects shared by writing and reading. Thus, young children are learning to write words, messages, and stories at the same time they are learning to read. The teacher works with the child, knowing when a child is ready to move beyond her or his ZPD.

**Reading Recovery**

Grounded in constructivist learning theory (Piaget, 1967; Vygotsky, 1986), Reading Recovery views learning as an active process in which students are responsible for constructing meaning based on their own beliefs and experiences. Children construct their own understandings of literacy processing as they have opportunities to learn and engage with text, bringing to bear their own unique life experiences to school and formal literacy instruction. As a constructivist theorist, Clay (1991,1998) viewed the role of the teacher in the learning process as primarily concerned with providing the student with opportunities to learn. Specifically, for Reading Recovery teachers, it is anticipating, identifying and arranging for learning opportunities. Reading Recovery teachers work to support early literacy learners in developing strategic actions as they read and write continuous text. In this way, they learn to monitor, search, cross-check, and self-correct their attempts in reading and writing as they draw upon their knowledge of language, knowledge of the world, and knowledge of how to work with
continuous text to discover the connections between the pictures and the print (Clay, 2005). Reading Recovery teachers scaffold a student’s understanding of complex literacy concepts in writing (letters, sound, and word) through literacy tasks such as sound boxes. Responsive teachers do not underestimate the resources young school age children draw upon when they begin to engage with text (Clay, 2005). When children read or write their first stories, they use low-level strategies. They draw from premature working systems acquired from their experiences with talking, writing, and listening to stories prior to entering school (Clay, 1998, 2004; Doyle, 2015). This is a starting place and over time with appropriate instruction, develop into more complex and sophisticated working systems with greater accuracy and efficiency.

Reading Recovery does not view students who struggle to learn as unable to learn. It sees students who need to learn in different ways from their peers, necessitating individually designed lessons that address the specific needs of the student (Clay, 1987, 1998, 2005). The goal is to follow the child by drawing upon his or her strengths and become co-workers, developing useful ways to co-construct meaning while interacting and sharing the task of the literacy learning. For this reason, Reading Recovery does not follow prescriptive curricula requiring proficiency with a set of prerequisite skills prior to engaging children in reading and writing stories.

One-on-one lessons are individually designed to meet the strengths and unique needs of the student. As found in Clay’s (2005) study, the lowest-achieving students are encountering difficulties not for the same reasons, but for different reasons. Reading Recovery designs “lessons to suit the strengths of a particular child and shepherd his progress despite his weaknesses” (Clay 2005, p. 86) underscoring the belief that each child will take a different path from their peers to become successful readers and writers.
Designing and planning for individualized paths to becoming literate, requires systematic observations and analysis of how individual children respond to text and instruction. Observable changes in behavior as children work in reading and writing continuous text, signals changes in cognitive processes and alert teachers to modify learning conditions to optimize literacy development for all individuals (Clay, 1991, 2004). For example, children communicate their learning in verbal as well as nonverbal communicative modes. They may articulate their misunderstandings or understandings verbally, for example, “Is that right?” They also communicate these same understandings through movements such as shifting their bodies, using gestures, moving their head, leaning into and away from work spaces, among others. The underlying premise of Reading Recovery is for a teacher to draw upon a student’s strengths and build up individual areas of weakness by making it easy to learn. This includes looking closely at all signals to optimize the learning of the child.

It takes time and in-depth training for teachers to develop observational skills as well as a repertoire of intervention procedures and specific instructional language tailored to meet the individual needs of students who are most at risk of literacy failure (Clay, 1998, 2005, 2007). Reading Recovery is grounded in the belief that conversations between student and teacher are the impetus for stimulating learning as well as a framework for supporting students in becoming primary agents for one’s actions in literacy (Clay, 1998). Clay (1998) along with other researchers (Dyson, 2000; Gee & Green, 1998; Mercer, 2008; Rymes, 2009) viewed language as a social practice that is structured in that each participant takes turns building upon a previous utterance, reiterating the idea that teaching and learning occur through every day conversations. Paying close attention to the “learner’s thinking allows the teacher to draw the child’s attention to things overlooked, to new aspects of the task, or to other interpretations” (Clay, 1998, p. 13).
Understanding how the child is using the information on the printed page and relating it to knowledge she or he carries in her or his head would prevent early struggles with literacy learning. Yet, knowledge in her or his head is not always evident in the spoken or written language. Teachers must also recognize how knowledge is communicated through other modes.

One-on-one instruction enables the Reading Recovery teacher to design lessons in response to the individual needs of the student—this includes adjusting instructional language and literacy activities so that the students are presented with clear, memorable learning experiences (Clay, 2005). Clear, concise language plays an integral part in assisting children with successful literacy learning. Teachers facilitate and foster learning opportunities that allow the child to take over the learning process and work independently, discovering new things for himself as he engages in reading and writing.

In sum, MMIA (Norris, 2004) and Vygotsky’s (1986) theory are apt theories to study Reading Recovery. They allow for the exploration of how teachers and students interact and co-construct meaning around literacy learning in the context of a one-on-one instructional setting through close examination all of the communicative modes teachers and students use to support children’s learning and teachers’ pedagogy and practice.

**Rationale and Significance**

At its core, communication is multifaceted and refers to the process of exchanging information, ideas, thoughts, feelings, and emotions and the transmission of such messages are not limited to humans, nor are they conveyed only through spoken or written words. Communication is more expansive and worldly (Kress, 2010; Norris, 2004; Norris & Jones, 2005; Scollon, 2001). It considers other disciplines such as the performing arts, where sound and movement have aesthetic and symbolic value; the visual arts, where images and forms have
semiotic meaning (Albers, 2014); and technology, where digital images or icons, such as a gif or an emoji, instantly convey emotional messages. Thus, the world communicates through many different modes and all modes contribute to transmitting and receiving messages (Kress, 2010; Navarro, 2008; Norris, 2004). Therefore, it is shortsighted to privilege one mode of communication over others and risk failing to fully communicate and be understood.

There is a need for further research that refrain from privileging one mode of communication (verbal) to instruct children in literacy learning as is common in Reading Recovery. Most classroom studies focus on conversational exchanges to inform instructional practices for literacy learning (Anderson, 1999; Bennet, 2015; Bomer & Laman, 2004; Cazden 2001; Johnston, 2004; Konstantellou & Lose, 2016; Van Bramer, 2003; Van Dyke, 2006). There are very few recent studies that focus on other modes of communication for literacy instruction, including nonverbal (e.g., gestures, body positions, head movements, written text, among others) (Lose, 2008; McBane, Schnug, & Slinger, 2017). Those that do offer some promise but more intense study of modes within Reading Recovery is warranted. In this study, I was interested in representing ways teachers and students engaged in verbal and nonverbal modes of communication to negotiate literacy learning. Johnston (2004) states, “Children should leave school with a sense that if they act and act strategically, they can accomplish their goals” (p. 29). He refers to this strategic act as agency. For this reason, educators are critical resources for structuring opportunities for students to learn how to become agents for their own learning by acting strategically. This study hopes to add to the literature that considers the extent to which all modes of communication, verbal and nonverbal, contribute to the co-construct of meaning as teachers and students interact around literacy learning.
Definitions of Key Terminology

1. Agency - The capacity or ability of taking responsibility for one’s own strategic actions (Clay, 2005; Johnston, 2004).

2. Communication –The process of exchanging information, ideas, thoughts, feelings, and emotions and the transmission of such messages are not limited to humans, nor are they conveyed only through spoken and written words (Kress 2010; Norris, 2004).


4. Disembodied modes of language - Communication modes in which people react (Norris & Jones, 2005) such as listening to music or reading print.

5. Embodied modes of language - Includes any means of communication that is an extension of the body (Norris & Jones, 2005) such as language, gesture, and gaze.


7. Individuals with Disabilities Educational Act (IDEA) - Federal law enacted in 2004 to reduce the need for identifying individuals with disabilities rather than emphasizing the need to identify individuals with such labels as learning disabled through the process of Response to Intervention.

8. Learning disabled - Defined as a neurological disorder that affects the brain’s ability to receive, process, store, and respond to information thus causing the student to struggle in school and fall behind the average of his/her peers (Clay, 1987).
9. Multimodal interaction analysis (MMIA)- A methodological framework for analyzing human interactions that overlap the boundaries of linguistics, nonverbal behaviors, and multimodality thus drawing upon the disciplines of discourse analysis, interactional sociolinguistics, mediated discourse analysis, and multimodality (Norris, 2004).

10. Multimodal interactions – The integration of different modes of communication (verbal and nonverbal) to convey messages when interacting with others (Norris, 2004; Norris & Jones, 2005).

11. Reading Recovery - A short-term, one-on-one first grade intervention provided by highly trained teachers who provide individually designed lessons to meet the needs of the students (RRCNA, 2015).

12. Response to Intervention (RTI) - A decision making process utilizing a multi-tiered approach with various levels of support to ensure early identification and support for students who demonstrate learning and behavioral difficulties (RTI Action Network, 2015).

13. Social practices – How knowledge is socially constructed and shaped by the discursive activities and social practices of its members. (Gee & Green, 1998)
CHAPTER TWO

REVIEW OF LITERATURE

As a young first grader struggled to notice the salient features of letters while writing, a Reading Recovery teacher attempted to help the child differentiate between the letter n and h by calling attention to one salient feature (size of the hump) for the letter h. The teacher used spoken language to draw attention to the salient feature as she demonstrated letter formation, “A tall stick and a little hump.” The child attempted to replicate the teacher’s actions but instead of making a little hump, the child formed the hump as tall as the stick, but “skinnier.” In response, the teacher attempted to demonstrate once more, only this time she adjusted her language, “A tall stick and a short hump.” The child nodded her head, then successfully responded, forming the salient features of the letter h—(My personal experience as a Reading Recovery teacher, n.d.).

It is evident that as we progress through the 21st Century, our classrooms will undergo profound social, economic, linguistic, and cultural transformation, thus impacting the demographic makeup of classrooms and the day-to-day use of language and social interactions to negotiate the academic demands of the curriculum (Hargraves & Fullan, 2000). For this reason, greater attention to multiple ways teachers and students communicate will become increasingly important in shaping teaching and learning opportunities for a diverse student body. In everyday interactions with students, teachers use more than just speech to communicate and assist students in learning. For example, in addition to speech, teachers engage in multiple modes of communication (gestures, proxemics, posture, gaze, body movement, and space) as they instruct students (Kress, 2010; Norris, 2004; Scollon, 2001).
Alternately, students interact in response to the teacher using a range of the same modes to communicate.

In the above vignette, I realized from the child’s initial written response, an unconventional transcription of the letter h, my communication from spoken language was not sufficient in drawing her attention to the salient features of the letter. I reconsidered and adjusted the language I used to describe writing h. Adding “short” to the instructional language prompted a nod of affirmation from the child who then proceeded to script the letter conventionally. This vignette serves as a reminder that meaning within an instructional setting is co-constructed and made using multiple of modes of communication (Kress, 2010), in this case, spoken and written language, and head movement to complete the task at hand. I identify these modes of communication to include verbal interactions as well as nonverbal behaviors such as body movement, posture, gestures, proximity, and gaze (Kress, 2010; Norris, 2004; Scollon, 2001). In addition to verbal and nonverbal modes of communication, I include the role of the material world (instructional space) and how this space is used or not used in social interactions as part of this definition (Kress, 2010; Norris, 2004; Scollon, 2001). In my experience as a Reading Recovery teacher who works one-on-one with first grade students that are most at risk of literacy failure in schools, I have found that a range of modes of communication plays a larger role in literacy learning than educators might imagine. The difference being whether or not we, as educators, open or close doors to literacy learning for children who are having the greatest difficulty in learning to read and write. Situations in which instructional language delivered by the teacher can be like a foreign language to a child; they have trouble translating how the teacher describes a task into practice in the way the teacher intends. As such, then, the
teacher leads—often unconsciously—students astray, which causes them further confusions and misunderstandings around literacy learning.

For example, when Reading Recovery teachers use the prompt “Does it match?” within the context of reading instruction, they are referring to a one-to-one match—that is a child vocalizes one word for every word printed on a page. However, children sometimes confuse this prompt to mean the words uttered tell a story that “matches” the picture presented in the book. For this reason, clarity in communication seems especially important for students who are finding the complexity of literacy learning confusing (Clay, 1987, 1998; Johnston, 2011; Lose, 2008; Matczuk & Straw, 2005). When teachers fail to untangle such confusions, children may find themselves in an experiential and instructional tangle that sets a pathway that leads to literacy failure and referral to special education (Clay, 1987; Johnston, 2011; Mercer, 2008; Velluntino, Fletcher, Snowling, & Scanlon, 2004; Wood, 2002). Careful consideration to the multiple modes students use to respond, would provide insight into what students might be learning expressed through other modes of communication. This insight offers teachers an alternative way in which to consider assessing student learning—privileging other non-dominant modes of communication such as gesture, gaze, and posturing, as evidence of learning. This may prevent children who are unable to show all that they know on an isolated high-stakes testing situation from becoming mislabeled and possibly referred to special education.

As presented in the previous chapter, children with difficulties in literacy learning have been disproportionately referred to special education and over identified as learning disabled (Allington, 2001; Clay, 1987; Johnston, 2011; McGill-Franzen, 1987; NCLD, 2017; Rebora, 2011). This runs counter to numerous studies (Allington, 2001; Clay, 1987; Johnston, 2012;
which suggests that virtually all children can achieve grade level reading and writing proficiencies as defined by national and state guidelines if children who are most at risk of literacy failure are 1) identified early (Clay, 1987; Johnston, 2011; Velluntino, et al., 2006); 2) provided with instructional support from teachers who have the most literacy expertise (Allington, 2001, Clay, 1987; Johnston, 2012; Ross & Gibson, 2010); and 3) engaged in discursive practices that foster agency (Cazden, 2001; Gee, 2001; Johnston, 2012; Mathes, et al., 2005; Mercer, 2008; Norris & Jones, 2005; Van Bramer, 2003; Wood, 2002). While there are many studies that speak to discursive practices used in instructional settings, few studies consider how all modes of communication are used to co-construct meaning within a one-on-one instructional setting. This qualitative case study sought to identify the modes through which teachers and students communicated and interacted to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson. A look at how discourses in action play out in teacher-student interactions gestures towards teacher expertise, discursive practices that impact teaching and learning, and agency and their role in preventing literacy failure.

**Discourse in Action**

Teachers support learning by developing student knowledge and understanding of literacy concepts through social interactions. Norris and Jones (2005) described this learning as a socially interactive process whereby “saying something or writing something is a form of doing something” (p. 6)—hence the term, ‘discourse in action.’ For this reason, all interactions can be considered multimodal—that is people draw upon all modes of communication to make meaning when interacting with others. While different modes of communication have different
affordances and limitations, leading researchers on multimodal discourse (Kress, 2010; Norris & Jones, 2005; Scollon, 2001) do not privilege one mode of communication over others, but consider the potential each mode offers in the context of meaning making (Kress, 2010). These modes of communication include language (written or spoken), nonverbal behaviors (gesture, posture, and gaze), and the local environment (space). Collective examination of all modes of communication contributes to understanding the complex-meaning making processes that are set into play when people interact with each other and/or with the environment.

Norris (2004) and Scollon (2001) considered the role of the local environment as a mode of communication because all interactions take place in the material world. Norris (2004) further explored the role of the material world, explaining that it is not limited to just the setting in which the interaction takes place, but is an inclusive definition, considering disembodied modes such as music, print, and layout of the physical space. Lenter (2014) studied the ways people, objects, and social contexts and practices work together to produce particular meanings in literature circles. Her research revealed the unintended consequences that arise when the central tool for managing small group literature discussions in a fifth-grade classroom is reduced to using a single disembodied mode, in this case a role sheet. The role sheet was the framework used for organizing group discussions by assigning students specific roles to assume when the literature circle met on a weekly basis. These roles include group leader; discussion leader; problem-solver; connection maker; sequencer; and illustrator. The intent of the role sheet was to provide different experiences as students assumed different roles and facilitate meaningful interactions through group discussions. Lenter (2014) found students became less engaged and motivated to participate in literature circles as the teacher became less involved in overseeing and interacting in the discussions. As a result, the quality and substance of student
work declined over time and the role sheet became a social tool for compliance and accountability rather than a tool for rich literature discussions.

There is a growing interest in learning more about instructional interactions that extend beyond language and consider all modes of communication. Asplund (2016), Lenters (2014), and Bourne and Jewitt (2003) argued that it is not enough to limit the examination of teaching and learning to the use of just verbal resources as all acts of communication are understood as socially made and meaningful. This qualitative case study hopes to add to the literature using a multimodal lens (Norris, 2004; Norris & Jones, 2005) to capture the complexities and ambiguities of social actions and interactions that occur in a one-on-one instructional setting around writing instruction. The following presents how the frame of multimodal interaction analysis informed my research study.

Multimodal interaction analysis is a framework for analyzing the complex nature of everyday human interactions—linking discourse with social actions. Multimodal interaction analysis explores “ways to move discourse analysis beyond the analysis of texts to consider questions about the actions people take with them, as well as with other cultural tools, and the social consequences these actions have” (Norris & Jones, 2005, p. xi). Erickson (2004) and Mercer (2008) viewed teachers and students as social actors using social actions and language as tools for constructing meaning in shared activities. Norris and Jones (2005) and Mercer (2008) found that teachers and students negotiated and co-constructed meanings through interactions around literacy learning. For example, Asplund (2016) found that it was not enough to privilege the talk adolescent boys were having in a literature discussion. In order to understand parts of their conversations, as some phrases were inconclusive as they stopped talking, it was important to include other modes of communication such as the use of physical
objects (a pen was used to represent a tanker truck) or gestures (using their arms to suggest the location of a bridge in relation to the tanker truck) to make meaning and be understood.

Bodrova and Leong (2007) defined meaning as “the convergence between the adult’s meaning and the child’s inferences about what the adult means” (p. 70). This is a shared state of understanding as long as the child and teacher used and understood words and other multimodal interactions within a familiar context (Mercer, 2008; Norris & Jones, 2004; Scollon, 2001). In contrast, miscommunications between social actors lead to misunderstandings and confusions. Therefore, meaning is not limited to discourse (spoken language) itself, but the actions that are taken are of equal importance (Kress, 2010; Norris, 2004; Norris & Jones, 2005, Scollon, 2001). Hence, different modes of communication in effect realize different meanings. For example, the distance of a gesture, the intonation range of voice, the direction and length of gaze are all viewed as part of meaning making (Bourne & Jewitt, 2003; Norris 2004). Thus, the focus of the analysis should not be limited to just spoken language, but consider the whole intersection of social practices of which discourse is a part (Scollon, 2001). There is a growing interest amongst researchers who have embraced a multimodal approach to illustrate how all modes of communication should be considered as contributing towards meaning making and valued with equal importance.

Bourne and Jewitt (2003) used a multimodal approach to understand the social interactions one teacher used to extend higher-order literacy skills of her middle-school students. The research found that the teacher’s selection of mode was not arbitrary. Specific modes of communication were used to facilitate discussions and orchestrate interactions amongst the students. For example, the teacher positioned herself in different locations within the classroom assuming different postures. When seated in the front of the classroom, the
teacher sat in an upright position to lead the discussion. Other times, the teacher moved to the left side of the classroom assuming a more relaxed position, sitting on the edge of a desk opened the space for students to interact amongst themselves.

Cremin and Baker (2014) and Lose (2008) argued for increased awareness of using multimodal units of analysis as a tool for understanding behaviors within an instructional setting. Cremin and Baker (2014) examined one teacher’s writing identity using multimodal interactive discourse—thus giving equal attention to all modes of communication used by the teacher as she interacted with students in her primary classroom. The study highlighted how the teacher used embodied modes of communication to position herself as a writer as she modeled and demonstrated writing in a whole-class setting as well as composing alongside students in groups. What is missing from this study is the analysis of multimodal interactions on the part of students as they responded to the teacher’s interaction within the classroom.

Lose (2008) included both Reading Recovery teachers and students as she examined the role of nonverbal communication within the context of early literacy learning. Lose (2008) found that teachers and students employed different ways of using nonverbal communication to convey critical information that signaled underlying meanings about what each social actor understood within the context of the instructional setting. This study argued for teachers to consciously attend to nonverbal communication as useful feedback so that teachers can refine their teaching interactions and optimize children’s literacy learning. What this study did not fully address is the balanced attention to all modes of communication and how teachers interpret and adjust their interactions specifically when communication is misunderstood.

This current study sought to add to the literature with regard to understanding how teachers and students used all modes of communication to co-construct meaning, as well as how
these modes were interpreted and understood by each other. In this way, teachers were able to make instructional decisions about when and how to respond to students during a Reading Recovery writing lesson. Teacher expertise plays an important role in the instruction of students who are most at risk and who without early one-on-one interventions might experience long-term difficulties and possible literacy failure.

**Teacher Expertise**

Preventing literacy failure and special education referrals lies in the hands of teachers who have the most expertise and respond to students in ways that encourage independence (Allington, 2001; Clay, 1987; Johnston, 2004, 2011). For instance, Velluntino et al. (2006) found early identification was not enough to change the trajectory of children who posed the greatest risk of literacy failure. This longitudinal study identified children who were considered high risk of literacy failure as early as kindergarten and followed them through the third grade. Supplemental literacy support from school personnel fell into one of two categories—highly trained teachers with literacy expertise or staff members with little to no training delivering boxed programs. The study found 84 percent of at-risk children became at least average level readers by the third grade when literacy interventions were provided by teachers with the greatest expertise in literacy instruction. In contrast, students who were provided supplemental support delivered by uncertified staff using boxed programs, were less likely to make grade level progress and more often referred to special education. To further support Velluntino’s (2006) findings, Johnston (2011) investigated outcomes of Response to Intervention (RTI). He showed that children identified and referred to special education were very often provided with supplemental instruction with the least qualified personnel. Additionally, he found that much of the supplemental instruction provided to low progress children consisted of packaged literacy
interventions that fall short of considering the level of teacher experience or the instructional history of the student. For this reason, Vellutino et al. (2005) suggested that literacy instruction should be “tightly controlled, individually designed, and contingently delivered in order for it to be responsive to a struggling reader’s individual needs” (p. 105).

Allington (2001) and Johnston (2011) contended that with appropriate instruction, even students with limited competencies can learn to read. Allington (2001) showed the further a student’s reading development fell below the average reading development of their peers, the greater the intensity and expertness of reading instruction will be required to move the student’s reading performance to the average range. He suggested that most struggling readers in kindergarten or first grade would benefit from an additional 30 minutes of daily “extra, intensive, and expert reading support” (p. 17). Torgeson, Alexander, Wagner, Rashotte, Voeller, and Conway (2001) found the reading gap could be closed within an eight-week intervention period when struggling readers in grades 2 through 4 were provided two daily 50-minute periods of small group expert interventions. These studies further support Johnston’s (2011) findings that “teacher expertise is the most important factor in improving children’s learning, and children experiencing the most difficulty should have the most expert teachers” (p. 520). This opens the question whether or not literacy difficulties are instructionally induced—caused by experiential or instructional deficits, rather than cognitive deficits.

Several studies attributed student success in literacy learning to characteristics commonly found in expert teachers of Reading Recovery. Block et al. (2002), Matczuk and Straw (2005), and Ross and Gibson (2010) suggested that the rate and depth of literacy growth for students depended on the level of teacher expertise. For example, Gibson (2010) found Reading Recovery teachers were able to articulate complex instructional decisions in relation to their
knowledge of the content and individual needs of the student based on data collected through
detailed observations. Block et al. (2002) and Ross and Gibson (2010) based their findings on
the discursive exchanges provided by expert literacy teachers. They identified key
characteristics of expert teachers to include—keen observations of student responses and
interactions; ability to quickly adjust instructional support in response to the child and the
teacher’s previous attempts to help; and promotion of independent problem solving. Matczuk
and Straw (2005) examined aspects of specific teaching moves made by Reading Recovery
teachers that fostered independence and growth in children’s writing based on David Wood’s
(2002) theory of contingent teaching—that is the collaborative moves a teacher makes based on
the learner’s actions. The study found that the Reading Recovery teacher’s decision to engage in
different levels of support was contingent upon the response of the child and progress of
learning was paced by the activity of the learner. In other words, literacy lessons that are
specially designed with the learner in mind coupled with just right teacher support accelerates
student progress. Data analyzed in these studies focused on discursive interactions between the
teacher and the student.

What seems to be missing is a description of teacher-student interactions beyond
discursive exchanges, thus giving equal consideration to all modes of communication. What are
the discursive patterns that underlie conversations as a communicative process is shared
between students and teachers? This study explored how communication around literacy
learning was co-constructed—revealing how social actors responded when communication
aligned between social actors as well as actions that were taken by social actors when
communication was misaligned within the context of the setting.
Discursive Practices in Teaching and Learning

For many studies, language is the privileged mode of communication from which teaching and learning are examined and often valued as the key contribution towards successful instruction. Cazden (2001) cautioned against conversations exemplified by the typical centuries-old discursive patterns, often dominated by the teacher and largely driven by a three-part sequence—Initiation, Response, and Evaluation (IRE), that viewed the teacher as the gatekeeper of knowledge. This pattern of responding runs counter to the functional and nonfunctional ways in which communication works in the larger world outside of schools and classrooms. In keeping with Cazden (2001), Raban (2014) found this one-way monologue robbed children of the opportunity to extend their communicative competencies as the communicative interplay was limited to correct and incorrect responses evaluated by the teacher.

Rymes (2009) suggested an alternative to IRE, thus extending Cazden’s (2001) work and found teachers who used open-ended questions to be more genuine, authentic, and information seeking rather than listening for one right answer. Rhymes (2009) and Raban (2014) suggested a more natural interactive use of language through turn taking, much like the way parents and caregivers support children as they interact in the world. Rymes (2009) found that when teacher questioning encouraged students to respond in new ways with unanticipated answers, they think more critically—in other words, to do more than simply decipher what the teacher thinks they should say. Thus, “turn taking—and the associated opportunities for learning—unfold differently in different classrooms and for different activities within the same classroom” (Rymes, 2009, p. 108). Similarly, Raban (2014) found children were able to internalize and extend their linguistic resources to talk, think, and learn when teachers responded in ways that challenged students to clarify or provide further explanations of their responses. Raban (2014)
explained, the teacher’s role in the conversation should be “attending to not only what they are talking about, but how they are using language for particular emotional, social, linguistic, as well as cognitive purposes” (p. 10). Examining patterns of instructional discourse is only one aspect of communication that can provide insight into the assumptions and values held by teachers as it relates to teaching and learning.

Another view is to see teaching as an outgrowth of helping. Mercer (2008) viewed helping as an important facet found in all societies—that is “one person helps another to develop their knowledge and understanding” (p. 1). He argued helping was at the heart of education and did not view teaching and learning as separate processes. Mercer (2008) referred to this as the “guided construction of knowledge” and defined knowledge as “a joint possession, because it can be very effectively shared” (p. 1). He believed that humans are “uniquely equipped to pool our mental resources and solve problems—to create knowledge—through joint mental effort” (p. 1). He gave credit to the role that language plays as a means for constructing knowledge and understanding. Therefore, inquiry is not “learning” but “teaching and learning”. It treats knowledge as something that is socially constructed by people who use language as a “social mode of thinking” (Mercer, 2008, p. 4).

Several Reading Recovery scholars (Anderson, 1999; Bennet, 2015; Konstantellou & Lose, 2016) have examined conversational interactions that explored the role of language in teaching and learning. Anderson (1999) and Bennet (2015) contended the conversational interplay between teacher and learner was key in supporting children who were struggling with literacy learning. Purposeful instructional conversations scaffold children’s learning by offering opportunities for independence, initiative, and discovery while learning how to read and write. Anderson (1999) and Bennet (2015) placed the responsibility of conversations on the teacher.
They explained, Reading Recovery teachers who listened closely, responded to the unique needs of the child, and provided appropriate levels of assistance so that the child could successfully accomplish the task at hand bridging language and thinking (Anderson, 1999; Bennet, 2015). Furthermore, Bennet (2015) highlighted the importance of the teacher and student checking in as a key aspect of effective instructional conversations. Ongoing monitoring of both verbal and nonverbal cues served to confirm shared understanding on behalf of both teacher and student, thus avoiding the chance of loss of meaning which often led to misunderstandings. Anderson (1999) suggested teachers reflect on the language patterns they used to help or hinder learning. Confusions in conversations occurred for a number of reasons. In English, for instance, many words have multiple meanings and when interpreted in a different context, meaning breaks down and leads to confusions and misunderstandings. Thus, conversational interactions should foster ways for the teacher and student to establish a co-constructed working relationship.

Konstantellou and Lose (2016) found Reading Recovery teachers engaged in two kinds of conversational language to successfully negotiate teaching and learning in a one-on-one instructional setting. Konstantellou and Lose (2016) described these two language interactions as—genuine and meaningful child-teacher conversations around reading and writing and the language of succinct prompts used by the teacher to call for action upon the child during problem solving. They found both kinds of language interactions to be equally important in advancing an effective literacy process for the child. Thus, learning environments that were active, selective, and constructive allowed learners to openly discuss, contest, or coordinate and reconcile different points of views.
Several scholars have examined the impact of social patterns of interactions within the learning environment that encourage or inhibit opportunities for learning. Harste and Burke (1980) examined how beliefs and assumptions held by teachers about children, informed the teacher’s design for instructional activities used in the classroom. In some cases, literacy activities debilitated rather than facilitated the process of literacy learning for students in low SES schools. This finding was argued and substantiated by Gee and Green (1998). They found knowledge was socially constructed in the classroom and shaped by the discursive activities and social practices of its members. Thus, patterns of practice simultaneously supported and constrained access to academic content of the ‘official’ curriculum (Gee & Green, 1998). In other words, opportunities for learning are influenced by the actions of actors beyond classroom settings.

Another aspect of how knowledge is co-constructed, considers the social and emotional dimensions of learning. Bomer and Laman (2004) studied the social and emotional dimensions of academic learning and found there was no separation between cognitive achievement and social and emotional dimensions. As students engaged in “school work” they were also engaged in being agents of their own “life work”, negotiating power, privilege, and closeness with others around them. In order to assure the literate growth of all students, these scholars suggested that educators consider first, the complexities of classroom life that shape literacy activities and learning, and second, how positions instantiate relations of power. That is, which persons are “entitled to say and do what, who is in and out of particular groups and roles, and who has access to particular spaces, activities, genres, and voices” (Bomer & Laman, 2004, p. 428). On the other hand, Worthman (1999) learned that teaching students to appropriate and use representational speech (the language of formal instruction) implied authority, and reified the
reproduction of the dominant culture. This ignored different language styles and ways of knowing (Heath, 2007; Worthman, 1999). These studies help to understand that language is a part of a complex and dynamic interaction that arises as a result of many factors: sociocultural backgrounds, interests, and mediational means available to the participants. What is limited in the literature are other modes of communication teachers use to support instruction. Much of the research is focused on teacher-student discourses and ignores other modes of communication as tools for meaning making. This narrow definition of communication to speech discounts other modes in which students use to reveal what they are understanding or misunderstanding. This study investigated how modes communicate to understand what else can be learned within Reading Recovery sessions to support children’s learning and teacher’s pedagogy and practice. These discursive practices can impact students in becoming agents of their own learning.

**Agency**

Recognizing students as human resources positions students to become agents of their own learning. Therefore, examining how teachers position students as agents of learning is worthwhile and requires questioning whether or not turn taking patterns occurring within the instructional setting are co-constructed and meaningful. The use of the Initiate, Response, Feedback (IRF) (Rymes, 2009) discourse sequence is an example where conversations within learning events are built upon multiple social contexts with which students engage. Rymes (2009) suggested this “more inclusive kind of learning event can emerge through basic changes in the turn taking patterns—changes in who asks the question, whose experiences are included, and whose languages are heard” (p. 121). This study considered how social actors used different modes of communication as they contributed to the co-construction of meaning through turn taking.
Van Bramer’s (2003) study showcased the power of conversational discourse style as an example of active co-construction of meaning between two Reading Recovery teachers and their respective students. The study showed, instances where the Reading Recovery teacher engaged the student in more conversational styles of interaction, the child and teacher actively contributed building upon each other’s utterances. In contrast, situations where more traditional IRE formats were used, the student appeared more passive, receiving knowledge from the teacher and searching for the correct answer that the teacher was expecting to hear. Van Bramer (2003) concluded that the stance of the student appears to be linked to the manner in which the teacher structures the interaction to co-construct meaning.

For this reason, awareness of the explicit modes of communication teachers use to engage students in discursive practices is important to understand as it influences ways in which students view and position themselves. Johnston (2004) showed the greater the language gap between teacher and learner the harder the teaching becomes. Thus, instructional language and the scaffolds used with students are critical in supporting children in learning to control what they need to attend to. When students discover how to act strategically, they understand the relationship between what is done (action) and what happens (Johnston, 2004). Thus, explicit attention to strategic behaviors such as self-regulation through expanded attention to language builds agency in children. For instance, Harris, Graham, and Mason (2006) examined the effectiveness of self-regulated strategy development (SRSD). The study found positive effects in writing performance with struggling second graders when instruction was scaffold so that the responsibility for applying strategies gradually shifted from instructor to student. As a result, most children were able to transfer what they were learning into their regular classroom. The study attributed the transfer of strategies to the classroom to the explicit encouragement from
instructors to students to generalize their learning as well as discuss with the instructor how to use the learned writing strategies. Gibson (2008) added to the understanding of self-regulation by studying students who were provided with immediate instructional scaffolds, targeting individual student needs. Gibson (2008) found that students were able to self-correct and self-regulate their own attention to writing through the use of self-talk to support and sustain writing and self-directed use of resources to address specific challenges encountered while writing.

Van Dyke (2006) examined observable teacher behaviors that extend oral language development along with literacy development during a Reading Recovery lesson. The study found teachers used discourse techniques of personalization and reformulation to support children in appropriating new language. Personalization of conversations occurred when the teacher engaged the child in a conversation about a topic from the child’s own experiences. This empowered the child to talk about what she found interesting and acknowledged her view of the subject was accepted by the teacher. According to Van Dyke (2006), personalization increased the potential for appropriation of new language when the teacher encouraged the child to talk. In concert with personalization, teachers used reformulation when they rephrased what the child said using more mature grammar. Reformulation was powerful in that it paraphrased the child’s contributions with the hope that the reformulation might lead the child to use the new language in her own composition. Van Dyke (2006) found children selectively appropriated language introduced by the teacher through reformulation thus providing new ways for the child to say something.

Peirce (2006) explored aspects of teacher conversations and its influence on children with composing a written message. Peirce (2006) found Reading Recovery children with limited oral language were more reluctant to engage in conversations that would later lead to composing a
written message. Her study revealed successful composing was often accompanied by friendly, supportive, instructive teacher talk. For example, teachers who began a conversation with a statement that later invited a reply from the child was more successful than asking a barrage of questions. Questioning often resulted with the child retreating from the writing task and produced banal stories from which very little was learned. Additionally, teachers refrained from altering grammatically incorrect compositions contributed by the child in the first few weeks of their program. Much like Van Dyke’s (2006) reformulation, over time teachers gradually helped children hear correct grammatical structures and extended their vocabulary.

These studies showed how children who have had more opportunities to see themselves in positions of control, where they extended their learning and made moves unassisted, resulted in becoming independent agents of their own learning. What this study hopes to contribute is an insight into how all modes of communication contribute to students becoming agents of their own learning.

**Conclusion**

A question posed at a literacy conference by the keynote speaker, Richard Allington, continues to haunt me. He said, “We could teach almost every student to read and write by the end of the first grade. The question is will we?” (2015, SERRRA Conference in Myrtle Beach). I believe the answer is yes if 1) school systems are willing to intervene early for students who are finding literacy learning difficult and provide intervention models that reflect the complexity of literacy learning; 2) instruction is responsive to the student; and 3) delivered by teachers with the most expertise. It is my hope that this study contributes to the under-researched area that considers how all modes of communication are used by teachers and students to contribute towards the co-construction of meaning, and the extent to which modes are read, interpreted,
and understood by teachers to inform instructional decisions and practices in a Reading Recovery writing lesson. This seems key in preventing students from experiencing long-term difficulties and possible literacy failure.
CHAPTER THREE

METHODOLOGY

Introduction and Overview

The purpose of this qualitative multi-case study was to understand the discursive practices and interactions between Reading Recovery teachers and their Reading Recovery student as they negotiated the writing segment of a Reading Recovery lesson. The study was guided by the following research questions: (1) What modes do teachers and students use to communicate in the writing portion of a Reading Recovery lesson? (2) To what extent do teachers and students read, interpret, and understand each other’s modal interactions in the writing portion of Reading Recovery lessons? (3) What modal adjustments do teachers make to scaffold and adapt instruction for student learning? I begin with an overview of the research design; then provide a description of the research sample, followed by an overview of information collected for the study; next, an explanation of how the data was collected and analyzed; and finally ending with a discussion regarding how ethical concerns, issues of trustworthiness, and limitations of the study were addressed.

Research Design

This qualitative multi-case study (Merriam, 1998; Swanborn, 2010; Yin, 2014) sought to understand and describe discursive and multimodal interactional patterns (Norris, 2004; Norris & Jones, 2005; Scollon, 2001) mediated between Reading Recovery teachers and their respective students for the purpose of informing how instructional conversations and practices relate to literacy learning within the social and cultural contexts of school. The design of this study required research methods that allowed for opportunities to closely examine the socio-cultural interactions between Reading Recovery teachers and their Reading Recovery students.
were finding literacy learning difficult within the context of their one-on-one instructional setting. For this reason, I designed my study drawing upon the works of qualitative researchers that used a multi-case study design (Bloomberg & Volpe, 2012; Bogdan & Biklen, 2007; Swanborn, 2012; Yin, 2014) with the lens of multimodal interaction analysis (Norris, 2004; Norris & Jones, 2005; Scollon, 2001; Wood, 2002) to learn more about how discursive interactions and social actions are mediated, used, and understood by participants as they engaged in literacy instruction. I will first explain the benefits of using a multi-case study for this research and then discuss how multimodal interaction analysis will support my understanding of this complex phenomena.

**Multi-Case Study Approach**

A benefit of using case study as a research approach is that it allows the researcher to narrow the research focus so that the researcher is able to closely investigate a contemporary phenomenon in depth within its real life-context (Bloomberg & Volpe, 2012; Merriam, 1998; Yin, 2014). Merriam (1998) and Yin (2014) defined a case as the main subject of the study, a single entity or unit around which there are boundaries. Thus, case studies can be “bounded by the time period, social groups, organizations, geographic locations or other conditions that fall within (as opposed to outside of) the case in the case study” (Yin, 2014, p. 237). Merriam (1998) referred to this characteristic as particularistic, in that the study centers on a particular situation, program, event, phenomenon, or groups of people. For example, a bounded case in which the unit of analysis includes participants who are the topic of the case study, must be distinguished from those who are outside of the context for the study. By concentrating on a single phenomenon or entity (the case) the researcher aims to uncover the complexity of the bounded social phenomenon as well as the significant factors and characteristics of the
phenomenon (Bloomberg & Volpe, 2012; Merriam, 1998). Data collection in case study research is extensive. Case studies collect and analyze multiple data sources such as documents, observations, and surveys over a period of time to gain a comprehensive understanding of the phenomenon under study (Bloomberg & Volpe, 2012; Merriam, 1998). In this way, the complexity of the bounded social phenomenon can be understood through rich description and analysis of the case (Bloomberg & Volpe, 2012). In this study, I narrowed my attention to a 10-minute segment within the 30-minute Reading Recovery lesson. The study closely observed teacher-student interactions during the 10-minute writing segment of the Reading Recovery lesson.

Another affordance of a case study approach is that it calls for observing the phenomenon in its natural setting. In this study, observations of teachers and students took place in a dedicated classroom in which all Reading Recovery teachers have a designated space designed for conducting one-on-one instruction. At the very least this consisted of a rectangular table with two chairs set side-by-side and one magnet easel. Opportunities to observe participants in the natural setting enabled me to consider how the participants used and interacted within the confines of the instructional space. Close participant observations enabled me to gather rich data from the participants which in turn provided insight into the complexity of the bounded system (Reading Recovery teachers and their students in a one-on-one instructional setting) as well as detailed descriptions of how the bounded system operated (Johnson & Christensen, 2008).

Case studies may include multiple cases. Yin (2014) defines multi-case study as a case study organized around two or more cases. When multiple cases are examined, there are two stages of analysis—the within-case analysis followed by the cross-case analysis (Merriam, 1998). Within-case analysis provides detailed descriptions of themes within each case. Cross-
case analysis allows the researcher to see “processes and outcomes that occur across many cases, to understand how they are qualified by local conditions, and thus develop more sophisticated descriptions with more powerful explanations” (Merriam, 1998, p. 195). In this multi-case study, a case was defined as one Reading Recovery teacher and her Reading Recovery student who were served at two elementary schools within one school district. I chose a multi-case study design for three reasons. First, it allowed me to examine and understand this complex social phenomenon in a real-world context and perspective (Bloomberg & Volpe, 2012; Bogdan & Biklen, 2007; Swanborn, 2012; Yin, 2014). Second, the multi-case study enabled me to consider numerous opportunities to investigate a “phenomenon, group, condition, or event” (Barone, 2011, p. 9). Third, having multiple cases allowed me to consider relevant and irrelevant features of the phenomenon with different participants (Swanborn, 2012). In this study, I observed three Reading Recovery teachers and their respective students in the natural instructional setting of a one-on-one writing lesson through the lens of multimodal interaction analysis (Norris, 2004; Norris & Jones, 2005; Scollon, 2001).

Multimodal Interaction Analysis

Case study with the lens of multimodal interaction analysis (Norris, 2004; Norris & Jones, 2005; Scollon, 2001), a methodological framework for analyzing all modes of communication, was selected as it supports the exploration of discursive interactions and practices (verbal and nonverbal) between one student and her Reading Recovery teacher during the 10-minute writing segment of a Reading Recovery lesson. Multimodal interaction analysis (MMIA) is grounded in the disciplines of discourse analysis, interactional sociolinguistics, mediated discourse analysis, and multimodality (Norris, 2004; Norris & Jones, 2005; Scollon, 2001). MMIA is a methodological framework for analyzing human interactions that overlap the
boundaries of linguistics, nonverbal behaviors, and multimodality (Norris, 2004; Norris &
Jones, 2005; Scollon, 2001). For example, a Reading Recovery teacher might scaffold a
student’s letter confusion (b/d) by supporting the student’s written response through a verbal
interaction by asking, “Do you remember which way the d goes?” while simultaneously
presenting a magnetic letter before the child acknowledges this nonverbal interaction with a nod
of the head and then writes. In this way, the teacher intervened, preventing the child from
habituating a known letter confusion. The framework also considers the material world in which
interactions take place (the one-on-one teaching space) as well as embodied modes which
suggests any means of communication that is an extension of the body such as language,
gesture, and gaze and all disembodied modes which includes communication in which people
react such as listening to music or reading print (Norris & Jones 2005). Thus, in this framework
all communicative modes of interaction that occurred during the instructional exchanges were
considered.

The following images provide examples of embodied and disembodied modes of
communication that were analyzed. In Figure 2, the student points at the word like while the
teacher has her left hand resting on the student’s page of writing. The embodied modes are
those that are in action: gestures and resting hands. Disembodied modes are those that have no
action but serve a significant part of the communication. The paper is a disembodied mode. In
this image, the student embodied action was that she interacted with the disembodied mode of
written text and used the embodied mode of gesture to communicate her understanding of one-to-one as she re-read her short story to the teacher.
In Figure 3, the teacher and student engaged in a short conversation about the student’s trip to the dentist. Embodied modes that are in action include spoken language, gaze, head movement, and posture. Disembodied modes include the writing notebook positioned between the teacher and student as well as other instructional material used in the lesson and displayed on the teaching table and surrounding areas: books, standing white board, eraser, and the teacher’s pencil. In this image, the teacher’s and student’s embodied action was to interact in conversation to compose a story that would be transcribed in the disembodied mode of the writing notebook.

In Figure 4, the student’s written text is the disembodied mode resulting from the brief conversation the student had with the teacher to extend his story. The teacher reformulated the
student’s descriptions of his trip to the dentist to extend his language to compose longer and more complex story ideas.

Figure 6: Student Writing Sample.

In Chapter One, I presented the theoretical underpinnings of multimodal interaction analysis. As a methodology, MMIA has particular ways in which multimodal data are analyzed. Norris (2004) argues to truly understand the interaction, “we must investigate the visual channels of communication as well as the audible channels” (p. 148). Thus, videotaped data are vital for the multimodal interaction analysis, as it provides an option to revisit the same interaction, focusing on one mode at a time before analyzing their interplay. (Norris, 2004; 2014). Multimodal transcripts of video and other multimodal data are created for analysis. The task of a multimodal transcription is to translate the visual and audio aspects of the interaction in some printable form, thus creating a visual record or account of the ongoing interaction (Norris, 2004). The purpose of the multimodal transcription is not to analyze the images that are incorporated, but rather to use the images to “describe the dynamic unfolding of specific moments in time, in which the layout and modes like posture, gesture, and gaze play as much a part as the verbal”(Norris, 2004, p. 65). Transcribing video data is a complicated undertaking as
there are numerous transcriptions of any one interaction and each transcription involves multiple steps. Initially, communicative modes are kept separated and transcripts display the image, spoken language, and descriptions of each communicative mode used in the interaction. These multimodal transcriptions are then combined with two or more other transcriptions and finally combined altogether to present a complete transcription of the interaction. In a completed transcription images as well as all prior transcripts are combined to provide a detailed description of the actual interaction and the interplay of all of the communicative modes as clearly as possible.

Norris (2004) discusses how different modes operate in synchronicity; however, some modes carry more of the message than others. Historically, greater attention has been given to spoken language with other modes viewed as subordinate. MMIA highlights which modal actions are relevant to the interaction as well as how and when other modes are dependent upon the mode of language (Norris, 2004). De-emphasizing spoken language does not take away the importance of spoken language, but rather acknowledge the significance of other communicative modes that are just as essential in interaction as spoken language. Analysis of multimodal transcriptions reveal which modal actions are important to the interaction depending upon the intensity, weight, or importance of specific modes used within the interaction. Norris (2004) refers to this as modal density. For example, in Figure 2, gesture carries more of the message than, for example, posture and body movements, but in combinatorial relationship with spoken language, “Is this right?”, both gesture and spoken language carry equal parts of the message. They are one-to-one in correspondence. One emphasizes the other and vice versa. In Figure 3, spoken language carries more of the message than, for example, proximity and posture, but in combinatorial relationship with gaze and head movement, spoken language exchanged between
the teacher and student alongside gaze and head movement, contributed equally to the interaction. The verbal and nonverbal modal responses reinforce one another. In Figure 4, the language of the written text carries more of the message than the writing notebook or layout of the text.

As a methodological framework, MMIA aligned with my belief that knowledge is socially constructed and individually interpreted as human beings interact with each other and the world (Crotty, 2012; Mercer, 2008; Norris, 2004; Norris & Jones, 2005; Scollon, 2001). Therefore, knowledge is co-constructed, using language as a “cultural tool that enables us to think logically and to learn new behaviors. It influences more than just the content that we know; it also impacts thinking and the acquisition of new knowledge” (Bodrova & Leong, 2007, p. 65). Examining data with the lens of multimodal interaction analysis seeks to understand and describe what is going on in a given interaction—in this study, the mediated actions that accompanied the language that was used between teacher and student served to inform how teachers made decisions about when and how to respond to children around literacy learning in meaningful ways (Bodrova & Leong, 2007; Mercer, 2008).

Language is used by teachers and students to negotiate learning in the classroom. Thus, children construct meaning through shared activities (Mercer, 2008; Vygotsky, 1986). “Meaning is the convergence between the adult’s meaning and the child’s inferences about what the adult means” (Bodrova & Leong, 2007, p. 70). Meaning is a shared state and as long as the child and teacher use words in a familiar context while communicating, then understanding is sufficient to maintain a conversation. However, sometimes children and adults use the same words, but a child’s understanding for a word or group of words differs from the adult’s meaning. For example, in English, some words have more than one meaning. When this
happens, a mismatch or misunderstanding interferes with the meaning of the intended message and results in a miscommunication (Bodrova & Leong, 2007; Mercer, 2008). In other words, the ways in which social actors respond provides a window into how they are co-constructing meaning.

In this qualitative multi-case study, multimodal interaction analysis of student-teacher conversations and social actions were considered “language”, in the broad sense of the definition, as it played an integral part in assisting students with learning in an instructional setting. Close examination and analysis of such discursive practices and social actions not only revealed how knowledge was socially co-constructed in an educational setting, but also provided insight into the complexities of how Reading Recovery teachers organized instructional language and mediated actions in a one-on-one setting to negotiate writing instruction with culturally and linguistically diverse students who were struggling with literacy learning.

Role of the Researcher

In my research, I wanted to understand the complexities of how teachers of Reading Recovery and their students used different modes of communication to co-construct meaning as they organized instruction and responded to each other in a one-on-one instructional setting. In conducting this research, I considered myself both an insider, an emic viewpoint, and outsider, or etic viewpoint (Merriam, 1998). In qualitative research, Merriam (1998) understood the key to understanding a phenomenon was from the participant’s perspective and not the researcher. However, Merriam (1998) recognized meaning derived from the data was “mediated through the investigator’s own perceptions” (p. 6). She referred to this as the emic, or insider’s perspective, versus the etic, or outsider’s view.
I viewed myself as an insider in that I not only train teachers in Reading Recovery, but I also participate as a Reading Recovery teacher. As a district trainer, my responsibilities included maintaining teacher certification by providing ongoing professional development to Reading Recovery teachers as well as conducting a minimum of one formal observation for each teacher with their students during each school year. As a trainer of teachers, I have a clear understanding of the theoretical underpinnings of Reading Recovery and am intimately familiar with the Reading Recovery framework. Additionally, I support teachers through formal and informal visits where I provide specific instructional support for a teacher’s most challenging students. Because Reading Recovery is grounded in the belief that conversations between student and teacher are the catalyst for stimulating learning there is always discussion and analysis following a teaching observation around how the teacher shaped instructional language to meet the needs of the student. As I have this role in the district, my subjectivities played a role in how I viewed and interpreted the data as well as the teachers that volunteered to participate.

I also took on an etic viewpoint in this study in that I truly believe all children are unique and come to the table with individual strengths and needs that change over time. Based on my past experiences, each teaching interaction is as unique as the child. In my experience, teachers seem to respond to different children in different ways. Therefore, I believe I was a neutral observer in this study. I understood my dual roles and used this perspective to understand the interactions that occurred between student and teacher. Each relationship between teacher and student was unique to the cultural and social practices of each individual teacher and student. I attempted to capture this as accurately as possible.
Study Site

The selection of the site was based on convenience sampling (Creswell, 2014). Creswell (2014) defines convenience sampling as a nonprobability sample in which respondents are chosen based on their convenience and availability. This site was convenient as I had easy access to this site as an employee of the district at the time of the study and as a Reading Recovery trainer, I had a close relationship with the school district and access to qualified participants.

The study was situated in a small school district located in south. The school district is nestled within a community that is largely comprised of low-income families who work for the carpet and textile industries or ancillary businesses. Poverty is no stranger to this community. In 2010, the city reported having the highest unemployment rate (15.6%) in the nation (U.S. Bureau of Labor Statistics, 2019). Since this time, the unemployment rate in this community has dropped to 5.8% which is still higher than the national average of 3.5% (U.S. Bureau of Labor and Statistics, 2019). The school district is comprised of six elementary schools, one middle school, one high school, and one alternative high school. The student body is economically, culturally, and linguistically diverse. Approximately 70 percent of the student body is Latino/Hispanic. All six elementary schools in the district qualify for Title I funding as 75 percent or more of the student population receive free or reduced-priced meals. Due to high poverty, transient rates in the school district fluctuate between 50 percent and 70 percent. All six elementary schools used Reading Recovery as its primary literacy intervention in first grade at the time of the study.
Recruitment of Participants

After I secured IRB approval (see Appendix A) for this study, I began recruitment of participants. For this multi-case study, I recruited three trained Reading Recovery teachers and their respective students for a total of six participants. I recruited teacher participants by sending an email to eligible teachers (see Appendix B) inviting them to attend a meeting during after school hours in January 2017. The email contained a brief explanation of the purpose of the study. At the recruitment meeting, I explained the study to the teachers and answered questions without any school administrators present in the room. It is important to note that my role in the school district at the time of the meeting was and continues to be the Reading Recovery district trainer. In this role, I maintain the certification and support of Reading Recovery teachers in the district. I do not evaluate Reading Recovery teachers, nor do I have authority over their position in the school. I was strictly a trainer that wished to study Reading Recovery teacher interactions with children, thus minimizing any obligation for Reading Recovery teachers to participate. Teachers who participated in the study were strictly volunteers who were interested in the study.

A total of three teachers from two elementary schools in the district were recruited to participate in this study. For purposes of the study, it did not matter whether or not Reading Recovery teachers were represented across the district. What was important was that they were certified Reading Recovery teachers who met guideline standards (RRCNA, 2015) and have taught Reading Recovery for a minimum of one year. First-year Reading Recovery teachers are required to complete a year-long training course and were excluded from participating in the study due to the fact that they are new to the theoretical underpinnings of Reading Recovery and actively participating in a rigorous year-long graduate level training course. As the researcher, I felt the load of graduate level work required of teachers in training would be too demanding.
Selection of Participants

Participant selection in this multi-case study was based on purposeful sampling (Bloomberg & Volpe, 2012; Merriam, 1998). Purposeful sampling identifies participants who have the greatest knowledge and expertise, which allows the researcher to access the richest data thus providing the greatest insight and understanding of the phenomenon (Bloomberg & Volpe, 2012; Merriam, 1998). The study looked at how teachers used, interpreted, and responded to students’ modal interactions to inform instructional decisions. Reading Recovery teachers are highly trained with a record of successful teaching experiences with young children. Their training is comprehensive, complex, and intensive because each teacher learns to design and deliver individual daily lessons that meet the needs of the children they teach. Reading Recovery teachers accomplish this by systematically and regularly assessing each student’s proficiency through close observations of student behaviors and interactions with text. Reading Recovery teachers then, self-analyze teaching decisions and tailor instructional interactions to meet the needs of each student with the goal of increasing literacy proficiencies for each student. In this way, Reading Recovery teacher participants met this purposeful sampling criteria.

Participant selection was based upon inclusion and exclusion criteria. First, to be included in the study, teacher participants had to be trained in Reading Recovery and second, students had to qualify for Reading Recovery services. A trained Reading Recovery teacher is one who has successfully completed the initial year-long graduate level training program provided by a registered Reading Recovery teacher leader under the guidance of a certified university site. Reading Recovery teachers were excluded if they were in their first year of training. I did not want teachers in training to invest additional time participating in a research study when they
were already investing extra time to attend weekly classes after school hours and completing written assignments required by the graduate course.

In general, student participants included in the study had to qualify for Reading Recovery services. First, students were identified and selected based on scores on the Observation Survey literacy assessment (Clay, 2007). Students were amongst the lowest achieving first graders (ranging in age between 6 and 7 years) across all six literacy tasks of the Observation Survey (Clay, 2007). Literacy tasks include letter identification, concepts about print, word test, writing vocabulary, hearing and recording sounds in words, and text reading. Second, Reading Recovery students in the study had to be taught by the selected teacher participants. Excluded from the study were students who either did not qualify for Reading Recovery services or were not taught by the selected teacher participants.

Participants

All Reading Recovery teachers in this study have had specialized training and experiences in literacy instruction (Clay, 2005; RRCNA, 2015). At the time of the study, the number of years, teacher participants had been employed in education ranged from 6 to 20 years. All were white middle-class teachers who had earned a Master’s degree in education and had worked for the school district for six or more years. As a full-time Reading Recovery teacher, all three teacher participants spent one-half of their day teaching four individual Reading Recovery segments. The balance of their teaching day was spent in small group instruction.

This study commenced in late January. As the first round of Reading Recovery students who began their intervention in the fall complete their program (maximum of 20 weeks), a second round of students making slow progress were identified by classroom teachers and
recommended to Reading Recovery teachers for testing and consideration of the intervention. These students were tested and the lowest performing students were selected to begin their short-term intervention. This transition typically falls in late January of the school year.

**Teacher Participants**

The teacher in Interaction 1 was a veteran teacher with seven years of experience teaching Reading Recovery. She taught in a room with three other Reading Recovery teachers, one of whom was the teacher participant in Interaction 2. Prior to Reading Recovery, she taught in a first-grade classroom for two years at another school within the district. She changed schools to become a Reading Recovery teacher. All of her teaching experiences have been within the district. At the time of the study, she balanced one half of her day teaching four Reading Recovery students individually and spent the second half of her day providing reading instruction for small groups of children in first and second grade. On average, she met with 30 students each day.

The teacher in Interaction 2, was also a veteran teacher with a background in special education from another school district where she taught for seven years as a special education teacher prior to coming to the district. At the time of the study, she had ten years of experience teaching Reading Recovery and taught special education the second half of her day. She was responsible for providing small group instruction to special education students with literacy and math IEPs (Individual Education Plan) in the intermediate grades, third through fifth. On average, she met with 15 students per day.

The teacher in Interaction 3 taught at a different elementary school within the district. She began her career in education as a para-professional in the district, assisting primary classroom teachers. After earning her teaching degree, she spent a year teaching outside of the
district. She returned to the district as a fulltime teacher and taught two years in third grade before training as a Reading Recovery teacher. At the time of the study, she was in her fourth year teaching Reading Recovery. Compared to the other two teacher participants, she had the least amount of teaching experience with Reading Recovery. She split her teaching day instructing Reading Recovery students for one-half of the day and teaching math and reading in small group instruction with first and second graders. On average, she met with 30 students per day.

**Student Participants**

Each Reading Recovery teacher selected one student from their caseload of four students. At the time of the study, all of the students in each of the Reading Recovery teacher’s caseload was of Hispance heritage. Teachers in this study randomly selected which student participant I would study and the writing sessions in which they engaged. All of the student participants in the study were selected for the Reading Recovery intervention as they were performing significantly behind their peers. Low scores on the Observation Survey literacy assessment (Clay, 2007) revealed they were reading at or below a kindergarten level midway through their first-grade year. All of the student participants had attended a full year of kindergarten within the school district and at the same school they received Reading Recovery. The students in Interaction 1 and 2 were born and raised within the community and attended pre-school within the district. The student in Interaction 3 arrived in the district with his family when he was four years old and did not attend pre-school. Both schools in the study are designated Title I and have the largest population of poverty students.

At the time of study, the student in Interaction 1 was in week 11 with her teacher. During this week, the teacher focused on the student’s self-monitoring words that she already knew in
reading and writing. She qualified for Reading Recovery, entering the program in the second half of the school year performing well below her grade level peers and reading at a kindergarten level. She was of Hispanic heritage, but her primary language was English. She was the youngest of four children in her family living at home with her brothers and her single mother. Prior to attending pre-school, she had a transient home life. She attended pre-school through first grade at the same school she received Reading Recovery. She was a very happy and social child with an outgoing personality. She freely shared stories about her family experiences such as going to the beach with her cousins and eating out at restaurants. She wanted to write about these experiences with her Reading Recovery teacher. She experienced less success in the classroom where she had difficulty concentrating and completing classwork across all subjects. Sometimes the Reading Recovery teacher would help her complete her classroom work after her lesson. In addition to Reading Recovery, she received additional small group instructional support in literacy and math in the classroom from another certified intervention teacher other than her classroom teacher.

At the time of study, the student in Interaction 1 was in week eight with his teacher. During this week, the teacher focused on the student’s problem-solving using more complex words in reading and writing. The student in Interaction 2 was also of Hispanic heritage. Unlike the student in Interaction 1, he was bilingual and spoke both Spanish and English fluently. He attended pre-school through first grade at the same school he received Reading Recovery. He lived in a stable home with both of his parents and his older siblings. His parents took great interest in his education, attending parent conferences and volunteering in the classroom. He qualified for Reading Recovery performing well below his grade level peers and reading at a kindergarten level. He was significantly younger than his siblings, who were in middle and high
school at the time of the study. He had a curious and outspoken personality and enjoyed rich life experiences he spoke and wrote about. He was involved with extra-curricular sport activities and often traveled to Mexico to see his grandparents over student holidays. In addition to Reading Recovery, he received additional small group instructional support in literacy in the classroom with another certified teacher other than his classroom teacher. He was most confident in math where he excelled in the classroom.

At the time of study, the student in Interaction 1 was in week nine with his teacher. During this week, the teacher focused on the student’s ability to read and write longer complex sentence structures and to hear and record sounds in words. The student in Interaction 3 was from Guatemala with the local language spoken at home as his primary language. He arrived in the community with his father and older brothers at the age of four. At the time of the study, he lived in a household with several other family members outside of his immediate family. Although his father was supportive of his son’s education, he often had difficulty attending parent-teacher conferences because he did not have adequate transportation. This student, like the other two, was performing well below grade level and entered reading below a kindergarten level halfway through his first-grade year. He was more reticent than the other two student participants and while he had good control of the English language, he sometimes spoke with errors in syntax. He refrained from sharing personal stories and often preferred to write stories about his experiences in school or in response to stories he had read with his Reading Recovery teacher. In addition to Reading Recovery, he also received small group instructional support in literacy and math in the classroom from another certified intervention teacher other than her classroom teacher.
Consent Procedures

I obtained informed consent (see Appendix C) from the three Reading Recovery teacher participants and parental consent (see Appendix D) for corresponding students who participated in the study. The participating teachers were given parental consent forms and a letter explaining the study to the parents of the children in their tutoring sessions. Additionally, I made myself available to parents without the presence of school administrators or teachers to answer questions about the study. While an envelope was placed in the front office for collection of parental consent forms, the students returned signed forms to his/her Reading Recovery teacher. Children who participated in this study were between six and seven years old. A verbal assent (see Appendix E) was requested in the presence of a witness and documented on the informed consent form. As the investigator of the study, I was attentive to the body language of the students and was prepared to stop the observation if the child appeared uncomfortable. Fortunately, all three students appeared to ignore my presence.

Reading Recovery Lesson

The study examined the writing segment that takes place in every Reading Recovery lesson. The writing of a student-generated short story or message takes place in the middle segment of a daily, 30-minute Reading Recovery lesson. Writing is sandwiched in between the rereading of familiar books, including the second reading of yesterday’s new book at the beginning of the lesson and before the new book is introduced by the teacher and read by the student at the end of the lesson.
The placement of the writing segment in the middle of the daily lesson is deliberate. Clay (2001) argued that writing “prevents learners from neglecting or overlooking many things they must know about print, and reveals things about the learner’s way of working that their teachers need to know about” (p. 18). Teachers and students engage in a short conversation before composing and transcribing a story. As students begin to transcribe stories, Reading Recovery teachers make close observations of student interactions with continuous text. In response to these actions and interactions with continuous text, teachers instruct and support the student by demonstrating or prompting for a correct strategic action or response. Reading Recovery teachers also have a number of instructional materials they use with students. These instructional materials include white correction tape used to cover up errors, magnetic letters as models for checking on correct letter formation, orientation, and/or salient features, and sentence strips used to reconstruct the student’s story after it is written, better known as the cut-up story.

**Procedures**

Several days before data for this study was collected, I was able to video-tape one lesson for each of the teachers and her student using the iPad in an attempt to minimize its obtrusiveness during the data collection period. I felt it was important to familiarize the students to the video recording device so as to minimize intrusion in the data collection process. I also
thought the video data collected during the research would not be out of the ordinary and distract from the one-on-one interactions with their teacher. Swanborn (2010) emphasizes that it is important to study a phenomenon in its natural context because “it is not yet quite clear what the spatial and temporal boundaries of the phenomenon are. In other words, it is not yet clear which properties of the context are relevant and should be included in the modelling of the phenomenon, and which properties should be left out” (p. 15, italics in the original). For this reason, I observed the entire 30-minute lesson in order to minimize disruption from the lesson and allow me to capture any interesting interactions that might occur just before or after the writing segment.

In order to minimize disruption to the lesson, I positioned the iPad on a stand on top of a bookcase to the left of the instructional space. In this way, I was able to capture the interactions of the teacher and student while I positioned myself in a chair several feet behind them and observed the entire 30-minute lesson (from start to finish). In this way, I was out of view from the teacher and student, but still close enough to hear the verbal exchanges between the teacher and student while I observed their nonverbal interactions. I refrained from interacting and took copious field notes, especially during the 10-minute writing segment.

Immediately following the lesson observation, I made researcher notes, describing the “social processes that unfold between persons participating in the process” (Swanborn, 2010, p.13). I made it a point to pay special attention to interactions that stood out from the lesson or to describe patterns of specific issues addressed within the writing segment. I spent evenings and weekends transcribing videos of the writing segment of the Reading Recovery lesson. As these were completed, they were given to the teachers for member checking. I did not receive any feedback or corrections from any of the teachers.
After I completed my data collection, I began to code and analyze the data to look for patterns across participants as well as with individual cases. Due to the time-consuming nature of this kind of analysis, it took over a year to complete my analysis.

**Study Timetable**

The timeline for the study (Table 1), including data collection and analysis, spanned over a two-year period, January 2017 through July 2019. I began with recruiting teachers in mid-January 2017 and secured consent forms from participants prior to lesson observations. Next, I followed with lesson observations beginning in mid-February and ending the first week in May 2017. Data was informally analyzed throughout the data collection period (February-May 2017) and fine-tuned from June 2017 to December 2019.

Table 1. *Timeline for Data Collection and Analysis Portion of the Study (January 2017–July 2019)*

| Task                        | Week of→ | 01/02 | 01/09 | 01/16 | 01/23 | 01/30 | 02/06 | 02/13 | 02/20 | 02/27 | 03/06 | 03/13 | 03/20 | 03/27 | 04/03 | 04/10 | 04/17 | 04/24 | 05/01 | 05/08 | June 2017 to July 2019 |
|-----------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|
| Observations                |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |           |
| Follow-up member checks     |          |       |       |       |       |       | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     |           |
| Student work samples        |          |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | X     | X     | X     | X     | X     |           |
| Data Management             |          | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     |           |
| Collect                     |          | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     |           |
| Analyze                     |          | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     | X     |           |
| Fine-tune findings          |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | X     |           |
| Preliminary Report          |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | X     |           |
| Preliminary Report          |          |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       | X     | X     |           |
Data Collection and Analysis

Data and Data Collection

Data collected from the participants sought to explore three research questions to better understand and describe patterns of modal responses mediated between Reading Recovery teachers and their respective students, as well as how these modal responses impact instructional conversations and practices related to literacy learning within the social and cultural contexts of schooling. Creswell (2014) asserted that “cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time” (p. 14). Data for this study was primarily collected through observation in the natural instructional setting of a one-on-one Reading Recovery lesson. For purposes of providing rich descriptions of the multiple cases, data collection was extensive, occurring over a Reading Recovery student’s 12-20-week intervention program. The study collected multiple data sets including the following: 1) field notes, 2) researcher memos and reflection journal entries, 3) student work samples, and 4) audio/video recordings of the writing portion of the Reading Recovery lessons (Bloomberg & Volpe, 2012; DeWalt & DeWalt, 2011; Yin, 2014). Findings were primarily generated from data involving the actual interactions, as this was the focus of the study.

Data from the lessons (field notes and video recordings) were collected within the context of the 30-minute Reading Recovery lesson. The goal of the study was to collect nine lessons per teacher over the course of 15 weeks, beginning in mid-February and ending in early May. I scheduled and observed nine lessons with two of the teacher participants and due to scheduling conflicts, only eight lessons were observed with one teacher participant. The total number of lesson observations was 26.
Data collected aligned with the study research questions and theoretical frameworks.

Table 2. 
*Data used to Investigate Research Questions*

<table>
<thead>
<tr>
<th>Purpose of Study:</th>
<th>To identify the modes through which teachers and students communicated and interacted to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Questions</td>
<td>Data Sources</td>
</tr>
<tr>
<td>What modes do teachers and students use to communicate in the writing portion of Reading Recovery lessons?</td>
<td>Participant observation, field notes, videos, and researcher journal/memos.</td>
</tr>
<tr>
<td>To what extent do teachers and students read, interpret, and understand each other’s modal interactions in the writing portion of Reading Recovery lessons?</td>
<td>Videos, participant observation, field notes, and researcher journal/memos.</td>
</tr>
<tr>
<td>What modal adjustments do teachers make to scaffold and adapt the instruction for student learning?</td>
<td>Videos, participant observation, field notes, student work samples, and researcher journal/memos.</td>
</tr>
</tbody>
</table>
Field Notes

One of the strengths of participant observation is that it is a way to collect data in naturalistic settings by researchers who observe and/or take part in the common and uncommon activities of the people being studied (DeWalt & DeWalt, 2011). In other words, “putting you where the action is”—in the field to collect data (DeWalt & DeWalt, 2011, p. 2). As a participant observer in the study, I took field notes during the actual lesson which allowed me to answer my research questions concerning—different modes of communication used by participants to negotiate strategies used to transcribe a student generated short story; teacher responses to students; and descriptions of teacher scaffolds and instructional adaptations in response to the student. I made notes of my observations of the instructional space and how it was used/not used, as well as detailed notes the verbal and nonverbal modes of interaction used between the Reading Recovery teacher and her student during the 10-minute writing segment of the lesson. I was, however, present for the entire 30-minute lesson, thus minimizing any disruptions to the flow of the lesson. This also allowed me to note any interactions that were particularly interesting and seemed applicable to the child’s understanding of different aspects of the writing process. For example, the Reading Recovery teacher sometimes made a link from the child’s interaction with writing to a previous interaction with reading. I noted this for further consideration in the data analysis. I also noted different modes of communication used by teachers and students as they negotiated literacy tasks and the scaffolds and instructional adaptations teachers made in response to their student.

Researcher Journal/Memos

Throughout the course of the study and especially my work in the field, I kept a researcher journal to chronologically record my personal reactions, concerns, thoughts about the
study, and any frustrations I had encountered (DeWalt & DeWalt, 2011). Additionally, memos and analytical notes were generated as expanded field notes following an observation of a lesson. These notes reflected on events and notes recorded in the field as they related to my research questions regarding specific modes of communication, actions, and interactions taken by the participants as they worked to co-construct meaning. Memos included comments on notes, summary of the evidence for a particular instructional event, preliminary interpretations, hypothesis, and any possible questions that for further research (DeWalt & DeWalt, 2011).

After each observation, I followed an observational protocol (Creswell, 2014) that separated descriptive notes from reflective notes. Creswell (2014) defined descriptive notes to include any relevant notations that describes the participants, transcription of the dialogue, a description of the physical setting, and accounts of particular events, or activities. Reflective notes (Creswell, 2014) was defined as the researcher’s personal thoughts, including speculations, ideas, hunches, impressions, and prejudices. A total of 25 out of 26 video recordings were transcribed over the course of the study. One video recording had technical difficulties and could not be transcribed.

**Audio/Video Recordings**

In order to capture student-teacher interactions in real time, audio/video recordings were used during each observation of a Reading Recovery lesson. It should be noted that as part of a Reading Recovery teacher’s reflective practice, audio/video recordings are used from time to time to provide additional insight into teaching interactions with students. As a district policy, prior to beginning a student’s Reading Recovery program, parent permission to serve the student is obtained. Included in the parent permission form is a request to audio/video record students for purposes of engaging in this reflective analysis. The benefit of using an audio/video
recording of a lesson in this study, was that it provided an opportunity to capture more than just the verbal exchanges between the participants, but also the nonverbal interactions, as well as how the space was used by the participants (Creswell, 2014). The video/audio recordings highlighted the 10-minute writing segment of the lesson framework. It began with the student and teacher negotiating the composition of a story topic (self-selected by student) and concluded with the reconstruction of story in a cut-up sentence. To avoid interrupting the flow of the lesson, the entire 30-minute lesson was video-taped, however, data analysis was limited to the writing segment of the lesson. The video-tape captured communicative modes utilized when participants engaged in interactions including both “embodied modes (like language, gesture, and gaze) and disembodied modes (like music, print, and layout)” (Norris, 2002, p. xi). This data enabled me to understand and describe what occurred in a given interaction, specifically, the modal interactions mediated between teacher and student that informed successful as well as unsuccessful communications around literacy learning during the 10-minute writing segment of a Reading Recovery lesson, which was the focus of the study.

**Student Work Samples**

As part of the Reading Recovery lesson, children are encouraged to compose a short story of their own choice of topic and then transcribe this story into a writing notebook. Typically, the writing notebook (Figure 6) is comprised of 30 to 40 sheets of unlined letter sized paper, stapled together to make a book. The writing notebook is turned sideways (landscape) for writing these messages. This provides “working space for the teacher and child to use on the top page as they discuss, problem-solve, and construct together” (Clay, 2005, p. 54.). The bottom page is used for the child to write his message. Work samples were dated and photographed for data analysis.
Focusing on the 10-minute writing segment of the lesson allowed me to narrow my scope of study and to specifically address how teachers and students use modal responses, language and social actions, to co-construct knowledge of the writing process. The collection of rich data revealed patterns of responding; levels of engagement as teachers and students communicated through meaningful conversations and interactions; and mediated actions that position students.

**Data Analysis and Synthesis**

Multimodal interaction analysis (Norris, 2004) was the methodological framework used for analyzing data collected in the study and explained earlier in this chapter. Norris’s (2004) work focused on analyzing all modes of communication used in everyday human interactions and found for the most part, people seldom limit their interactions and communications to spoken words. For example, people take up a certain distance to others, posture in certain ways, or use gestures or facial expressions while communicating. In multimodal interaction analysis, such modes of communication play an equal role to the mode of spoken word in interactions. Thus, multimodal interaction analysis draws upon the disciplines of discourse analysis, interactional sociolinguistics, mediated discourse analysis, and multimodality (Norris, 2004; Norris & Jones, 2005; Scollon, 2001). Additionally, multimodal interaction analysis
acknowledges that all interactions take place in the material world and therefore consider the space in which interactions take place as well as verbal and nonverbal modes of communication such as gesture, gaze, and posture (Norris, 2004, p. x). In this study, I was interested in employing multimodal interaction analysis to explore the mediated interactions and practices (verbal and nonverbal) that occurred within the context of the instructional space used between a Reading Recovery teacher and her student to negotiate the writing segment of a Reading Recovery lesson. This methodological framework allowed me to use multiple data sources when considering all communicative channels or modes of interaction that might take place throughout the instructional exchange.

Along with Norris (2004), I also drew upon Navarro (2008) and Saldaña (2013) in analyzing data. I analyzed in three phases.

Phase 1

In the initial stages of the analysis, I drew upon Saldaña (2013) to study the video recordings. He argued that themes emerge from coding and not the other way around. Thus, in the beginning cycles of analysis, rich discoveries could be made by first exploring the phenomena, coding processes, emotions, and values (Saldaña, 2013). In Phase 1, I explored the video data to understand the context of the one-on-one instructional interactions—specifically, what stood out with regard to instructional practices used by the teachers to support learning and how students were responding to these instructional interactions. I paid equal attention to verbal and nonverbal modes of communication as well as how the instructional space was used by the participants (Norris, 2004; Norris & Jones, 2005; Scollon, 2001). Of the 26 video recordings, there was one instance in which I had technical difficulties with the recording device. I did not discover this until after I had completed the observation. I was unable to transcribe this data set
as the quality of the audio was not discernable. However, I did take field notes of this observation, so I had data on this session. The remaining 25 video transcriptions were analytically coded (Saldaña, 2013). Saldaña (2013) explained analytic codes are used at the beginning cycles of data analysis where labels or notes are written in the margins of hard-copy data to explore relevant portions of the data related to the research questions. I coded for key themes, for example, instructional moments, monitoring events, and social practices. I coded for “instructional moments” when teachers responded to students as they exhibited modal responses that suggested confusions. Students exhibited confusion or uncertainty through a questioning tone of voice, shaking their heads, tapping on the table, or engaging in momentary pauses as they gazed at their attempts. Other data coded as “instructional moments” occurred when teachers and students engaged in conversations to compose short stories, used literacy tasks such as sound boxes, or engaged in ways to solve words such as analogies and syllable breaks. I coded data as “monitoring” when teachers or students exhibited noticing behaviors through modal responses. This included such actions as rotational and sagittal head movements, questioning tone of voice, gaze for confirmation, or tapping gestures. I coded “social practices” when teachers used spoken language or head movements to confirm or reject student attempts, gaze to observe student behaviors, and proximity and gestures to scaffold learning. For students, modal actions were coded as “social practices” when students expressed confusions or lack of agency through spoken language, closed postures, or head shaking. Students also used changes in proximity to retreat or distance themselves from perceived challenges and used gaze to search for help from the teacher. These interactions were at the heart of mediated actions for both teacher and student (Merriam, 1998; Norris, 2004; Saldaña, 2013; Scollon, 2001).
The following frames from each of the three interactions provides an example of Phase 1 analysis and analytic codes used to identify key instructional moments.

In Figure 7, I used the following codes to describe the key instructional moment in Interaction 1: monitoring on teacher; appealing to teacher for confirmation/redirection; student shift to edge of table; and teacher wait time. The frame captured the moment the student, unable to monitor her written attempt, turned towards the teacher to make eye contact and elicit confirmation or redirection.

Figure 9. Monitoring Behaviors in Fluent Writing.

In Figure 8, I used the following codes to describe a key instructional moment in Interaction 2: clarification of literacy concepts; confusions; sound boxes; intervention; re-teaching; and demonstrating. The frame captured the moment in which the teacher intervened by responding to the student’s confusions around literacy concepts. She used gestures and spoken language to clarify and demonstrate literacy concepts (word versus sounds).
In Figure 9, I used the following codes to describe a key instructional moment in Interaction 3: sound boxes; difficulty with the task; challenges with articulation and coordination of task; teacher intervention; and demonstration through modeling the task (articulation and gesture); spoken feedback. The frame captured the instructional moment where the student had difficulty coordinating different aspects of the task (sound boxes), speaking, listening, and gesturing. The teacher provides verbal feedback.

Phases 2

In the second phase of the analysis, I drew upon Merriam’s (1998) approach to multiple case studies. She suggested in multiple case studies, there should be two stages of analysis—first, the within-case analysis and second, the cross-case analysis. In Phase 2, I started with
Merriam’s (1998) within-case analysis and employed across-case analysis in Phase 3. Merriam (1998) explained, within-case analysis treats each case as a comprehensive case in and of itself. The data is gathered so the researcher can learn as much about the contextual variables as possible that might have bearing on the case.

First, I narrowed my study of analytical codes within each case to instructional events where teacher-student interactions involved a minimum of three modal interactions at turn taking (Cazden, 2001; Norris, 2004; Rymes, 2009; Scollon, 2001). Instructional events with less than three modal interactions at turn taking did not provide enough context to fully understand what the modal responses meant (verbal and nonverbal) and how they were used to communicate and mediate instructional interactions (Norris 2004; Norris & Jones, 2005; Scollon, 2001). Next, I analyzed each of these instructional events within each case using a multimodal transcription (Norris, 2004). A multimodal transcription includes a visual record or image of the interaction with written transcriptions of verbal and nonverbal behaviors (Norris, 2004). Multimodal transcripts describe all the communicative modes depicted in the images of the modal interaction with equal importance, thus providing a deeper understanding of the phenomena (Norris, 2004). The following provides a sample data table of how the multimodal transcription analysis took shape using the seven communicative modes of discursive multimodal interactions identified by Norris (adapted from Norris, 2004 pp. 14-49):
Table 3.
**Data Analysis of Multimodal Interactions.**

**Description of key instructional event and pivotal teaching interactions.**
Monitoring. Reading Recovery teachers and students used a range of modes to communicate and respond to each other when monitoring written texts. The student incorrectly writes a target word and relies on the teacher’s modal responses to monitor her attempts.

<table>
<thead>
<tr>
<th>Modal Response</th>
<th>Teacher</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speech/vocalization</td>
<td>No verbal response.</td>
<td>“Wait!” (student’s verbal acknowledgement of the teacher’s nonverbal modal response)</td>
</tr>
<tr>
<td>Proxemics</td>
<td>Sits outside of the workspace.</td>
<td>Sits to the far left of the workspace, nearly to the edge of the table.</td>
</tr>
<tr>
<td>Posture and body movement</td>
<td>Sits upright, leaning slightly to the left, with shoulders slightly raised and hunched forward</td>
<td>Body slides out of her chair to the far left, stopping as she reaches the edge of the table. Her body leans forward onto the table with her left elbow bent and arm tucked underneath.</td>
</tr>
<tr>
<td>Gesture</td>
<td>Right hand clutched, covering her mouth. Left hand extended and resting on the table.</td>
<td>Right arm stretched in front of her body, with her finger extended wiping away the final letter <em>a</em>. Makes a second attempt and replaces the <em>a</em> with the letter <em>e</em>.</td>
</tr>
<tr>
<td>Head movement</td>
<td>Head lowered and motionless, resting on the palm of her right hand.</td>
<td>Head turns slightly to the right towards the teacher.</td>
</tr>
<tr>
<td>Gaze</td>
<td>Avoids direct eye contact with the student and continues to gaze at the student’s writing with little facial expression (teacher unwittingly signals to the student her written attempt was incorrect).</td>
<td>After her first writing attempt, eyes shift towards the teacher for confirmation. Acknowledges that the teacher is avoiding a response and eyes shift back towards the writing (student interprets the teacher’s nonverbal response as an incorrect attempt).</td>
</tr>
<tr>
<td>Print</td>
<td>First attempt at the target word, <em>Bella</em> is incorrectly written <em>Balla</em>. Second attempt at the target word is incorrectly written <em>Balle</em>.</td>
<td></td>
</tr>
</tbody>
</table>
I wrote multimodal transcriptions of key instructional events with three or more modal interactions to better understand what modes of communication teachers and students used to communicate and how they responded to each other using these modes within each case. The task of this multimodal transcription was not to “analyze the images that are incorporated, but rather to use the images to describe the dynamic unfolding of specific moments in time, in which the layout and modes like posture, gesture, and gaze play as much a part as the verbal” (Norris, 2004, p. 65). Thus, by de-emphasizing spoken language, I accentuated other communicative modes that are just as essential in each of the interactions as spoken language (Navarro, 2008; Norris, 2004).

Phase 3

In Phase 3, I applied the second stage of Merriam’s (1998) multiple case approach, and performed a cross-case analysis. Data was compared and analyzed across all three cases. Merriam (1998) explained, cross-case analysis allows the researcher to “build a general explanation that fits each of the individual cases, even though the cases will vary in their details” (p. 195). In this way, processes and outcomes that occur across many cases emerge to fully describe and understand the phenomenon. As I looked across the cases, I identified three types of recurring instructional events around teaching and learning literacy that had common threads across the cases. These interactions around literacy instructional events included self-monitoring, confusion around literacy instruction, and complexity of navigating literacy tasks.

I then applied a more detailed multimodal transcription to these instructional events. Norris (2004) found it was easier to make sense of what a speaker says, than to notice what a speaker is expressing in other modes. In this way, the multimodal transcript combined speech alongside other modal responses important to the interaction and their meanings (Navarro,
2008; Norris, 2004). The following provides a sample data table used to describe the extent to which all seven communicative modes were read, interpreted, and understood by teachers and students as they interacted with each other.

Table 4.
*Data Analysis of Instructional Events and Description of Interactional Modes*

<table>
<thead>
<tr>
<th>Instructional Event: Sound Boxes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The challenge of performing a more complex word analysis using sound boxes caused the student to confuse literacy concepts such as word, sound, and syllable breaks.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teacher Modal Responses</th>
<th>Spoken language, body movement, proximity, head movement, gaze, and, gesture.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Verbal</td>
<td>“Oh, my goodness. You said sleep—ing. That wouldn’t work. Evaluative feedback to incorrect responding by verbally mimicking student’s incorrect articulation; expressed in a surprised tone followed by a lower more serious tone.</td>
</tr>
<tr>
<td>Teacher Nonverbal</td>
<td>Physically responded to the student’s incorrect responding by leaning forward with her body to enter the workspace and laterally turning her head to make direct eye contact with the student. Used gestures to mimic the student’s interaction with sound boxes. She pushed her index finger into the first two sound boxes as she articulated the target word with syllable breaks. Ended the interaction with rotational head movements from side to side as she verbally rejected that attempt.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Modal Responses</th>
<th>Spoken language, body movement, proximity, head movement, and gaze.</th>
</tr>
</thead>
</table>
| Student Verbal | “That’s so long I can’t even do that.”  
Expressed what he perceived was challenging in a defeated tone. |
| Student Nonverbal | Physically retreated from the task as he responded to the teacher. The student adjusted his body and sat upright in his chair and leaned his back up against the back of his chair. His right hand rested at the edge of the notebook while his left hand rested below the table and on his leg. He first turned his head laterally to make eye contact with the teacher, then returned his gaze to the notebook. He shook his head from side to side as he spoke. |

| Field Notes/Journal | Student confusions across the lesson and unable to confirm which strategies to use to problem solve words: high frequency (was); sound analysis; analogies; or word parts. |
In this final Phase of my analysis, I looked across the cases and compared similar instructional interactions and modal responses used by teachers and students to extract meaning. I began to see a pattern that helped to describe how communicative modes were used to support writing instruction as well as how teachers and students read and interpreted these modes and then expressed their understandings. I compared and contrasted data sets that shared common instructional events across the cases to establish credibility and trustworthiness so that findings can be transferred to other contexts in similar settings (Bloomberg & Volpe, 2012; DeWalt & DeWalt, 2011; Yin, 2014). I analyzed the data sets to ensure the modal interactions were recurring patterns exhibited by teachers and students to avoid misinterpretations of a single interaction exhibited by a teacher or student (Navarro, 2008; Norris, 2004, Norris & Jones, 2005; Scollon, 2001). The key instructional events and recurring modal interactions by participants were then shared with a colleague who has knowledge of Reading Recovery, but no longer participates as a Reading Recovery teacher. She served as a second outside source for purposes of interpreting the data and narrowing the findings (Creswell, 2014).

After this analysis, I selected three interactions involving key teaching events around writing instruction in Reading Recovery: monitoring, clarification of literacy concepts, and complications with literacy tasks. As explained in Chapter 1, these three areas are critical in how Reading Recovery teachers work with students. The three selected interactions most clearly represented each of these three key teaching events across the cases and over 26 observations. First, teachers and students engaged in monitoring behaviors in one form or another. Unintentionally, teachers monitored and communicated to students when the erroneous attempt went undetected by the student. In turn, students learned to read, interpret, and rely on teacher’s modal responses to self-correct. For example, if a student hastily wrote a known high frequency
word incorrectly, teachers would change their proximity to the student, gaze and gesture towards the erroneous attempt, often shaking their head before verbally prompting, “Hmm, what did you write?” or “Does that look right?” In this way, the teacher established a habituated cycle where they detected the error and drew the child’s attention to the error before supporting the child in correcting the error. In so doing, the teacher prevented the student from building the capacity to learn how to notice their own mistakes through self-monitoring. On the other hand, students often searched for confirmation from the teacher through gaze and spoken language or waited for the teacher to identify mistakes. Second, when students confused literacy concepts such as letter, sound, word, and syllable break when problem solving words, teachers clarified their confusions. For example, students across the observations confused letter names with letter sounds, the letter name ‘y’ represented the letter sound for /w/ or referred to a word as a letter. Teachers would clarify their confusions through spoken language, gestures, and written examples. Third, students had complications interacting with complex literacy tasks such as sound boxes. For example, across the observations, students had difficulty coordinating pushing across boxes with slow articulation or difficulty segmenting cluster sounds (‘cr’, ‘fl’ ‘tr’) as two separate sounds.

Teachers often supported student learning through modeling. Teachers would demonstrate or physically guide students in the task. As an added layer of protection for the participants, I avoided selecting interactions that might position the student more negatively as a learner. I also selected interactions that positioned the teacher as one who supports the student, thus protecting their pedagogy from critique.

**Ethical Considerations**

In my research, I wanted to understand the complexities of how teachers of Reading Recovery organize instruction and respond to Reading Recovery students who are struggling
with literacy learning in a one-on-one instructional setting. As I was collecting data by observing human subjects, I understood that I was a guest in the private spaces of Reading Recovery teachers and their students, thus, it was important to ensure the protection of my participants. I took care to explain the goal of the study prior to collecting informed consent from each of my participants (Merriam, 1998; Yin, 2014). As I work alongside and have a professional relationship with the Reading Recovery teacher participants, I considered precautionary measures to protect their privacy and confidentiality (DeWalt & DeWalt, 2011; Merriam, 1998; Yin, 2014). First, I hid their identities. I referred to the participants in the data as teacher or student (DeWalt & DeWalt, 2011; Yin, 2014). Understanding it would be nearly impossible to protect their identities on a local level due to the visual nature of the data presented in the study, I took steps from disclosing any information collected in the study that I felt respondents would feel their privacy had been invaded (Merriam, 1998; Yin 2014). For example, I did not use examples of instructional interactions of teachers that had potential to reflect negatively on any of the participants or put them at risk for unwelcomed public scrutiny (DeWalt & DeWalt, 2011; Merriam, 1998; Yin, 2014). Additionally, I did not share the data with the Reading Recovery teacher’s administrator for evaluative purposes. Second, following protocols from the Institutional Review Board (IRB), all information collected or provided by the participants were stored in a locked cabinet and on a password and firewall protected computer. This data will continue to be protected in this way for the next five years. Additionally, in the future, names of the participants and other facts that might point to the participants will not appear if the study is either presented or published.

In addition to protecting the identities of the participants, I also took into consideration my role in the research. I considered myself both an insider and an outsider (Yin, 2014). As an
insider, I have a dual role as a Reading Recovery teacher leader for the school district. One role is to train teachers in Reading Recovery in a year-long graduate level training course through a designated public university. In my second role, I participate as a Reading Recovery teacher who teaches Reading Recovery students in compliance with standards and guidelines set forth by the Reading Recovery Council for North America (RRCNA, 2015). As a district trainer, my responsibilities include maintaining certification for the site by providing ongoing professional development to Reading Recovery teachers as well as conducting a minimum of one formal observation for each Reading Recovery teacher during each school year. Very often, I make informal visits at the request of the Reading Recovery teacher to provide instructional support with a teacher’s most challenging students. Because Reading Recovery is grounded in the belief that conversations between student and teacher stimulate learning there is always much discussion and analysis following a teaching observation around how the teacher shaped instructional language to meet the needs of the student.

As I have this position in the district, my subjectivities likely played a role in how I viewed and interpreted the data as well as the prejudices I had with the teachers who volunteered to participate. Because field work is intensely personal, DeWalt and DeWalt (2011) cautions researchers in “going native” (p. 22) in that the researcher sheds the identity of the investigator and adopts the identity of the participant. I addressed this bias to ensure the findings were congruent with the data. I compared and contrasted data across the cases (Merriam 1998), provided data to participants for member checking (Yin, 2014), and checked interpretations of data within cases and across cases with an outside source for purposes of interpreting the data (Creswell, 2014).
In this study, I also viewed myself as an outsider in that I truly believe all children are unique and possess individual strengths and needs that change over time. Based on my personal experiences, each teaching interaction is as unique as the child. I liken this to playing a game of chess. Behind each move is a thoughtful response and each counter move is a response to the previous move. I have noticed this same interplay when I have observed one-on-one interactions with other teachers and their students. I addressed the issue of being a neutral observer through reflexivity. Roulston (2010) defines reflexivity as “the researcher’s ability to be able to self-consciousness refer to him or herself in relation to the production of knowledge about research topics” (p. 116). I used my research journal to reflect on any biases I might have made. Roulston (2010) refers to this as a kind of discursive deconstruction which “examines the ambiguity of meanings in language” (p. 117). I examined memos in my research journal for patterns of biasness and refrained from considering any comments regarding alternative instructional actions the teacher might have taken in the same situation to evoke a different outcome.

Finally, given the scope of the study, I had to limit the data that I selected for analysis. Data included 26 teacher-student observations and over 340 minutes of video transcriptions. To analyze in detail using MMIA over 612,000 frames (30 frames per second) would not have been feasible for this dissertation. Thus, I acknowledge that in the choices of frames that I did include and studied, I may have missed some of the intricacies of how teachers and students interacted. Further, as a researcher who has a different cultural background, I interpreted from my lens. I may have missed nuances within the cultural and linguistically diverse backgrounds of the participants.
Veracity of Study

In this section I address procedures for validating the findings that were undertaken in the study. “Validity is one of the strengths of qualitative research and is based on determining whether the findings are accurate from the standpoint of the researcher, the participant, or the readers of an account” (Creswell, 2014, p. 201). I address validity strategies that were used in this study.

Employing a multi-case study design affords a redundancy of cases, thus ensuring a more purposeful study that will build a stronger understanding and compelling argument for the significance of the work (Barone, 2011). Many data sources were collected during the research period and triangulation was used for purposes of “establishing themes based on converging several sources of data or perspectives from participants” and building “a coherent justification for themes” (Creswell, 2014, p. 201). In the study, I checked my findings within case and across cases with a number of data sources—multimodal transcriptions of videos, field notes, and researcher journal memos.

Member Checks

Additionally, I conducted member checking with the Reading Recovery teacher participants. Creswell (2014) describes member checking as “taking the final report or specific descriptions of these back to the participants and determining whether or not these participants feel that they are accurate” (p. 201). I found an outside source to cross-check coding for “intercoder agreement” (Creswell, 2014, p. 203). I requested help from a colleague who was a former Reading Recovery teacher to review analytical coding (Saldaña, 2013) and multimodal transcripts (Norris, 2004) of the video interactions to check for consistencies.

Thick Description
Good qualitative studies depend on thick description—a thorough description of the data—to extract themes and generate findings. Creswell (2014) wrote that detailed descriptions of the context of the instructional setting, participant interactions, and documentation provides readers a clear and realistic perspective of the phenomenon. He also stated that included in this thick description are the researcher’s own comments and self-reflections about how the findings are shaped by the researcher’s own subjectivities such as background, culture, history, and personal experiences with the phenomenon. Further, the researcher’s prolonged time in the field allowed for “an in-depth understanding of the phenomenon under study and can convey details about the site and the people that lends credibility to the narrative account” (Creswell, 2014, p. 202). I applied Norris’s (2004) multimodal transcriptions to analyze the instructional modal events, along with Navarro (2008) who also studies body language. The multimodal transcripts included images of the modal interaction along with detailed descriptions of all seven communicative modes of discursive interactions identified by Norris (2004). In this way, all communicative modes that were essential in communicating messages through different modes within the interaction were highlighted with equal importance. This provided insight in how communicative modes were used by teachers and students and the extent to which these modes were then attended to, interpreted, and understood by one another.

Length in the field. This study demanded thick descriptions to understand how modes operated together for both teacher and student to communicate. Creswell (2014) explained, “the more experience that a researcher has with participants in their settings, the more accurate or valid will be the findings” (p. 202). Thus, prolonged time in the field provides an in-depth understanding of the phenomenon and lends credibility to narrative accounts of the site and
people within the study. At the time of the study, I was a Reading Recovery district trainer and had 12 years of experience with observing Reading Recovery teachers and their students as well as first-hand experiences with teaching my own Reading Recovery students in a one-on-one instructional setting. This extensive experience in the field observing teacher-student interactions led me to consider how teachers and students communicate in instructional settings beyond spoken language. Over time, I noticed students responding to teachers even before the teacher spoke to them. In this way, teachers were unwittingly communicating messages to students through modes outside of spoken language. I also noticed that students sent silent messages to teachers mostly using nonverbal modes to express their understandings or misunderstandings of instructional tasks. I spent one semester in the field collecting data from three teachers and their Reading Recovery student with 26 observations.

**Limitations and Delimitations**

In spite of the prevalence of qualitative case study research throughout the field of education (Merriam, 1998), many quantitative researchers in the field continue to question its place as an acceptable form of empirical inquiry (Merriam, 1998; Yin, 2014). One common concern with case study is generalizability. Case studies are generalizable to theoretical propositions and not to populations or universes (Yin, 2014). Yin (2014) purports the goal of case study is to “expand and generalize theories (analytic generalizations) and not to extrapolating probabilities (statistical generalizations)” (p. 21). In this study, findings may only be generalizable to populations with similar instructional situations.

Another limitation of the study was my role as the researcher. As the researcher, I am intimately connected to the study in that I have a dual role (researcher and teacher). I view this as a strength in the study in that I recognize the biases I might carry in this role and its
limitations in the study. One limitation of the study was Reading Recovery teachers who volunteered for this study were teachers I had previously trained. Thus, I considered actions that were taken by the teachers were a direct reflection of my training. Thus, stressing the importance of reflexivity throughout the research study. Roulston (2010) stated that researchers must exercise reflexivity so that investigators become acutely aware of their position in relation to the production of knowledge that is emerging from the study. I was mindful of this as I collected and analyzed data. There were times I drifted in thinking about alternative ways of teaching, rather than focusing on the modal responses teachers and students used to communicate and understand what modes were being used to convey such messages. Recognizing this helped to redirect my attention in understanding what modes were central, how they operated together, and what teachers and students understood as they interacted around writing instruction.

On the other hand, the requirements of my position as a district trainer has prepared me to be an expert in the field. My initial training consisted of a year-long graduate level training program provided by a certified university site. In order to maintain my certification, I am required to participate in ongoing professional development with my university site following my initial year of training. I have fulfilled this requirement for the last fifteen years. Finally, my teacher visits in the field allow me to observe and coach Reading Recovery teachers as they engage in one-on-one instructional interactions with students. While I find this to be an advantage for analyzing data, I am aware of the limitation in that I am not only very close to the data, but have a personal and professional relationship with the participants. For this reason, it was important to analyze data that establish repeated patterns of behavior across the cases. I
wanted to ground my findings and avoid misreading or misinterpreting a single event between teacher and student.
CHAPTER FOUR

RESEARCH FINDINGS

The purpose of this qualitative multi-case study was to identify the modes through which teachers and students communicated and interacted to co-construct meaning, and the extent to which these modes were read, interpreted, and understood by each other in a Reading Recovery writing lesson. While exploration of how teachers and students engage in dialogue is not new, this study takes a more inclusive view of communication and considers all modes (e.g., verbal, written, and nonverbal) utilized in the instructional setting. This broader view of how teachers and students use different modes of communication offers a closer analysis of the social aspects of learning and underlying meanings. Lyons (2003) found teachers who attended to the social and emotional dimensions of learning had powerful effects on student’s ability to learn. These teachers adjusted their support to help students better understand, process, and manage literacy instruction. This study sheds light on less obvious modes of communication that teachers and students use to indicate understandings and misunderstandings.

In educational settings, communication—in variant forms, is central to teaching and learning. The communication process engages teachers and students to interact in direct and indirect ways, connecting the cognitive to the social (Bennet, 2015; Johnston, 2004; Konstantellou & Lose, 2016; Kress, 2010; Lose, 2008; Mercer, 2008; Rymes, 2009; Scollon, 2001). Thus, as in any setting, educational or otherwise, successful communication would necessitate the co-construction of meaning between speaker and listener. In this way, communication can be viewed as a two-way street—it needs a sender (speaker) and a receiver (listener). Roles for speaker and listener are interchangeable and multifunctional, each with the goal of understanding and being understood (Bennet, 2015; Clay, 2004, 2005; Johnston, 2004;
Kress, 2010; Lose, 2008; Mercer, 2008; Norris, 2004; Rymes, 2009; Scollon, 2001). Therefore, communication is successfully co-constructed when meaning is understood by all participants. This study reveals the variety of modes of communication speakers and listeners used, and the extent to which they used them in an interaction, to communicate when instructional messages around literacy learning were understood and when meaning was lost in translation.

Using the lens of multimodal interaction analysis (Norris, 2004) (MMIA) was intentional in this study to explore two types of communication, verbal and nonverbal, used by Reading Recovery teachers and their students. Specifically, I focused on modes—ways in which meaning is communicated within these two general types of communication including, for example, body movement, gesture, head movements, intonation, and spoken language. Also, important to the study, I considered the sociocultural aspects of learning (Vygotsky, 1986) and the layer of complexity that is added when participants (teacher and student) interacted to co-construct meaning around instructional tasks for complex learning. This included tasks for literacy processing—specifically in this case study, composing and transcribing short stories generated by students (Clay 1991, 1998). Thus, the study spotlights the subtle recurring verbal and nonverbal modes of communication used to signal both direct and underlying meanings by both Reading Recovery teachers and their respective students.

In review, this study addressed the following research questions: (1) What modes do teachers and students use to communicate in the writing portion of Reading Recovery lessons?; (2) To what extent do teachers and students read, interpret, and understand each other’s modal interaction in the writing portion of Reading Recovery lessons?; and (3) What modal adjustments do teachers make to scaffold and adapt instruction for student learning?
This chapter presents the data and analysis of the communicative modes used by three Reading Recovery teachers and their respective students as they interacted in a one-on-one setting, negotiating the composing and transcription of short stories within the ten-minute writing segment of a Reading Recovery lesson. These interactions took place between February to April 2017 across two elementary schools in a small school district located in the southeastern part of the United States. This chapter presents key findings generated from 26 teacher-student participant observations. This data generated rich information regarding Reading Recovery teachers and the interactions with their student. Analysis of the data in this dissertation identified three major findings:

1. Reading Recovery teachers and students used specific modes to communicate with each other as the teacher monitored for student learning.
2. Literacy learning involves a complex set of intercommunicative practices by both teacher and learner, and most visible when the rigor of a literacy task was increased.
3. Modal responses are important in understanding the complexity of supporting students in literacy tasks.

Findings were based on recurring patterns that emerged in the bilateral verbal and nonverbal exchanges between teacher and student participants as they communicated and responded around literacy learning. The goal of the study was not to define particular modes to have universal or definitive meanings, but to look for patterns of responding used by individual participants (teachers and students) that seemed to signal or communicate particular messages unique to the individual as they navigate teaching and learning. Navarro (2008) refers to this as ‘idiosyncratic behaviors’—patterns of behaviors that are relatively unique to the individual signaling possible thoughts, emotions, or intent. For example, I have a colleague who signals her
dissent or opposition to ideas brought up in discussions by first clearing her throat, then follows with the verbal statement and slight downward nod of her head, “That’s interesting.” Clearing one’s throat is not a universal signal for expressing dissent, but for this particular person, it has become part of her pattern of behaviors for communicating or expressing disagreement. Navarro (2008) found when you observe another person’s behaviors over time, you come to understand the person’s feelings or intentions when they interact with the same behaviors under similar situations and contexts.

This chapter presents three interactions: Fluent writing, sound boxes, and phonological awareness. Each finding contains one interaction that represents the data. Each interaction begins with a description of the context of the one-on-one writing interaction. This is followed by nine frames of each interaction between a teacher and a student chosen from video clips that ranged between 90 to 120 seconds. In high-definition video recording, there are 30 frames per second. To analyze 2700-3600 frames within, for example, a 90- or 120-second video clip, would not be feasible for this dissertation. Therefore, drawing from the examples shown in Norris’s (2004) MMIA book, nine to twelve frames for each interaction were selected to highlight modal communication in an interaction between teachers and their students. Each interaction contains a frame-by-frame description and highlights key modes through which the teacher and student communicated. While modes interact fluidly, I present modal models for each of the interactions that capture which modes carry more of the meaning within that interaction that others. I also analyze individual modes at times to explain specific ways of communication between the student and the teacher. At the end of each finding, I present a general discussion of the interaction and the modes used to communicate.
Finding 1: Reading Recovery teachers and students used specific modes to communicate with each other as the teacher monitored for student learning.

Across all participants, both teachers and students used specific modes through which they communicated with each other as the teacher monitored for student learning. Teachers monitored for students’ learning in the following ways: Teachers used spoken language and body movement, head position, gestures, gaze, and space as modes to intervene or correct when students demonstrated confusions or errors in their interactions with different literacy tasks. In turn, rather than monitoring their own errors or confusions, students made corrective moves in response to their teacher’s modal responses through body movement, space, spoken language, gesture, gaze, and posture. I selected Interaction 1 as it showed how nonverbal patterns of behavior, habituated by the teacher and perhaps unwittingly, communicated evaluative instructional messages to the student, which minimized opportunities for the student to learn how to self-monitor. In Reading Recovery, self-monitoring is an important first step in students’ strategic processing as it encourages students to notice mismatches as they read and write and which leads to self-correction. Students who consistently monitored their own reading and writing provided evidence that they were searching for cues and cross-checking their responses with different sources of information to confirm their attempts (Clay, 1991; 1998; 2005).

Interaction 1: Fluent Writing

In this interaction, the teacher and student were engaged in an activity called fluent writing whereby a student reviews one-to-three newly acquired words they have encountered with frequency in either reading or writing. Students write these words on a flat erasable surface such as a whiteboard or as in this case, the surface of the teaching table. In this particular lesson, the teacher asked the student to write three words (Bella, little, and here). While the entire
interaction takes place in just under 90 seconds, to direct attention on modes used to communicate, this analysis focused on the first 18 seconds of the student-teacher interaction centered around writing the target word Bella. I have focused only on the word Bella as the student was able to successfully write little and here with greater control and less need for the teacher to affirm the student’s writing attempts.

From the 18-second video capture, I chose to freeze this interaction in nine frames (Figure 10). While the entire task took place in just under 90-seconds, this analysis included the time span for first 18-seconds of the fluent writing task (Frames 1-8) and skipping over to the final interaction of the fluent writing task. I omitted interactions in which the student correctly wrote two other target words (little and here) as her modal responses were similar ways in spite of correct attempts. The final interaction captured the teacher and student relationship represented for the entire interaction. These frames represented this interaction in which the teacher’s and student’s use of specific modal responses to communicate around the quality of the student’s attempts in fluent writing.
The teacher began the lesson (Frame 1) with a verbal command, “Alright, Bella”. With her head down, gazing at the lesson record (a form used to capture anecdotal notes about the student’s interactions with text), the teacher held her pencil in her right hand suspended just above the left side of the lesson record. Her left hand rested, touching the left-hand corner of lesson record. The teacher’s posture was sitting upright and slightly forward and occupied her personal workspace. In response to the teacher’s directive, the student quickly grabbed the dry erase marker as she verbally repeated the target word “Bella” before she began to write the letters B-a on the surface of the table. The student leaned forward into the table with
her left arm bent and folded underneath her upper body. She rested her right arm on top of the table holding the dry erase marker in her hand as she gazed downward, looking at the print she has just written.

In Frames 2 and 3, the teacher’s posture shifted slightly to upright and outside her personal workspace with her right arm relaxed across the table. Her right hand held a pencil poised at the edge of her lesson record while her left arm was bent at an angle so her elbow rested on the arm of her chair. Her left hand, folded into a fist, covered her mouth and chin. Her gaze is downward and looked towards the workspace as she observed the student’s written attempt.

The student continued her attempt at the target word. Her left arm bent at the elbow and tucked under her body as she finished writing the remaining letters for the target word, *ll*. She hesitated before recording the final letter *a*. Her gaze was downward as she examined her attempt at writing, *Bella*. She wrote *Balla* and followed with a slight move with her finger to point at the last letter *a*. The student slightly repositioned her head, just enough to shift her gaze towards the teacher. Instead of responding to the student’s gaze, the teacher’s face remained neutral as she continued to look at the writing on the table.

“*Wait!*”, the student exclaimed. She immediately returned her gaze towards her written attempt. After she wiped away the final letter *a* with her finger, she then replaced it with the letter *e*. Her body leaned to the left and she began to slide her body out of her chair, distancing herself from the workspace.
In Frame 4, there was a direct nonverbal communication between the teacher and the student. The student hesitantly pointed to the last letter \( e \) before she raised her head towards the teacher. The teacher remained silent as her gaze met the student’s gaze. In response, the student’s posture shifted upward and further out of her chair to the left of the workspace as she continued her upward gaze towards the teacher.

In Frame 5, the teacher repositioned her posture, upright and slightly to the right of her own workspace before she extended her left arm to gesture, open handed and palm facing upward, towards the student. She lifted her shoulders back as she turned her head slightly with a downward gaze before she verbalized her question. The urgency in the teacher’s tone of voice sent the student to re-examine her attempt.

“Does it look like ‘Bella’?” inquired the teacher.

In response, the student quickly turned her head downward, returning her gaze to re-evaluate her attempt. She gestured with her right finger, pointing just below the word and nodded her head, in small up and down head movements, affirming her attempt.

In Frame 6, the teacher communicated her surprise through a series of modal responses—body movement, posture, proximity, tone of voice, gaze, and facial expression. In quick successions, the teacher lifted her body upwards and shifted her proximity from the student, moving away and to the right of her workspace while resting her right forearm on the table. With her left hand extended towards the student, she lifted her hand while holding a blue marker cap between her thumb and index
finger as she pulled back her shoulder. The teacher gazed at the student with furrowed eyebrows and a frown around her mouth before questioning in a serious tone, “Does it have...Oh!”

At this juncture, the student had completely shifted her body out of her chair, leaning to the far-left edge of the table. Her left arm was tucked under her body while her right hand was extended across the table, holding a blue dry erase marker with her fingers extended, touching just below the last letter of the target word. Her upper body and head were twisted towards the right, meeting the teacher’s gaze.

In response, the student returned her gaze to the target word (Frame 7) and erased both vowels with her right index finger before replacing them in correct order. In follow up to the student’s actions, the teacher changed her tone and demeanor to one that was more positive. She verbally praised the student, “Good for you! You were thinking what would look right.” While the teacher’s proximity remained the same, she dropped the position of her head and shoulders slightly. Her tone of voice matched her facial expression—relaxed eyebrows with a slight smile as she gazed at the student’s work.

The teacher continued in a positive tone, affirming to the student that she wrote the letters to the target word in the correct serial order, “The ‘B-e-ll-a’ at the end would look right. Good for you!” (Frame 8). The teacher leaned her body forward in closer proximity to the student to enter the student’s workspace as she extended her right hand, gesturing towards the target word. As the teacher verbalized the teaching point, she gazed downward at the student’s work. She expressed
a more prominent smile across her face and used a more encouraging tone of voice as she provided the student with affirmation.

The student remained out of her chair, leaning to the far left of the table with her left arm tucked underneath her body as she wrote with her right hand. Her eyes gazed down at the workspace as she listened to the teacher, syncing her nods of the head as the teacher spelled out the word emphasizing the letter order, “B-e-l-l-a”. As the teacher moved out of the workspace, the student placed dots under each letter of the target word.

The student continued on, successfully writing two more target words requested by the teacher, little and here. Frame 9 captures the final act of the interaction for fluent writing. Just before erasing the student’s writing, the teacher verbalized her teaching point as she gazed down at the target words. The student turned her head away from the target words and focused her gaze at the teacher and listened as she spoke, “You were thinking and looking.”

The teacher’s right arm extended into the student’s workspace with a yellow eraser in hand and her gaze fixated on the words. Her left arm was bent at the elbow and rested on the arm of her chair while her hand was raised across the front of her chest and close to her face holding a pencil. The student’s posture was upright in her chair with her shoulders backed up against the chair. Her elbows were bent and her hands rested in front of her stomach while she loosely held onto the blue marker. Her head turned towards the teacher with her gaze fixated on the teacher’s face. The student watched the teacher as she talked and erased the target words.
Modal Interaction Analysis of Interaction 1

Figure 13. Finding 1- Teacher and Student Modal Communications

In Interaction 1, the teacher used five specific modes: gesture, gaze, body movement, posture, and spoken language. The student used six modes: gesture, gaze, body movement, posture, written language, and spoken language. Norris (2004) found different modal responses have more significance than others in an interaction. That means, that in any interaction, some modes carry more meaning than others. For example, in an interaction, speaking might carry more meaning than gesture, or gesture might carry more meaning than writing. In this 9-frame interaction, both the teacher and student use six distinct modes, and several that clearly have more importance than others: gesture, posture, writing, speaking, body movement, and gaze. The large circle indicates the interaction of the modes within Interaction 1. The different sized circles in Figure 11 approximates the importance of each mode in Interaction 1. The segmented smaller circles indicate the fluid interaction between modes during Interaction 1; none of these modes are independent in use from one another.
While modes operate in synchronicity, each of the modes is interpreted in its interaction with each other, to better understand how modes work together to communicate specific messages. In Interaction 1, both the teacher and student use specific modes to a larger degree than others to communicate in this writing lesson. Figure 10 illustrates how the extent to which different modes operated in this particular interaction, with some modes carrying more of the message in this interaction than others. The teacher used primarily five modes: spoken language, body movement, posture, gaze, and gesture. The student used six modes: written language, spoken language, body movement, posture, gaze, and gestures. The degree to which each participant used these modes is unique as well as how these modes interacted to communicate particular messages. The teacher primarily used spoken language and body movement modes to communicate her teaching of instructional language to the student while the student used body movement and written language to carry more of the messages communicated to the teacher. Both used gesture, gaze, and posture equally to communicate. The student used written language while the teacher did not.

**Body Movement and Proximity**

In Interaction 1, the teacher communicated to the student primarily through body movement and spoken language. The teacher used her body to lean into, away from, and upright to signal messages to the student. In Frame 8, the teacher leaned into the student, with the intention to correct the student’s attempt to write *Bella*. She also reached over the marked desk to signal an evaluative message: she will help the student to correct what she has already written. The teacher also sat upright, fist to mouth, a movement that physically signaled to the student that she was “overseeing” the student’s writing. The teacher’s body was readied to correct and/or affirm the student’s attempt. In turn, the student communicated in response to the teacher. Her
body position remained relatively the same across the interaction—submissive, with a sense of low-confidence and lack of agency. In all but Frame 9, the student’s body was closed. The left arm supported her body—the metaphorical weight of this position suggests that this not an easy task for her. Her body was always closed to the teacher’s, demonstrating her attempt to complete the task. In Frame 9, however, the student resigns her body to the teacher’s, opening herself up to allow the teacher to be the evaluator of her attempts. Navarro (2008) found when bodies are less secure, they take up less space, often demonstrated through folded arms and legs into the body. The student exhibited her insecurity as she maintained an enclosed posture throughout most of the interaction—hunched over the table, with her left arm tucked under her body and her right hand tentatively hovering over and around her written attempts. The student established distance from her workspace and the teacher’s workspace as she lifted her body out of her chair and to the far, left side of the table. Only in Frame 9 did the student return to a seated position directing her gaze upward toward the teacher while the teacher verbally communicated a teaching point (”The ‘B-e-l-l-a’ at the end would look right. Good for you!”) that referenced the correct letter sequence for the target word (Bella) written by the student.

**Gesture and Posture**

According to Norris (2004), there are four distinct gestures that humans make and are constructed from whole to part. That is, one gesture can contain many parts: 1) Iconic: mimics what is conveyed verbally (spoken, written); 2) Metaphoric: present the invisible, abstract idea (preparation, stroke, retraction); 3) Deictic: points to objects, people, spaces or ideas as if they had location (preparation, stroke, retraction); and 4) Beat: resembles beating musical time (up/down, back/forth). Within Interaction #1, the teacher has four distinct parts in one whole gesture, largely using her left arm/hand: her hand on the table, her fist to her mouth, the upward
facing palm, and the right-hand reaching over. In Frame 9, the teacher used deictic gestures, pointing directly to the response the student gave, almost exclusively pointing directly to the constructed response by the student or the expected response, which is almost always the teacher’s. The teacher’s deictic gestures showed specifically what the teacher wanted the student to see or respond to. The teacher also used metaphoric gestures. A closed fist to the mouth (as opposed to an open hand at rest) represented an anticipation that her student may make a mistake. Her closed fist was poised to move into both nonverbal and verbal correction, as she did in Frame 5. Her closed fist moved into deictic gesture of correction. She reached over to confirm the student’s mistake. The teacher pointed directly to the word, clearly conveying that the student has made a mistake.

The teacher used gesture in interesting ways. In three of the nine frames, her left hand is held in a fist on which she rested her chin. Across Frames 2, 3, and 4, as the student made attempts and adjustments to write the target word, the teacher continued to maintain her upright posture with this gesture—closed flattened hand tucked under her chin and against her cheek. Navarro (2008) found hand movements to be extremely expressive, and because the brain either subconsciously or unconsciously, directs what one’s hands do. These movements can reflect one’s thoughts and feelings. The teacher’s posture and gesture remained constant which communicated to the student that she was unsuccessful. In the next four Frames (5, 6, 7, and 8), the teacher shifted her body and changed both her gesture and posture. In Frames 5, 6, and 7, the teacher positioned herself away from the student, sitting upright and above the student, with her chest out and shoulders raised, what (Navarro, 2008) identifies as an authoritative position. She gestured with her right hand extended, palm opened and suspended in the air pointing towards the student’s writing. Finger pointing is often associated with hostile or negative messages
This gesture, coupled with the teacher’s upright posture, communicated to the student that her attempts were incorrect. In Frame 8, the teacher continued to gesture with an extended open hand towards the writing, but shifted her posture from one of authority, negative and hostile, to one that was corrective and affirmative. The teacher dropped her shoulders and moved her body in closer proximity to the student’s personal space. The teacher’s close proximity to the student affirmed that the student had rearranged the vowels in *Bella* in the correct order.

Across eight of the nine frames in Interaction 1, the student’s posture was always folded over and down and her body positioned away from the teacher’s. In Frame 9, the student’s posture was now upright and body leaning back, fully allowing the teacher to move in for correction, and did not allow her to open up to the engagement of the writing. Further, especially in Frames 3, 5, 7, and 8, her posture is curved and downward; her body leaned heavily onto the table and her left arm. There is no lightness about this experience at all. Her posture shifted slightly in Frame 6, in which she has made an attempt to write *Bella*. This is a hopeful lift of the right shoulder and a gaze towards the teacher. The teacher’s immediate shift backward messages to the student that what she has written is not quite right, a signal that the student reads clearly. She moved back into a more curled posture, a heavy posture, that showed a lack of confidence.

**Gaze**

When analyzing gaze, MMIA (Norris, 2004) considers the direction and intensity of looking as well as how gaze is perceived by others. Norris (2004) found, “all individuals in interaction perceive and in turn react to the gaze of the other participants, and the interactive meaning of a certain gaze can be determined by the reaction of other participants” (p. 39). Throughout this interaction, the teacher used gaze to a larger degree than the student, and for
evaluative purposes. In all but Frames 4 and 6, the teacher primarily directed her gaze downward at the student and the student’s attempts at writing *Bella*. In response to the intensity and direction of the teacher’s gaze, the student reacted by taking actions to correct her attempts. For example, Frames 2, 3, and 4, the teacher silently directed her gaze downward towards the student and remained verbally unresponsive to the student as she attempted each written adjustment. In Frame 2, the student hesitantly added a final letter *a* then used a deictic gesture and pointed to the end of the word. In Frame 3 the student followed with spoken language punctuated with a heightened intonation, "*Wait!*" before she wiped away the *a* and replaced it with an *e*. In Frame 4, the student returned to using a deictic gesture, hesitantly pointing to the final letter with her right finger. The teacher’s use of gaze and posture modes communicated to the student that she needed to correct her attempt. The student, in turn, responded to this evaluation of her attempt by shifting her body downward and changed the letter from *a* to *e*. The teacher’s use of gaze and posture in this way seemed to be a shared understanding of evaluation of the student’s attempt at *Bella* as the student corrected her writing.

Across Interaction 1, both the teacher and student avoided direct eye contact with each other, with the exception of Frames 4 and 6. With what seemed to be a shared understanding of the teacher’s modal responses to her written attempt, the student interpreted the teacher’s gaze as one of evaluation. The teacher monitored the student’s writing through her gaze and pointed to the correction she wished the student to make. To confirm her understanding of the teacher’s modal responses in Frames 4 and 6, the student turned her gaze towards the teacher to solicit the teacher’s response to her written attempts (changing letters from *a* to *e*). In Frame 4, the teacher’s face was neutral. She attempted to avoid direct eye contact with the student, rather focusing her gaze downwards towards the writing on the table. In Frame 6, the teacher’s facial
expressions were more animated, expressing dissatisfaction as she directed her gaze at the student. The student confirmed that her written attempts were in error when the teacher directed her gaze and pointed her hand towards the error. In both of these interactions, facial expression and gesture, coupled with gaze, operated as a shared understanding between teacher and student. The student confirmed the quality of her written attempts by observing the directionality of the teacher’s gaze, gesture, and her facial expressions. In Frame 4, the teacher’s gaze was directed to the student’s writing. In the second instance, the teacher directed her gaze at the student, coupled with animated facial expressions and gestures, all of which communicated to the student she had not written the target word correctly. In Frame 9, the student’s gaze, posture, and proximity toward the teacher demonstrated silent resignation. The student moved to an upright posture, backed away from the table, moved her hands away from her workspace, loosely held the blue marker, and looked at the teacher. These modes invited the teacher, then, to move in for evaluation and correction.

Spoken Language

Spoken language was primarily used by the teacher and to a significantly lesser extent by the student across the interaction. The student spoke two times in single word responses. Once in Frame 1, the student repeated the target word “Bella” before she engaged in writing. In Frame 3, the student said, “Wait!”, followed by her second attempt at writing Bella. This declaration by the student acknowledged the teacher’s evaluative response communicated through her stoic facial expression with her fist to her mouth. “Wait!”, also signaled she needed additional time to draw upon the previous day’s reading of Bella in books.

The teacher used spoken language in six of the nine Frames (1, 5, 6, 7, 8, and 9) as modes of direction. In Frame 1, she directed the student in the task. In Frames 5 and 6, the teacher
specifically asked questions that directed the student to attend to the word’s orthography, “Does it look like Bella?” (Frame 5) and “Does it have...Oh!” (Frame 6). In Frames 7, 8, and 9, the teacher used spoken language to affirm and confirm the corrective actions taken by the student. “Good for you! You were thinking what would look right.” (Frame 7). In Frame 8, the teacher spelled out the target word, letter by letter, emphasizing the vowels e and a with her voice, “The ‘B-e-ll-a’ at the end would look right. Good for you!” In Frame 9, the teacher recapped her teaching point, verbalizing the importance of attending to orthography, “You were thinking and looking.” The teacher used “you”, and action verbs, “thinking” and “looking” as terms for affirmation and directives. “You” signaled that the student was responsible for learning how to write Bella independently. “Thinking” and “looking” were directives to let the student know that she must be cognizant of the task and use her eyes to confirm her attempts. The use of these two action verbs affirmed that the student used her brain and eyes, and also communicated through her directive that this was a good behavior to have when writing.

Space and Its Importance in Interaction

As Norris (2004) suggested, the physical surroundings also inform how people interact in a setting. Within this Reading Recovery space, the interaction is necessarily restrictive. The space is tight; an office surrounded by numerous books, materials on the desk, the physical enclosure of the desk itself, and the close proximity of the teacher’s chair and the student’s chair. The body movements and postures may contribute to how the teacher leaned in or away, or how the student leaned down and in and then away and upward to allow for the instruction, the writing attempts, the evaluation, and the corrections to occur. The student has little space to move and to write. Her closed-in body position conforms to the space restrictions of the desk.
The teacher’s upright posture allows for the student to have space to write, but shifts into the student’s space to evaluate and correct.

Summary

In terms of the range of modes in which the teacher and the student communicated, both used specific modes and for specific purposes. Data analyzed from this interaction showed how nonverbal patterns of behavior habituated by the teacher played a greater role in communicating evaluative instructional messages to the student—the accuracy of the student’s attempts. In turn, the student showed her deliberate observation of modal interactions displayed by teacher. The student interpreted these modes to carry specific messages and responded accordingly. Navarro (2008) refers to this as ‘situational awareness’—the ability to “sense where one is at all times” (p. 8) by effectively observing the world around them. In this case, the student has come to rely on the nonverbal modal interactions displayed by the teacher to confirm her written attempts.

What has been insightful in examining this site of engagement through the lens of MMIA (Norris, 2004) is the heightened awareness of the range of modal interactions used to communicate as well as the degree to which they are used, and the possible meanings and their relevancy to the interaction. Both the teacher and student presume the other knows the modal cues to enact specific intentions. That is, the teacher’s use of gaze and gesture to communicate that the student has not quite gotten the target goal of this lesson—writing Bella. The teacher’s proximity of her body shifts closer to the student, another mode she uses to “push” the student away from her space to make way for the correction by the teacher. The student’s use of body movement away from the teacher gives way to this correction. Both understand the modes and how to interpret and use them for this interaction, and for the correction both understand as the goal of this lesson.
Finding 2: Literacy learning involves a complex set of intercommunicative practices by both teacher and learner, and most visible when the rigor of a literacy task was increased.

Across the study, teachers and students engaged in instructional procedures during the writing segment of the lesson. These instructional procedures are designed to scaffold and support a student’s understanding about different aspects of literacy concepts and literacy processes. Often, these procedures simplify and/or clarify aspects of literacy concepts addressed in a lesson for students. Interaction 2 addresses sound boxes as a tool for working with Hearing and Recording Sounds in Words (HRSIW). I selected Interaction 2 because it demonstrated how modes operated when the teacher increased the rigor of a familiar task that the student was asked to complete. This interaction is an example of how teachers observed and scaffolded learning when the student was at the edge of her/his zone of proximal development (Vygotsky, 1986).

Interaction 2: Sound Boxes

In this interaction, the student and teacher were engaged in problem solving a word using a strategy that focused on a sound analysis. Hearing and Recording Sounds in Words (HRSIW) is a teaching procedure used by Reading Recovery teachers to support phonological awareness for young children (Clay, 2005). A box is drawn for every sound in a word. The goal is to help students focus on the individual sound segments in words. This procedure requires the student to link phonological awareness with knowledge of corresponding sounds and their most common spellings. For students who struggle with literacy concepts such as phonological awareness, awareness of speech sounds can be challenging for them. The ability to hear and record embedded sounds in words is a necessary and important factor in the development of strategic activities for transcribing messages (Clay, 2005; Jones, 2010). For this reason, according to Clay (2005), helping students acquire this capability is crucial to accelerating a student’s knowledge
and learning of literacy concepts. Over time, teachers continue to scaffold and assist with this HRSIW procedure, gradually challenging students to analyze more complex words, thus increasing their knowledge of both sounds (phonology) and their likely spelling (orthography).

While the HRSIW procedure for the target word took over 180 seconds to complete, this analysis focused on the first 48 seconds of the teacher-student interaction around solving the target word *sleeping* using sound boxes. Prior to the start of Interaction 2, the student composed a short story, “I was sleeping and the snow was coming.” He had quickly transcribed the first two words of his short story, *I* and *was*. He then reread his story before the start of this interaction. After rereading, the student identified the next word in his story to be *sleeping*. 
The teacher initiated Interaction 2, in Frame 1 with a verbal inquiry, “Sleeping. Do you know that word or do you need a box?”

The teacher’s body was upright and leaned slightly forward towards the student. Her right arm extended and rested on the table just outside the student’s workspace.
She held a pencil in her right hand. The teacher’s head was slightly cocked to the right as she gazed down at the student and his writing notebook.

The student’s posture was upright and his body slightly forward in his chair. His elbows bent on either side of the vertically-oriented writing notebook. His right wrist was slightly elevated with his fingers curled around his marker. His left hand rested on the edge of the writing notebook with a nearly closed fist. Without making eye contact with the teacher, the student verbally responded, “A box.” He positioned his head slightly tilted upward and turned to the right with a forward gaze.

In Frame 2, the teacher verbally acknowledged the student’s request for sound boxes, “You think you need a box.” In response, the teacher reached into the student’s workspace and flipped the top page of the notebook over to reveal only the practice page. She closed her proximity to the student by leaning forward. The teacher located an open space in the middle of the practice page and drew a long rectangular box with her pencil. She then subdivided the larger rectangular box into individual sound boxes with her pencil. Her left arm remained extended behind the student, left hand holding on to the back of the student’s chair. After drawing the boxes, the teacher tapped each box with her right index finger, silently checking to ensure the correct number of sound boxes were drawn (seven in total).

The student’s notebook was positioned in front of him, but slightly pushed forward. His arms remained on either side of the notebook, with his right hand drawn closer to his body. While his head remained upright, his eyes shifted downward to observe the teacher drawing sound boxes. As he watched, he wiggled his inverted marker back and forth. The teacher started to tap her finger in each
sound box. In response, the student made a succession of nonverbal modal interactions before he verbalized his concerns, suggesting he sensed a loss of inner control in using sound boxes to problem solve *sleeping*. Clay (1991) described “inner control” as agency—“having the ability to extract information from any known source and to use such information to guide decisions for acting strategically when interacting and processing text” (p. 321). First, the student formed an “o” with his mouth as he moved his head slightly back as he continued to cast his eyes downward at the boxes. As the teacher started to tap across the boxes, the student’s eyes widened with every tap, raising his eyebrows just before he verbally responded. In an incredulous tone of voice, he vocalized his concern without making eye contact with the teacher, “*That’s a lot of words!*”

In Frames 3, 4, and 5, the teacher used spoken language and gestures to clarify the student’s confusions around the task—differentiating between words and letter sounds. In Frame 3, the teacher lightened the situation by first tipping her head back as she smiled and chuckled. With her body in an upright position, the teacher leaned slightly forward, adjusting her right arm so that it extended into the student’s workspace as her hand rested on the right-hand corner of the writing notebook. Her head was slightly tilted to the right, chin down with her eyes focused on the student and workspace as she questioned, “*A lot of words or a lot of sounds?*”

The student remained seated with his body in an upright position. His head is slightly turned to the right while he gazed towards the sound boxes. His right hand is drawn even closer to his body as he listened to the teacher’s question. He quickly responded, “*Sounds.*”
In Frames 4 and 5, the teacher used spoken words and gestures to demonstrate and
differentiate the concept of words and letter sounds. The teacher leaned her body to the left as
she reached into the workspace with her head slightly forward and eyes focused on the sound
boxes. Her left hand remained static as she held on to the far, left
corner of the back of the student’s chair. Simultaneously, the
teacher verbalized, “This is one word.”, as she demonstrated with a
hand gesture. The teacher demonstrated the concept of “word”
through the use of gestures with her right hand. Encompassing all of the individual sound boxes,
the teacher used her right thumb and index finger to span the distance across the outside frame of
the sound boxes. The student silently attended to the teacher’s demonstration (Frame 4). With his
head and chin lowered, he looked downward onto the practice page and quietly listened and
watched as he drew both arms closer to the front of his body with his elbows bent, resting on the
table top with his hands overlapped.

Immediately following, in Frame 5, the teacher switched to demonstrate the concept of
“sound” as she stated, “These are a lot of sounds.” One by one,
she slid her right index finger in an upward direction into each
individual sound box. She then rested her right hand on the right
corner of the writing notebook. The student continued to gaze at
the writing notebook and maintained his upright body position.
In Frame 6, the teacher adjusted the notebook in closer proximity to the student. Then, she encouraged the student to articulate the word. “Alright, can you push ‘sleeping’? Say ‘sleeping’.” Her body moved slightly closer to the student, with her right hand poised at the right corner of the notebook. Her left arm remained over the backside of the student’s chair with her hand cupped around the top back corner of the chair. With her head facing downward, she observed the student as he articulated the target word, “Sleeping. Sleep—ing.” before engaging in the task.

At first, the student removed both arms from the table and lowered his hands onto his lap. Without making eye contact with the teacher, he verbally responded, articulating the word as a unit, “Sleeping.” Without prompting, the student raised his right arm and rested his right hand onto the writing notebook, just below the sound boxes. With his eyes fixated on the sound boxes, he coordinated his verbal response with his gestures. The student slid his right index finger into the first two sound boxes as he segmented the target word into syllables—“Sleep—ing.”

In Frames 7, 8, and 9 the teacher attempted to scaffold her support with the student as he expressed his concerns and difficulty with the task. Following the student’s confusion between sound segmentations within a word and syllabic breaks, the teacher and student made eye contact (Frame 7). In a surprised tone, the teacher remarked, “Oh, my goodness.” The teacher shifted her proximity to the student. She lowered her body and moved closer to the student. She then turned her head to gaze at the student at nearly eye level. The teacher reiterated the target word, “sleep—ing” into syllables, as her student did. Like the
student, she gestured with her right index finger, and moved her finger into the first two boxes as she said, “You said, sleep—ing. That wouldn’t work.”

In agreement with the teacher, in Frame 7, the student shook his head from side to side before he verbalized his concern in a defeatist tone, “That’s so long, I can’t even do that.” In response, the teacher offered to assist by scaffolding her support (Frame 8), “Would you like some help?” With his eyes gazing downward at the sound boxes, the student nodded his head and verbalized his acceptance, “Yep!” Given permission to help, the teacher gently cupped the student’s hand with her right hand.

In Frame 9, the teacher assisted the student with a high level of support. She physically guided his hand through the task. She leaned further into the workspace and gently moved the student’s right hand across the sound boxes, coordinating his index finger into individual sound boxes as she segmented the sounds through slow articulation. The teacher’s tone was gentle and supportive, “Okay, her we go. S—l—ee—p—i—n—g.” After sharing the task with the teacher, the student gazed in a forward direction. He shook his head from side to side as he once again, articulated his concerns, “Ah...that’s too much. I can’t even remember.”
Modal Interaction Analysis of Interaction 2

Figure 15. Finding 2 - Teacher and Student Modal Communications

When teachers increase the rigor of familiar tasks, often times students perceive the task to be outside of their comfort zone causing them to exhibit confusions, lose their self-confidence, and increase their reluctance to engage in the task (Johnston, 2012; Lyons, 2003; Tharp & Gallimore, 1988; Vygotsky, 1986). Interaction 2 provides insights into how the complexity of literacy tasks are communicated through specific modes for specific purposes. Figure 13 presents the modes through which the teacher and the student communicated and the extent to which these modes communicated the complexity of using sound boxes to decipher multisyllabic words.

In this nine-frame interaction, as represented in Figure 13, the teacher primarily communicated through six modes: spoken language, body movement/posture, gaze, gesture, proximity, and head movement. The teacher used spoken language as the predominant
communication while body movement and gesture carried other significant moments in this interaction. The student predominantly communicated through five modes: spoken language, gaze, body movement/posture, head movement, and gestures. Spoken language and body movement predominantly conveyed his messages. Of particular interest were the different modes the student used to express his feelings and perceptions of the task. He often enacted a series of different nonverbal modes prior to using spoken language including head movement, facial expressions, and gaze. He was forthcoming as he communicated aspects of the task that were challenging through explicit verbal comments as well as through nonverbal modal actions that displayed his reluctance to engage. In turn, the teacher was aware of the student’s misgivings and attended to these concerns by responding in ways that clarified, scaffolded, and supported him with the task. While spoken language was the primary mode to communicate messages within Interaction 2, modal interactions occurred simultaneously, reinforcing these verbal exchanges.

**Spoken Language and Nonverbal Modes**

Both the student and the teacher used spoken language more than other modes to communicate across the nine-frame interaction, yet significant nonverbal modes accompanied spoken language. Both will be discussed with emphasis on spoken language. Norris (2004) identified three levels of spoken language: Intonation unit: How something is said—sound accompanies spoken word [or not]; Spoken language: language, sounds overlap and occur simultaneously (think of accents—sound of speech is simultaneous with what is said); Higher-level actions: Specific utterances that construct higher-level action. The teacher primarily communicated instructional messages with two purposes in mind, either to scaffold the student’s participation in the task or to clarify literacy concepts. In Frame 1, the teacher’s questions served to evaluate and scaffold the student’s knowledge. “*Do you know this word or do you need a*
“box?” solicits the student’s current knowledge of both the word *sleeping* and the literacy task, sound boxes. “...or do you need a box?” communicated to the student that a higher level of complexity was needed to support the student’s analysis and decoding of *sleeping*. The teacher’s inflection at the end “need a box?” immediately communicated to the student that he could use a box, which he asked for immediately. In Frames 2 and 3, the student’s spoken language overlaps with that of the teacher’s. The teacher used spoken language more to direct the student into a higher order action, using sound boxes, that drew upon several modes: body language, head movement, gesture, and spoken language. As she used spoken language, the student withdrew and became more reliant on her help. The student’s use of the phrases, “That’s a lot of words.,” “I can’t even do that.,” and “I can’t even remember that.” verbally signaled that he was confused and subsequently withdrew from the task.

In Frames 3, 4, 5, and 7, the teacher’s spoken words, proximity, and gestures are used to clarify literacy concepts and aspects of the task. In Frame 3, 4, and 5, the teacher clarified the student’s confusions by differentiating the concept of word and letter sounds. In Frame 3, through the teacher’s questioning, “A lot of words or a lot of sounds?” she alerted the student to the distinction between literacy concepts of words and sounds. In Frames 4 and 5 the teacher moved her body in closer proximity to the student, then combined spoken language with gestures, differentiating the concept of word and sounds. The teacher demonstrated the concept of word (Frame 4) through gesture with her right hand. She used her thumb and index finger to frame the entire sound box as she stated, “This is one word.” To demonstrate the literacy concept of sound (Frame 5), the teacher pushed her right finger into each individual sound box as she stated, “These are lots of sounds.” In Frame 7, the teacher made eye contact with the student as she turned her body towards the student dropping her head in closer proximity before she began
to re-enact the student’s confusion with the task—syllable breaks versus sound segmentation. The teacher re-enacted the student’s actions, pushing her right index finger into the first two boxes (syllable break) as she said, “Oh, my goodness. You said sleep—ing. That wouldn’t work.” This iconic gesture (Norris, 2004) mimicked what the teacher verbally conveyed to demonstrate aspects of sounding out that were incorrect in the student’s thinking and understanding of the task.

The student also used spoken language accompanied by nonverbal modes to communicate his frustrations and confusions to the teacher. In seven of nine total frames, the student used various tones in spoken language (questioning, hesitation, and surprise) as well as nonverbal modal responses (gaze, body movement, and head movement/facial expressions). These nonverbal modal responses often preceded just before or coincided with his verbal communication with the teacher. These modal responses interacted together to emphasize his underlying feelings of frustration and uncertainty with regard to specific challenges of the task as well as his perceptions of the task. Norris (2004) suggests, while spoken language provides informative content, other nonverbal modal responses offer equally or more informative visual messages that contribute to the overall message being conveyed. In Frames 3, 4, and 5, the student is shown with his arms and hands drawn close to his body suggesting his discomfort in the task (Navarro, 2008). The student’s lack of confidence was expressed through spoken language in Frames 2, 7, and 9. Specifically, the student verbally expressed in three distinct ways that the length of the word was overwhelming—“That’s a lot of words.” (Frame 2); “That’s so long, I can’t even do that.” (Frame 7); and “Ah…that’s too much. I can’t even remember.” (Frame 9). Prior to or coinciding with spoken language, the student employed a collection of successive nonverbal responses (gaze, head movement, body movement, and facial expressions).
in a variety of combinations just before he used spoken language to express his thoughts. He ultimately withdrew from this task as he perceived through the teacher’s modal responses that he “can’t” do what she wanted him to do.

**Gesture and Body Movement/Position**

Throughout the entire Interaction 2, the teacher used gestures to communicate both emotional and academic support. Her arm placement, specifically, enacted feelings of comfort and openness towards the student. Her left arm around the back of the child and chair acted as an “emotive transmitter” (Navarro, 2008, p. 110) a sort of embrace around the child. Navarro (2008) observed, the placement of a person’s arms often reveals how comfortable or how confident a person feels. Throughout, the teacher is shown with her body and shoulders angled towards the student with her arms opened wide—forming an inverted ‘V’ with her upper body. The teacher placed her left arm in a relaxed supportive position behind the student’s back with her hand resting on the top of the back of the student’s chair while her right hand moved in and out of the student’s workspace, interacting with the notebook and the student. The proximity of her body shifts little across the interaction; the teacher is committed to supporting the child’s verbal attempts at pronouncing *sleeping* using sound boxes.

In Frame 1, the teacher postured her body so that she was positioned nearly square with the student and arms opened wide as she gazed down at him before stating, “*Sleeping. Do you know that word or do you need a box?*” Along with her body movement, her words, “*Do you know that word…*” conveys a caring stance. She is concerned that he might not know this word, and curls her body around him to comfort and support him. Her verbal mode, “*…do you need a box?*” confirms this caring stance. At this juncture, one-on-one for eight weeks, the teacher had worked closely with the student and had intimate knowledge of the kinds of words he had
previously encountered with high frequency in both reading and writing. With her body nearly facing the student and arms spread in an inverted ‘V’ shape, the teacher showed confidence and comfort inviting the student to make a decision about how he wanted to problem solve the target word. After this interaction, I talked informally with the teacher about how she thought the lesson went. The teacher stated that she felt the target word, *sleeping*, increased the rigor of this particular task. She remarked that the used of sound boxes exposed the student to more sophisticated word spellings, but was not outside of his control:

> He’s so smart… at the end of all that, you still need to find those parts so that you can get to it quickly and use what you know. He’s thinking about what he doesn’t know.

The teacher seemed to acknowledge the skill set the student was capable of doing, “…*use what you know*” as well as an explanation for the barriers that the student encountered as a result of increasing the rigor of the task, “*He’s thinking about what he doesn’t know.*” While she may have wanted the student to say what he knew, her question, “…*or do you need a box?*” suggested to the students that he did not know how to accomplish the task of sound analysis.

In Frames 8 and 9, the teacher adjusted her support, offering both literal and physical support with the task. She extended her hand in closer proximity to the student as she verbalized her assistance with the task, “*Would you like some help?*” (Frame 8). Using an iconic gesture (Norris, 2004), mimicking what was conveyed verbally, the teacher extended her reach and covered the student’s hand with her right hand to assist the student with the task. In Frame 9, she shifted her body to lower her head and shoulders nearly eye level with the student’s as she gently held his hand. The teacher continued her support with a reassuring voice, “*Okay, here we go. S-l-ee-p-i-n-g.*” As she articulated the target word slowly, the teacher gently guided the student
through the task, coordinating the gesture of pushing his finger into each sound box as she slowly segmented sounds for the target word.

**Gaze and Gesture**

As Norris (2004) defines, gaze involves the organization, direction, and intensity of gaze. Gazes are often subordinate to language and the direction of gaze are culturally informed. Additionally, individuals in an interaction perceive and react to the gaze of other participants. Thus, the interactive meaning of a certain gaze can be determined by the reaction of the other participants (Norris, 2004). In Frame 2, the student engaged in a series of nonverbal modal reactions as he gazed at the teacher’s written actions. Much like a game of chess, for every action the teacher took, the student responded through nonverbal expressions in ways that suggested his discomfort and lack of confidence prior to his engagement with the task. The series of responses began just as the teacher started the process of drawing sound boxes. The student focused his gaze at the teacher’s interaction with the practice page and responded accordingly. As the teacher started to draw a long rectangular box with her pencil to accommodate the length of the eight-letter word, the student responded with first drawing his right arm closer to his body. Using gestures, specifically beat (Norris, 2004), he twitched his marker back and forth, a gesture of indecision. The student continued to watch as the teacher subdivided the long rectangular box into seven individual sound boxes with a single line. As the teacher silently focused her gaze on drawing lines, outside of the teacher’s peripheral view, the student reacted with different modal responses. At the drawing of the first line, he lifted up his body slightly. As the second, third, and fourth were drawn, he pulled back his head further and further away with each subsequent line drawn. As the fifth line was drawn, he formed an ‘o’ with his mouth. With the final line—his eyes widen and eyebrows raised. Navarro (2008) found facial expressions provided tension
revealing cues. As in this case, the student’s eyes were focused and fixed, his neck stiff, and head tilted back—all to suggest a manifestation of tension was present and he was experiencing some negative emotional feelings. This was confirmed in his statement as the teacher tapped her finger across the boxes. In the final tap, the student used an incredulous tone of voice to verbalize his angst, “That’s a lot of words!” Only through this multimodal transcription does a visual image of the student in distress emerge (Norris, 2004). The teacher’s gaze was largely focused on the task of drawing boxes and less aware of the student’s nonverbal modal responses—his gaze, postural shifts, head movements, and facial expressions, all of which communicated feelings of distress and suggested he had lost his confidence and sense of “inner control” to interact with the task (Clay, 1991). As described by Clay (1991) he lost his ability to draw upon information from a known source (previous encounters with reading the word sleeping in text) to guide his decisions for interacting with the task. His reaction signaled he had allowed the magnitude of the boxes to create a feeling of dissonance. Thus, confusing his understanding of the task (a sound analysis versus word) and trumping his ability to draw upon his familiarity with what he knows in reading about the root word ‘sleep’ and its suffix, ‘ing’.

Another way the teacher and student used gaze to signify different meanings was how both she and the student distributed their gaze throughout the interaction. Norris (2004) found gaze to be more structured when the interaction was also more structured. She noted that listeners give speakers longer looks broken by short glances away from the speaker, while a speaker alternates looks towards a listener with looks away from them in equal lengths of time. Throughout the interaction, the teacher structured her gaze in ways that revealed her attention and focus of the interaction: towards the student as she observed and interpreted his responses; towards the student’s workspace as she prepared, demonstrated, or interacted with the
instructional the task; and finally, towards the student when instructional support was provided through questioning or directives. Across the interaction, the teacher positioned herself in such a way that allowed her full access to direct her gaze between both the student and the workspace with a tilt of her head and/or shift of her eyes. In Frames 1, 3, 7, 8 and 9, the teacher cast her gaze as she spoke directly to him. The teacher directed her gaze towards the student in search of a response to her questions, “Do you know that word or do you need a box?” (Frame 1); “A lot of words or a lot of sounds?” (Frame 3); and “Would you like some help?” (Frame 8). In Frame 7 and 9, the teacher provided the student with direct instructional support. In Frame 7, the teacher clarified misunderstandings, “Oh, my goodness. You said ‘sleep—ing’. That wouldn’t work.” This was one of the only times within the short interaction, the student made direct eye contact with the teacher. He acknowledged her assessment and feedback by shaking his head from side to side in rhythmic ‘beats’ (Norris, 2004). In Frame 9, the teacher structured her gaze as she interacted, physically guiding the student with the task. With her head low, she looked first towards the workspace to monitor her hand gestures as she physically supported the student in the task. She then returned her gaze at the student at the completion of the demonstration to assess the student response.

Norris (2004) and Navarro (2008) found that humans are skilled in perceiving and interpreting the gaze of others and the interactive meaning of a gaze can be determined by the reaction of others. Navarro (2008) found universally, people use direct gaze to show we like them, are curious about them, or want to threaten them. In this case, the teacher used gaze throughout the interaction to understand the student’s misgivings through direct observations of the student and his responses to her instructional interactions or to monitor her own actions in the workspace. The observant stance taken by the teacher allowed her to adjust her instructional
support in response to modal responses expressed by the student. Evidence of the teacher scaffolding the student’s learning was shown in Frames 2, 4, and 5. In Frame 2, the teacher used gaze to monitor her own interactions in the workspace as she provided sound boxes for the student. The teacher directed her focus on the practice page as she drew sound boxes at the student’s request. In Frames 4 and 5, the teacher monitored her gestures as she interacted with the sound boxes—first, demonstrating concept of word (Frame 4) and then concept of individual sounds (Frame 5).

The student, to a great extent, structured his gaze away from the teacher, positioning his head to avoid direct eye contact. Norris (2004) found head movement and gaze to be culturally informed. Gaze in different cultures and subcultures are used in different ways and mean different things. Sensitive to the different roles of the participants, in this case, the teacher embodied the role of an authoritarian, disseminating knowledge, while the student embodied a more submissive role as the recipient of knowledge. In eight of the nine frames, the student was seen gazing in one of two directions, eyes focused in either a forward direction (Frames 1, 2, and 9) or a downward direction onto the writing page (Frames 3, 4, 5, 6, and 8). Norris (2004) states that “we cannot determine with certainty what an individual is gazing at” (p. 73) but should consider the interactional value of the gaze and how the individual(s) react to each other’s gaze. Navarro (2008) found eye aversion is often mistakenly interpreted as an indication of deception or an action taken to ignore others. In reality, when individuals gaze away from a conversation, it most likely is done to eliminate or minimize the distraction of looking at the person they are conversing with. In this way, the aversion enables them to engage in thought to process feelings and conduct internal dialogues (Navarro, 2008). In Frame 1, the student directed his gaze forward as he contemplated his strategic options for problem solving, responding with a simple
statement, “A box.” His facial expressions in concert with gaze, reflected his feelings about the consequences of his choice in Frame 2, “That’s a lot of words!”. In the final interaction, Frame 9, in spite of the teacher directly gazing at the student following her high instructional support, the student averted his eyes, avoiding direct eye contact with the teacher. His averted gaze is punctuated by his verbal response, signaling he has given up, “Ah…that’s too much. I can’t even remember.”

In response to the teacher’s interaction within the workspace, the student’s gaze was focused on the writing page in Frames 3, 4, and 5. In Frame 3, the student was shown directing his gaze forward, allowing him to process the teacher’s question. He took time to draw upon his knowledge and understanding of the concepts of word and sounds before he formulated his verbal response, “Sounds”. In Frames 4 and 5, the student followed the teacher’s gaze and turned the focus of his gaze towards observing the teacher’s gestures as she demonstrated the concept of word and sounds. In Frame 8, the student was submissive to the teacher’s offer to support him with the task. He averted his eyes as he accepted, “Yep!”.

Frame 7 was the single incident in which the student deliberately turned his head towards the teacher to make eye contact. In this incident, the teacher intervened, demonstrating the student’s confusion and inaccuracy with the task. In response, the student appealed to the teacher to express his lack of confidence to engage in the task, “It’s so long I can’t even do that.”

Summary

Interaction 2 demonstrated how modes operated to show the student’s confusion, the teacher’s desire to have the student engage in this task, and the student’s ultimate withdrawal from the task itself. In this case, when presented with a slightly more challenging word for sound analysis, the student expressed confusion and was reluctant to participate in the task. Thus, the
gradual increase of complexity in literacy learning poses challenges for teachers and students as they interact around literacy learning through different modes.

Interaction 2 demonstrated the challenges students may face in literacy learning when the rigor of the task is increased. Rigor adds to the complexity of literacy learning and challenges how teachers communicate through different modes. The student, who had success in the past using sound boxes to problem solve words, demonstrated how easily he lost his sense of agency and self-confidence when the teacher increased the rigor with a longer more complex word analysis. This led to his confusion with literacy concepts (word, sound, and syllable break) and reluctance to engage in a familiar task. I talked with the teacher informally about this interaction. She noticed as the student progressed in his literacy learning—longer and more complex problem solving became overwhelming for the student. She stated:

We’re getting to a point where we’re hitting what is difficult for him. I think up until then he had enough control over things that he could work it out, but now he’s getting to things that aren’t coming as easy. They’re not little, short things…they’re longer things. As he’s pushing those longer words, he’s not able to hold all that in his head and push at the same time. So, I think his work now is going to be how to coordinate those things, and it’s not easy for him. Boxes are just not an easy thing for him with the sounds, the pushing, and coordinating.

The teacher’s reflection suggested she was aware of the student’s feelings of distress, acknowledging his lack of agency to independently problem solve using a familiar task—

“... now he’s getting to things that aren’t coming as easy. They’re not little, short things...they’re longer things.” Norris (2004) refers to this as the ‘phenomenal concept of mind’.

Norris (2004) explains, “the phenomenal concept of mind is that aspect of mind with which
participants in an interaction express their perceptions, thoughts, and feelings; and other participants react to these expressions” (p. 82). In this case, the student used a variety of nonverbal modal actions alongside statements to express his feelings of concern with regard to the task, “That’s a lot of words!”; “That’s so long, I can’t even do that.”; and, “Ah... that’s too much. I can’t even remember.” When I talked with the teacher after the interaction, she addressed the challenges she perceived were challenging for the student. She reflected, “As he’s pushing those longer words, he’s not able to hold all that in his head and push at the same time. So, I think his work now is going to be how to coordinate those things, and it’s not easy for him.” In other words, from this teacher’s perception, she thought that when she increased the rigor of familiar tasks, this student perceived the task to be outside his comfort zone. The student exhibited confusions, lost his self-confidence, and increased his reluctance to engage in the task (Johnston, 2012; Lyons, 2003; Tharp & Gallimore, 1988; Vygotsky, 1986). Clay (1991) found students limit their “inner generating system that allows them to further their learning by their own efforts” (p. 42) when they are reluctant to draw upon past experiences and cognitive competencies to attempt more challenging or novel tasks. As in this case, the student limited his contributions to the task and relied on the teacher to scaffold the task.

Dependent in learning is the shared knowledge—cultural, visual, linguistic—of what modes mean for both the student and the teacher. Over time and within contexts of classrooms, gazing up to a teacher within close proximity and in one-on-one situations signals to the teacher that s/he must move in to help the child. A child gazing down for a period of time signals to the teacher that s/he is having difficulty with a task. A ready-in-hand pencil extended into a student’s workplace signals anticipation that the student will miscue or error, and that her/his teacher may step in to make corrections. Further, in Reading Recovery, in-place knowledge and training
signals to a teacher when and how to respond to a student. Teachers have a ready-set of skills and strategies to provide the student, such as sound boxes, to intervene in a student’s challenge with words or longer written texts.

**Finding 3: Modal responses are important in understanding the complexity of supporting students in literacy tasks.**

Across the study, teachers employed different modal responses through which they communicated with their students in their efforts to learn about and through language and to understand different literacy tasks. In turn, students interpreted these modal responses to perform literacy tasks. Identifying modal responses was important in the understanding of how meaning of a task or process occurred between teachers and their students. I selected Interaction 3 as it exemplified the complexity of supporting students as they navigated a range of literacy tasks. As teachers taught literacy concepts, they used a number of different modes to communicate to the student. The student not only had to try to accomplish the literacy task, but also had to understand how the teacher communicated her navigation of the task through her many modes.

*Interaction 3: Phonological Awareness*

Interaction 3 took place following the negotiation and composition of a student-generated short story, “*A little girl said to Sam, Will you be my friend?*” This student story was in response to a brief conversation the teacher and student had around a familiar text, “*Sam Goes to School*” (Giles, 2000). The nearly two-minute 12-frame interaction began after the student exhibited confusion following the writing of the first two words of his story, *A* and *little.*
Figure 16. Interaction 3: Phonological Awareness (Frames within the first 1:25 of the interaction.)

<table>
<thead>
<tr>
<th>Frame</th>
<th>Time</th>
<th>Conversation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0:00</td>
<td>What's your next word?</td>
</tr>
<tr>
<td>2</td>
<td>0:06</td>
<td>Where are you?</td>
</tr>
<tr>
<td>3</td>
<td>0:18</td>
<td>So, you need girl? That is how it starts. So let’s think about girl with some boxes.</td>
</tr>
<tr>
<td>4</td>
<td>0:24</td>
<td>Girl. You make it smooth when you push. You see the whole word, story. g-ir-l.</td>
</tr>
<tr>
<td>5</td>
<td>0:32</td>
<td>Oh, don’t break it up. G-ir-l.</td>
</tr>
<tr>
<td>6</td>
<td>0:44</td>
<td>G-ir-l (in unison). Listen, g-ir-l.</td>
</tr>
<tr>
<td>7</td>
<td>0:49</td>
<td>There is an ‘r’. Where would it go?</td>
</tr>
<tr>
<td>8</td>
<td>0:53</td>
<td>In the middle?</td>
</tr>
<tr>
<td>9</td>
<td>1:04</td>
<td>Girl. R?</td>
</tr>
<tr>
<td>10</td>
<td>1:10</td>
<td>Um...huh?</td>
</tr>
<tr>
<td>11</td>
<td>1:13</td>
<td>Now say the whole thing and listen for what’s there... wait.</td>
</tr>
<tr>
<td>12</td>
<td>1:25</td>
<td>Is that how you say it?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>That’s how you say it! G-ir-l (in unison). Um, you don’t say gu-ir-l. You say g-ir-l. Look.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Can you hear the sounds now that you see them?</td>
</tr>
</tbody>
</table>

Frame 10. 1:10  Frame 11. 1:13  Frame 12. 1:25
Interaction 3 began with the student initiating the verbal exchange in Frame 1. Following the transcription of the first two words of his story, the student attempted to re-read to anticipate the next word of his story. Rather than closely attending to text and rereading for the precise message he had written, “A little…”, the student unintentionally overlooked the written words and recalled a different version of his story. At this juncture, it became evident that he was aware of a misstep and felt uncomfortable. He created distance between him and his teacher and positioned himself outside of his workspace. Norris (2004) and Navarro (2008) explain that people position their bodies relative to others based on their level of comfort or discomfort. In this case, the student expressed discomfort as he lost his place in the re-reading of his story and became momentarily confused. The student had inadvertently directed his gaze off the text which caused him to lose track of his story. Instead of re-reading to re-establish his place in the story, he redirected his gaze towards the teacher in search of instructional redirection. In this instance, the student allowed his oral language structure to mistakenly anticipate a different text structure. He overlooked the words he had written and altered the original text structure from “A little girl said…” to “A little girl came…” The student exhibited his confusion through different modes. He spoke with hesitancy, pausing after “A little girl...” and used a questioning tone in his voice as he uttered, “came?” He then gestured, pointing his right index finger to the next open space on the story page before he silently appealed for assistance from the teacher. He turned his head and body towards the teacher and continued to gaze motionless until the teacher turned her attention towards him.

In response to the student’s gaze and questioning tone, the teacher acknowledged the student’s appeal beginning with nonverbal modal responses. She discontinued her notetaking on
her lesson record and made eye contact with the student as she looked up. The next interactions are multi-layered. The teacher first observed through gaze before communicating her next instructional move. She began by glancing at the student’s story as she simultaneously laid down her pencil and turned her body slightly towards the student, as she crossed her hands over her wrists at the edge of the table. Next, the teacher verbally redirected the student with a question, “What’s your next word?” The student did not initiate a response, rather he continued to gaze at the teacher.

In Frame 2, the teacher initially maintained an active stance; her hands were clasped together and positioned in front of her stomach, her body leaned forward and turned towards the student, and her head positioned to make eye contact with the student. She silently gazed at the student, perhaps waiting for the student to take the lead and initiate a conversation. The student remained verbally silent, though he expressed his uncertainty with other modal responses as he continued to gaze at the teacher. He distanced his body further from the workspace, adjusting the center of his body towards the back of his stool as he moved further to the left, his left elbow resting just at the edge of the table. After a few short seconds, the teacher broke her silence. She led the interaction with instructional language accompanied by gestures. The teacher verbally instructed the student to re-evaluate his previous interactions as she shifted her gaze from the student to the workspace, “Where are you?” This question was not literal. Rather, both she and the student understood this question to mean, where in the text are you reading? The student responded by following the teacher’s lead and redirected his gaze and attention to the story page. Without speaking, the teacher refocused
the student’s attention by gesturing with her left index finger to the beginning of the story. She then quickly retracted her hand to sweep her bangs back behind her left ear.

Without hesitation, the student acknowledged the teacher’s pointing gesture with head beats, lifting his head slightly back and forth before he verbalized, “Ah...” He then redirected his attention to the text and immediately began to gesture with his finger. He pointed out word-by-word each word in the phrase, “A little...girl.” rereading in anticipation of the target word, girl. As the student vocalized the target word, he turned his head upward and made eye contact with the teacher.

In Frame 3, the teacher responded to the student using a variety of modal responses to confirm, redirect, and engage the student in navigating the task of hearing and recording sounds, in particular, controlling the sound segmentation when slowly articulating the target word girl. The teacher made eye contact with the student and nodded her head as she questioned the student, “So, you need ‘girl’?” The student nodded his head in agreement then immediately turned his gaze towards the story page. He confidently reached up with his right hand and quickly transcribed the letter g. As the student reached in to write, the teacher, hands clasped together on the edge of the table, began to adjust her body. She leaned to the left and entered the workspace just enough to observe the student’s writing attempt, and peered over his right shoulder. The teacher slightly nodded her head as she verbally confirmed the student’s attempt, “That is how it starts.” The teacher continued her instruction adding, “So, let’s think about ‘girl’ with some boxes.” The teacher picked up a green marker placed on the side of the student’s workbook, capped it, and moved it aside before extending her right hand to
reach for her pencil. She entered the workspace from the top of the page and began drawing three sound boxes in an open space on the practice page with her right hand. While she drew boxes with her pencil, the student sat up with his body leaning slightly forward and to the left of the workspace. He then retracted his arms with his elbows bent and resting on the table. He positioned his hands in such a way that he loosely held on to both ends of the green marker, closely tucked in front of his body. He then adjusted his head, tilting slightly to one side as he focused his eyes towards the teacher’s hand while she drew sound boxes.

After the teacher completed the sound boxes, in Frame 4, the student waited patiently gazing towards the teacher’s hands. Without speaking, as soon as the teacher completed the final sound box, the student uncapped his marker and momentarily suspended his right hand in the air. As the teacher lifted her body upright to exit the workspace she announced the target word, “Girl.” In response, the student quickly inserted the letter g in the first sound box. He then distanced himself from the workplace. He began to retract his right hand in closer proximity to his body as he shifted himself to the left of the workspace. With his head down, he gazed at the workspace holding the marker in both hands close to the front of his body. Without hesitation, the teacher used a range of modal responses as she began to review the demands of the task with the student. The teacher simultaneously used proximity, head movement, gaze, and hand gestures to accompany her verbal instructions. She lowered her head to gain closer proximity with the student and began with, “You make it smooth when you push.” This statement served as a reminder to the student the importance of a smooth articulation while coordinating the physical action of gesturing his finger into each individual sound box. In
the teacher’s next directive, “You say the whole word slowly...g—ir—l.”, the teacher accompanied her statement with modal responses to help the student visualize her instructions. The demonstration began with the teacher’s head tilted to the left and her eyes fixed slightly upwards, as she gestured with her left hand, first suspended in the air, then, sweeping across the air in coordination with rotating her head as she articulated the target word slowly, “g—ir—l.” Following the demonstration, the student continued to maintain his body position to the left of the workspace with his hands drawn together, close to the front of his body with his elbows resting on the table. He loosely held the green marker upright in his hands as his head was positioned slightly tilted to the left with eyes gazed at the paper.

In Frame 5, the teacher withdrew from the student’s workspace, yet maintained close proximity to the student. The student then began to initiate the next interaction. The student shifted his body to the right, almost centering himself in front of the notebook before he reached in with his right hand to initiate the task. In place of his finger, the student used the end cap of his marker to push into each of the sound boxes. Head cocked to the side with his eyes focused on the boxes, the student made an attempt to coordinate spoken word with his gestures. Difficulty in coordinating this action (speaking and pushing) resulted in the student overarticulating individual sound segments as he attempted to keep time with the movements of his hand, pushing his marker into each sound box segmenting the sounds “Gu—o—ru—l.”

The teacher leaned towards the left with her hands crossed in front of her as she observed the student’s interaction. Almost immediately, the teacher intervened by gently
touching the student’s right forearm. In response, the student suspended his interaction with the boxes and turned his attention to the teacher. In attempt to clarify the student’s misconception of slow articulation the teacher provided specific verbal feedback, “Oh, don’t break it up.” As the teacher suspended her left hand in the air, the student adjusted his attention and gazed towards the teacher’s hand. In a second attempt to provide the student with a visual link to the task, the teacher tilted her head and repeated her hand gesture, coordinating the rotation of her head with her left hand sweeping across the air as she slowly articulated, “G—ir—l”.

Before his second attempt, the student began by articulating the target word as a unit, “Girl” then repositioned his body slightly to the right, nearly square with his writing notebook. He then reached up to the sound boxes with the bottom end of his marker. As in his first attempt, the student had difficulty with the task. He once again distorted the sounds as he over articulated the sound segments as he attempted to coordinate pushing his marker into each sound box while speaking, “Go—ur…”

In Frame 6, the interaction began with the teacher making eye contact with the student. She moved her body in closer proximity and leaned forward with her head nearly even to the student. The teacher then positioned her left hand in the air. Together, both the teacher and student articulated the target word in unison as the teacher gestured with her left hand sweeping across the air, “G—ir—l.” Satisfied with the joint articulation, the teacher nodded her head and gazed at the student. In response, the student made a second attempt to independently coordinate the task. As in his previous attempts, he had difficulty slowly articulating the target word without distorting the sound segmentation, “Gu—or—lu”. The student turned his head towards the teacher to make eye contact. In response, the teacher
increased her level of support. She requested the student to heighten his attention to one aspect of the task, listening as she physically demonstrated the task. The teacher engaged in coordinating her slow articulation as she pushed her right index finger into each sound box, “Listen, g-ir-l.”

As the teacher entered the workspace to demonstrate the task, the student moved his body slightly left. He sat upright with elbows bent as both hands held either end of the marker in close proximity to the front of his body. As he observed the demonstration, he adjusted his head slightly downward with eyes focused towards the sound boxes. He watched as the teacher reached in with her right index finger extended to model the task—coordinating the segmentation of sounds while pushing her finger into each individual sound box, “G-ir-l.”

In Frame 7 the student leaned his body to the left of the workspace and tilted his head to one side. The student retracted his hands even closer to his body, stacking them one on top of other as he held his marker. He made eye contact with the teacher before he vocalized the target word as a unit and identified a single letter sound with a questioning tone, “Girl, R?” Sitting to the left of the workspace with her left hand closed and resting on top of her right hand, the teacher responded affirming his answer with a quick nod of her head followed by a confirmation statement, “There is an ‘r’.” Immediately, the student uncapped his marker and made his move towards the sound boxes. Before the student reached the sound boxes, the teacher intervened. She made eye contact, raised her eye brows and widened her eyes as she questioned, “Where would it go?”

In Frame 8, the student responded to the teacher’s question through nonverbal utterances and gestures. The student used his right hand and extended the tip of the marker to point towards the middle box as he simultaneously made a nonverbal utterance in a questioning tone, “Um
huh?”. He then turned his head to gaze towards the teacher for confirmation. In response, the teacher turned her gaze first towards the boxes, then towards the student to ask a clarifying question, “In the middle?”. This was followed by quick little nods of her head to confirm. As the teacher watched, the student repositioned his head and gazed at the boxes before writing the letter r in the middle sound box.

In Frame 9, the teacher and student attended to different aspects of the task. The teacher continued her focus, analyzing the word using the scaffold of the sound boxes. The student, on the other hand, was focused on the end product—recording the word onto the story page. The teacher timed her instructional scaffold just as the student lifted his marker from the middle box. She verbally reminded the student of the task, “Now say the whole thing and listen for what’s here...” She emphasized her speech, “whole thing” by gesturing with a wave of her hand before pointing to the final box as she directed the student, “listen for what’s here.” The student, however, directed his attention to the written task. He seemingly ignored the teacher’s instruction and turned his attention from the sound boxes to the story page. With his marker in hand, he began to write the letter r to the right side of the g. The teacher quickly intervened, gently touching the top of the student’s forearm with her left hand and declared, “…wait”. The student cooperated and stopped midstream as he lifted up his right arm. He then repositioned his arm in front of his body as he looked up to make eye contact with the teacher.
As the student continued to make eye contact with the teacher (Frame 10), he sat with his right elbow bent across the notebook and his hands positioned close together, holding the green marker in his right hand. He turned his head downward, redirecting his eyes towards the boxes. Without physically engaging with the sound boxes, the student distorted the sound segments as he attempted to articulate the target word, “Gu—o—lu”. Meanwhile, the teacher adjusted her body over the edge of the table to listen as she directed her gaze at the student. Her body moved slightly forward with her left hand positioned on the right side of the story page as her right hand hung across her left wrist. She tilted her head to the right side with her eyes slightly squinted. Just as the student finished articulating, he returned his gaze with his head cocked to the left and waited for the teacher to respond. In response to the distorted sound segments, the teacher shook her head from side to side before questioning, “Is that how you say it?” She gazed at the student with her head positioned downward and tilted to the right.

In Frame 11, both the student and teacher interacted through quick successive verbal exchanges. These verbal exchanges were punctuated with tone of voice intermingled with subtle nonverbal interactions to co-construct meaning. The student led the interaction in response to the teacher’s rhetorical question in the previous frame (“Is that how you say it?”). First, the student shook his head from side-to-side in small head movements as he maintained eye contact with the teacher. He then adjusted the position of his arms to rest on either side of the writing notebook before articulating the target word as a unit, “Girl”. The teacher immediately responded by
nodding her head with her lips pressed together, eyes widening, and eyebrows raised. Simultaneously, she gestured with her right hand, pointing towards the student’s shoulder as she confirmed his response, “That’s how you say it!”. Without hesitation, the teacher and student slowly articulated the target word, “G-ir-l”, in unison. Independently, the student followed, softly segmenting the target word, “G-ir-l” as he adjusted his interaction with the boxes. He slid his marker across the boxes, then looked towards the teacher and identified the final consonant sound with a questioning tone, “L?”. The teacher gently nodded her head up and down as she confirmed with a nonverbal utterance, “Umm.” Upon the teacher’s approval, the student extended his right hand and contributed the final letter in the last sound box as the teacher picked up and uncapped her green marker. In response, the student hesitated and made eye contact with the teacher. She provided a verbal clarification through modeling. She articulated incorrectly, “You don’t say ‘gu—orl’ and correctly “You say, ‘g-ir-l.’” The student acknowledged the teacher by nodding his head in short up and down movements. He then proceeded to copy the letters r and l into his story. While the student wrote, the teacher called the student’s attention to the orthographic features of the word. She reached into the workspace and said, “Look” as she added the letter i in the same sound box with r. The student continued to complete his writing with his head down and eyes focused on the story page.

At the end of the interaction, (Frame 12), the teacher concluded with a review of the highly complex task, connecting the spoken with the visual representations of the sounds. In response, the student acknowledged the teacher through nonverbal responses as he completed the task. Pausing as the student completed his transcription of the target word, the teacher leaned forward over the table and rested the weight of her body on her right elbow, tucked close to the front of her body. She turned her head downward and observed the student as he wrote his final
letter. Upon completion, the student resumed his attention towards the teacher. He lifted his marker and turned his head to make eye contact. The teacher interjected at that moment. As she slightly nodded her head up and down, she verbalized, “Can you hear the sounds now that you see them?” The student momentarily turned his gaze towards the target word then returned eye contact with the teacher. He then moved his head and body in large up and down movements in agreement with the teacher’s statement.

Modal Interaction Analysis of Interaction 3

Figure 17. Finding 3-Teacher and Student Modal Communications

Through MMIA in Interaction 3, the complexity is magnified in how all modes of communication contributed towards how the teacher and the student made meaning from this interaction. In this interaction, the teacher used in combinatorial relationship specific modes (spoken language and nonverbal modal interactions) to communicate instruction in phonological
awareness. This interaction showed the close interrelationship between and among modes and how the teacher and the student interpreted the messages to complete a task or teach literacy skills.

Figure 15 identifies the different modes of engagement utilized by the teacher and student to communicate in this interaction. The teacher and student each used six modes of communication; however, these modes were used with different degrees of frequency and intensity and combined in different ways to communicate. The size of the circles reflected the frequency and intensity of modal responses used by each participant. Spoken language, in combinatorial relationship with other nonverbal modes, primarily guided the teacher’s instruction, while nonverbal modes in combinatorial relationship with the spoken modes primarily communicated the student’s interpretation and response to this instruction.

Both teacher and student used spoken language across the 12-frame interaction, but for different purposes and expressed through different combinations of modal responses. The teacher primarily used spoken language for purposes of instructing the student how to slowly articulate, listen, and link these to record the appropriate letter sounds in words. Alongside spoken language, the teacher frequently incorporated different degrees of gaze, head movement, and gesture to reinforce her communication with the student. Tables 5-7 capture the complexity of the interaction and how the modes operate together in support of student learning directed towards articulation, listening, and linking sounds to letters to record.
In this interaction, the teacher primarily communicated through spoken language in relationship with head movements and gaze as she delivered instruction around slow articulation. Norris (2004) investigated the interactional meanings of head movement in context of everyday face-to-face interactions and found individuals moved their heads in multiple ways. She described these movements as: 1) rotational movements (shaking the head); 2) lateral movements (tilting the head to the right or the left); and 3) sagittal movements (nodding the head). These movements encompassed a range of functions from what Norris (2004) describes as conventional to novel. Conventional head movements have a “clear one-to-one verbal counterpart: yes or no” and may or may not be performed alongside spoken language (Norris, 2004, p. 33). Interactional meanings for novel head movements are more difficult to study as they are less clear and typically do not have a verbal one-to-one counterpart (Norris, 2004). For this reason, Norris (2004) emphasized the importance of considering other communicative modes used in the interaction to interpret interactional meanings. For example, Norris (2004) found head movements situated in a wide-angle position served to facilitate gaze, pointing towards someone or something, or used to switch focus from one thing to another. Additionally, open or closed
postures changed with the lowering or raising of the head. These modes were important in this interaction. With this in mind, head movements in relationship with other modes helps to explain instruction and learning in this interaction.

In Frames 4, 5, 10, and 11, the teacher focused her instructional language around the task of slow articulation. With spoken language, the teacher enlisted head movement, gaze, and gesture in different ways to emphasize instruction around phonological awareness. Phonological awareness is defined as “becoming aware of the sound within spoken words” (Clay, 2005, p. 65). Clay (2005) identified phonological awareness as an essential skill for early learning as it is an indicator of students who become good at word recognition—that is distinguishing between letters and linking sounds to those letters.

In Frames 4 and 5, the teacher closed her posture as she lowered her head to gain entry into the student’s workspace to model the task. With lateral head movements, the teacher fixated her eyes slightly upward before she enlisted spoken language and gestures to model slow articulation of the target word from start to finish. The teacher verbally instructed, “You make it smooth when you push.” The teacher then followed with “You say it slowly...” as she visually demonstrated smooth articulation using hand gestures sweeping across the air in coordination with head rotations while verbally modeling the slow articulation of the target word, “G—ir—l”. The gestures along with lateral and rotational head movements provided the student an additional layer of scaffolding for the task.

While, spoken language was used by the teacher in Frames 5, 10, and 11 to provide specific feedback — “Oh, don’t break it up.” (Frame 5), “Is that how you say it?” (Frame 10), and “That’s how you say it! G—ir—l (in unison).” (Frame 11), the teacher also used head movements to confirm or reject the student’s attempts at the task. In each of these interactions,
the teacher incorporated sagittal head movements and gaze to support spoken language. The teacher shook her head from side to side to convey incorrect responses (Frame 5 and 10) and nodded up and down to convey successful responses by the student (Frame 11). The teacher also used head movements to structure her gaze. She directed her gaze towards the workspace (Frame 5) to observe the student interacting with the task in the workspace and made direct eye contact with the student as she provided feedback (Frames 10, and 11). In each of these frames, the teacher responded to the student’s attempts using many nonverbal modal responses alongside spoken language to foster student learning or to inhibit or interrupt incorrect responding. Sagittal head movements, close proximity, and gestures were used to affirm student interactions with the learning task while, rotational or lateral head movements and gaze were used to interrupt or inhibit the student from habituating incorrect responding.

Table 6. 
**Teacher Interactions in Reference to Listening**

<table>
<thead>
<tr>
<th>Frame</th>
<th>Verbal Modes of Responding</th>
<th>Non-verbal Modes of Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame 7</td>
<td>“There is an ‘r’. Where would it go?”</td>
<td>Gaze and head movement.</td>
</tr>
<tr>
<td>Frame 8</td>
<td>“In the middle?”</td>
<td>Gaze and head movement.</td>
</tr>
</tbody>
</table>

In Frames 6, 7, and 8, the teacher lowered and raised her head to adjust her proximity to the student and workspace as she verbally responded to the student. In addition to lateral and sagittal head movements to confirm the students attempts to listen, identify, and locate correct sounds he heard, the teacher also used head movement and gestures to direct the focus of the student’s attention. Finding the task difficult, the teacher supported learning by modeling. Vygotsky (1986) argued that higher cognitive processes such as problem solving are first learned in social interactions. In this interaction, the teacher engaged in several modal responses to focus
the student’s attention (head movement and gaze) while modeling the coordination of the task (spoken and gesture). First, the teacher leaned into the workspace with her body forward, lowering her head as she tilted it to the left to direct her gaze towards the boxes. She simultaneously began to slowly articulate as she pushed her finger into each sound box—coordinating her gestures with the changes in the sound segmentations, “Listen, g—ir—l.” (Frame 6). In Frames 7 and 8, the teacher used gaze and sagittal head movements alongside spoken language to confirm and affirm the student’s actions. With her head titled to the left, she nodded her head up and down as she verbally confirmed the student correctly identified the letter sound in Frame 7, “There is an ‘r’.” and the sequential order in which the sound appears in the word in Frame 8, “In the middle?”. The teacher used head movement and gaze differently when she questioned the student, “Where would it go?” (Frame 7). In this instance, the teacher adjusted her head and used her chin to point towards the work page. In this way, the teacher redirected the student’s gaze away from her towards the boxes.

Table 7.

| Teacher Interactions in Reference to Articulating, Listening, and Linking |
|-----------------------------------------------|-----------------------------|
| **Frame** | **Verbal Modes of Responding** | **Non-verbal Modes of Responding** |
| Frame 9 | “Now say the whole thing and listen for what’s here…” | Gaze, gesture, head movement, and proximity. |
| Frame 12 | “Can you hear the sounds now that you can see them?” | Body movement, gaze, and head movement. |

In Frames 9 and 12, the teacher drew upon multiple communicative modes that were interlinked and interdependent to facilitate complex learning. Norris (2004) studied the intensity of communicative modes and found “the weight or importance of specific modes used in interactions was determined by the situation, the social actors, as well as other social and environmental factors” (p. 79). For this reason, Norris (2004) found the intensity of any one
particular mode was dynamic in that it could change from one interaction to the next, and/or change within the interaction. In Frames 9 and 12, the teacher called for the student to focus his attention to all aspects of the task simultaneously—articulating, hearing, and linking the sounds to letters. In effort to communicate this, the teacher engaged in multiple modes, some with greater intensity than others, but all working together to express her instructions clearly and fully.

In Frame 9, as the teacher worked to convey the relationship between sounds and letters, the modal intensity of gaze and spoken language were higher level actions used by the teacher but, intricately linked to other lower level modal actions within the interaction—head movement, proximity, and gestures. The teacher organized and directed her gaze towards the workspace. She lowered the position of her head downward, which allowed her to close her proximity to the student and the workspace as well as direct the focus of her gaze towards the sound boxes. The teacher coordinated hand gestures as she verbally reminded the student to articulate, listen, and identify the final sound, pointing to the last box as she ended her sentence, “Now say the whole thing and listen for what’s here.”

In Frame 12, the teacher summarized the instructional task and used head movement and spoken language with greater modal intensity to check for understanding—specifically the link between letters and sounds. The teacher was able to adjust her attention between the student and the boxes through head movements. She leaned her body forward over the table and adjusted her head in a lateral position. This allowed the teacher to straddle her gaze between the student and the workspace. In search of confirmation from the student, the teacher engaged in sagittal head movements, nodding up and down as she asked, “Can you hear the sounds now that you can see them?”
This interaction showed how this teacher communicated instructional messages, using different modal responses that were intricately linked to reinforce and duplicate instructional messages. The student had difficulty, first, connecting the task with phonological awareness and second, performing different aspects of the task in a coordinated way. Throughout the interaction, the teacher drew upon multiple modal responses in different combinations to reinforce her instructional messages—focusing the student’s attention to different aspects of the task (articulating, listening, and linking).

**Student’s Modal Communication**

The following provides an analysis of the student’s modal responses, revealing aspects of the task that were most challenging (articulation and gestures) and aspects of the task that were less challenging (listening, and linking). In large part, the student used spoken language to reveal his limited understanding of how to perform a sound analysis. In this case, he over-articulated individual sounds in the target word. Clay (2005) argued some students find it extraordinarily difficult to separate the sounds of language they are hearing or speaking, suggesting phonological awareness is a more sophisticated sound analysis than just identifying individual letter sounds in isolation. The student’s attempts to isolate individual letter sounds contributed to his misunderstanding and difficulty with the task. As in the case with the teacher, the student drew upon multiple modes in different combinations to communicate his misunderstandings with the task. Alongside spoken language, the student incorporated different degrees of gaze, head movement, gesture, proximity, and body movement to perform the task relative to his limited understanding. Table 8-10 captures the complexity of the interaction.
Table 8.

**Student Interactions in Reference to Articulation**

<table>
<thead>
<tr>
<th>Frame</th>
<th>Verbal Modes of Responding</th>
<th>Non-verbal Modes of Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame 6</td>
<td>“G—ir—l (in unison). Gu—or—lu.”</td>
<td>Gaze, gestures, head and body movement, and proximity.</td>
</tr>
<tr>
<td>Frame 10</td>
<td>“Gu—o—lu...”</td>
<td>Gaze, gesture, head and body movement, and proximity.</td>
</tr>
</tbody>
</table>

**Proxemics within the Learning Environment**

Proxemics within the learning environment provide insight into the extent to which learning is inhibited or fostered. Norris (2004) defines proxemics as the distance that individuals take up with respect to others and relevant objects. Proxemic behaviors are generally intertwined with higher-level actions performed within the environment in which the interaction takes place (Norris, 2004). In this case, the student distanced himself from the workspace as he focused his attention to slow articulation as he gazed at the teacher modeling the task (Frame 6). Norris (2004) found ways in which individuals arranged and utilized their space were culturally conditioned, often revealing social relationships. Thus, the level of intimacy or formality of an interaction can be interpreted by the distance that participants take up to one another. As evidenced in this interaction, the teacher and student interacted in often common ways that adults and children communicate when they assume traditional teacher/student roles (Cazden, 2001; Johnston, 2012; Rymes, 2009). The student generally maintained a formal distance away from the teacher and the workspace as he performed other higher-level modal responses (spoken language, gaze, head movements, and gestures). He primarily positioned his body to the left of
the workspace throughout the interaction. He closed his proximity to the workspace and the teacher when he had to physically interact with the task and, at times, increased the distance between himself, the workspace, and the teacher, when he seemed less confident of his interactions. In these situations, the student retreated as far left as he could, bounded only by the edge of the table.

Across the Frames, the workspace was defined by the placement of the writing notebook. Typically, in Reading Recovery settings, the student’s workspace is bounded by the writing notebook as it is placed directly in front of the student. Teachers typically adjust their proximity by moving in and out of the student’s workspace. In this interaction, however, the placement of the writing notebook was unusually positioned between the teacher and the student and made for interesting observations of their interactions. The position of the notebook allowed the student to maintain a formal distance from the teacher as he interacted across the Frames (5, 6, 10, and 11). Proximity across these interactions, likely suggested the student felt some uncertainty and discomfort with the task (Navarro, 2008; Norris, 2004). The student primarily sat to the left of the writing notebook and adjusted his proximity throughout the interaction to the workspace, entering and exiting the workspace as he engaged in higher level modal responses (spoken language, gestures, gaze, and head movement) to perform the task of slow articulation through spoken language.

In Frames 5, 6, and 10, the student exhibited difficulty with the task. Primarily through spoken language, the student revealed his narrow understanding of sound segmentation. He converted blended language sounds into isolated letter sounds. In his attempt to blend sounds, the student distorted the sounds by over articulating (Frames 5, 6, and 10), segmenting as if he was identifying individual letter sounds. He articulated “Gu” or “Go” for the initial letter sound /g/. 
The medial /ir/ sound was articulated in one three ways, “o”, “ur” and “or”. The final letter sound /l/ was articulated as “l” or “lu”.

The data revealed there may be other lower level modal responses that may have contributed to the student’s distortion of sound segmentation. In Frame 5, the student adjusted his proximity and entered the workspace to physically interact with the task. The speed at which the student coordinated, speech, deictic hand gestures, and sagittal head movements across the boxes may have been a contributing factor that reinforced the student to produce isolated sound segments. The task required the student to synchronize spoken language with movements across the boxes. He cautiously pushed the end of his marker, slowly and carefully into each individual sound box as he nodded his head with each sound segmentation. It is not clear whether or not speech (over-articulating isolated sounds) or pace of the gesture coupled with head nods as he moved across the boxes made the task more complex for the student. Interestingly, the student changed his approach in the way he interacted with the sound boxes in Frame 11. Instead of pushing his marker into each individual box, the student eliminated the nodding of his head and opted to slide the end of his marker across the boxes. This adjustment resulted in the student successfully articulating the sound segments smoothly, “G—ir—l.” before turning his head to gaze at the teacher as he identified the final letter sound.

In Frames 6 and 10, the student adjusted his body to distance himself from the workspace and from physically interacting with the task. He sat with his body to the far left of the workspace, nearly to the edge of the table. As he began to participate with spoken language, he also engaged in other lower level modal responses simultaneously. While he maintained his body posture in a closed position, arms and hands resting on the table near the front of his body, he actively wiggled his marker with his hands while he laterally positioned his head to gaze at the
teacher’s demonstration (Frame 6) or teacher’s face (Frame 10). In both instances, he intertwined spoken language with beat gestures (wiggling his marker back and forth) and sagittal head movements which may have unintentionally shaped the outcome of his verbal performance of the task.

In terms of modal communication, there is the possibility that the student misunderstood the task based upon what he was learning about phonics instruction in the classroom. Often, phonics instruction in the classroom emphasizes articulating individual letter sounds in isolation (Jones, 2010). The student in Interaction 3 may have applied what he was learning in the classroom, at the time of the study, to the task. This was evidenced by the sound representations he used when segmenting sounds. His pronunciation in this interaction is different than Reading Recovery’s concept phonological awareness. In Reading Recovery children learn to differentiate sounds embedded within words and link them to letters that represent the sounds. One is a letter to sound analysis, whereas the other is a sound to letter analysis.

Table 9.

Table: Student Interactions in Reference to Listening

<table>
<thead>
<tr>
<th>Frame</th>
<th>Verbal Modes of Responding</th>
<th>Non-verbal Modes of Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame 4</td>
<td></td>
<td>Gaze, head movement, writing, and proximity.</td>
</tr>
<tr>
<td>Frame 6</td>
<td>“G—ir—l” (in unison). Gu—or—lu.”</td>
<td>Gaze, head movement, and proximity.</td>
</tr>
<tr>
<td>Frame 7</td>
<td>“Girl. R?”</td>
<td>Gaze, head movement, gesture, and proximity.</td>
</tr>
</tbody>
</table>

In Frames 4, 6, and 7, the teacher prompted the student to turn his attention to the listening aspect of the task. The student’s use of head movement was largely connected to gaze. Norris (2004) points out that head movement within interactions often facilitates gaze. In these interactions, the student used lateral head movements to facilitate the focus of his attention.
Often, the student adjusted his head movements, dividing his gaze between the teacher and the writing notebook. In Frame 4, the student held his gaze on the teacher’s face for a short time as she verbalized her instructions. He then adjusted his head downward and to the left and directed his gaze towards the teacher’s hand. He rotated his head, following the teacher’s left hand, as she swept it across the air and slowly articulated the target word. He then turned his head to gaze towards the workspace. Without hesitation, the student entered the workspace and successfully transcribed the first letter sound /ɡ/ onto the story page. From his interaction, it seemed apparent that he heard the initial letter sound. In Frame 6, with his head laterally positioned to the left, the student turned to make eye contact with the teacher. Both the teacher and student began by first articulating the target word in unison. The student then rotated his head to gaze at the sound boxes and attempted to articulate independently, “Gu—or—lu.” Unsuccessful on his own, the teacher intervened. She physically demonstrated the task, gesturing her right finger across the sound boxes in coordination with the changes in sound segmentation. The student watched the demonstration, eyes fixated on the teacher’s hand as he nodded his head up and down, in short successions as she moved across the sound boxes. Following the teacher’s demonstration (Frame 7), the student turned his attention towards the teacher and verbally responded in a questioning tone, “Girl. R?” Evidence from his response suggested he was able to hear segmented sounds when the teacher articulated the segmented sounds or when he articulated the word as a unit. The difficulty for the student was in replicating the task of slow articulation of a word without distorting the sound segments as he progressed across the spoken word. The difficulty may stem from hearing and differentiating segmented sounds within more complex words like girl versus cat.
Table 10.  
*Student Interactions in Reference to Articulating, Listening, and Linking*

<table>
<thead>
<tr>
<th>Frame</th>
<th>Verbal Modes of Responding</th>
<th>Non-verbal Modes of Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame 2</td>
<td>“Ah...A little...girl.”</td>
<td>Gaze, head movement, and gesture.</td>
</tr>
<tr>
<td>Frame 3</td>
<td></td>
<td>Gaze, head movement, and written.</td>
</tr>
<tr>
<td>Frame 7</td>
<td>“Girl. R?”</td>
<td>Gaze, head movement, gesture, and proximity.</td>
</tr>
<tr>
<td>Frame 8</td>
<td>“Um..huh?”</td>
<td>Gesture, gaze, body movement, head movement, and written.</td>
</tr>
<tr>
<td>Frame 9</td>
<td></td>
<td>Gaze, gesture, head movement, and written.</td>
</tr>
<tr>
<td>Frame 12</td>
<td></td>
<td>Gesture, head movement, gaze.</td>
</tr>
</tbody>
</table>

Table 10 is of particular interest because the student demonstrated success with phonological awareness independent of performing modal responses prescribed by the design of the task. He was able to hear and record sounds in words, but not necessarily through the modal interactions demanded of the task. Instead, the student altered his approach. Rather than engaging in a slow articulation to segment sounds, the student heard and linked sounds when he articulated the target word as a unit. He accomplished this in Frames 2 and 7. In Frame 2, he identified the target word, “...girl” and can be seen in Frame 3, recording the initial letter sound /g/ onto his story page. In Frame 7, he verbalized the target word as a unit before identifying the medial sound, “Girl. R?” Finally, in Frame 11, the student attempted to coordinate the task independently, but not without adjusting his interactions with the boxes. As in Frames 2 and 7, he began by articulating the word as a unit, “Girl.” The teacher joined the student and practiced slow articulation, “G—ir—l (in unison).” just before he attempted the task independently. He
then adjusted his approach to the task. Instead of pushing the end of his marker into individual sound boxes, the student opted to slide his marker just below the boxes as he segmented sounds, “G—ir—l. L?” This minor modal adjustment enabled the student to replicate the correct sound segmentations of the word as well as hear the final letter sound.

In this interaction, the student used gaze and head movements in interesting ways suggesting interactional meaning is dependent upon the individual performing the movement. Norris (2004) and Navarro (2008) found individuals positioned and moved their heads in different ways to carry out different meanings and functions. For example, Norris (2004) referred to up and down and back and forth head movements as head beats that most often signify conventional yes/no meanings. Norris (2004) also cautioned that the same head movement may differ in meanings within different situations, different cultures and subcultures differ from one individual to another. In Frames 7, 8, and 11, the student responded to the teacher as she spoke with his head laterally positioned while moving in short up and down sagittal head movements. Navarro (2008) found head tilts often signaled the person feels comfortable and receptive to the person they are with. The student’s head tilts likely signify he is comfortable with his teacher and while receptive to her instruction, tentative in his understandings. This tentativeness was expressed through his questioning tone of voice used in his responses, “Girl. R?”, “Um...huh?”, and “G—ir—l. L?” In Frame 12, the student’s sagittal head movements are distinctly different from previous interactions. As the teacher verbally confirmed the link between letters and sounds, the student moved his head in large up and down movements as he recorded the target word onto his story page. In this instance, the student most likely communicated he understood and/or agreed with the teacher’s instructional statements. Further validation of the significance of this distinction, short and large head movements, other lesson interactions with this student was
identified and verified. The student showed a pattern of nodding his head in short up and down movements, mostly when he engaged in interactions and responses that involved learning that was challenging to him. He used larger, up and down head movements, often including whole body movements, to demonstrate he had a deeper understanding or grasp of the instruction and was able to independently perform the teacher’s directive.

Summary

Modal analysis of this interaction suggests literacy instruction to be as complex as literacy learning. This interaction not only illustrated the complexity of supporting this student in the range of literacy tasks (listening, speaking, and linking sounds to letters) but raised the teacher’s attention to consider the overall complexity of the task. That is, the different layers of modal responses this student had to navigate and coordinate as he learned how to interact and perform a task. In this interaction, the student was learning about phonological awareness through a task that required him to coordinate multiple modes (spoken language, gesture, and gaze) as he listened to sound segments for purposes of linking them to letters that represent the sound segments he heard.

The teacher in this interaction took notice of the student’s modal responses through careful observations. She observed the student’s interaction in different ways by adjusting her head in different positions to focus her observations. At times, she directed her gaze at the student’s face as he attempted to articulate and towards the workspace as the student physically interacted with the task. These observations of the student allowed the teacher to assess what the student understood and misunderstood about the learning and the task. This led the teacher to respond in ways that specifically addressed aspects of the learning task that were challenging. In this case, the teacher deconstructed a complicated task into smaller, more manageable parts,
before requiring the student to coordinate all aspects of the task (articulating, hearing, and linking recorded sounds in words) simultaneously. She communicated her instruction combining multiple modal responses (spoken language, gestures, head movement, and gaze) to model the task. In response, the student was able to divide his attention to control different aspects of the task—articulate, listen, and link the sound segments of a word to letters. As a result, the student had the agency to modify his interaction with the task by adjusting one modal response. His modification entailed sliding his marker across the confines of the framework (sound boxes) so that he could coordinate sound segmentations with his hand gestures. This small adjustment allowed the student to succeed in the task without compromising the design or learning goal, in this case the development of phonological awareness.

**Across Interactions Analysis**

There is no shortage of studies that show the co-construction of meaning within the context of teaching and learning are complex processes (Anderson, 1990; Bennet, 2015; Block, Bodrova & Leong, 2007; Clay, 1991; 1998; Gibson, 2008; 2010; Johnston, 2004; Konstantellou & Lose, 2016; Lyons, 2003; Mercer, 2008; Rymes, 2009; Tharp & Gallimore, 1988; Van Bramer, 2003; Wood, 2002). As data showed in these interactions, communication was not restricted to spoken language, but often involved the use of other modal responses to instruct and to learn. Norris (2004) refers to this as modal complexity and defines this as “the interplay of many different communicative modes” (p 87). In other words, as students and teachers interacted in these three interactions, they drew upon numerous modal responses at different levels of intensity to communicate a range of messages.
Teachers’ Modal Communication

MMIA allowed a more complex understanding of teacher’s use of modes as they worked with students. Teachers moved in closer proximity to students when they thought that students needed help (Interaction 2 and 3) or used gesture to clarify concepts such as sounds versus words (Interaction 2) or to model aspects of a literacy task (Interaction 3). Teachers used nonverbal modes such as body movement (changing their proximity to the student or placing a closed fist near their mouth as in Interaction 1) or head movement (shaking their head from side-to-side as in Interaction 2 and 3) to communicate to students that their responses were not quite right. Across all three Interactions, teachers also used direct gaze when they expected a verbal response from the student, conversely, students used direct gaze in search of affirmation from the teacher that their responses were right or wrong.

When instructing students, to punctuate a particular instructional directive communicated through spoken language, teachers often combined spoken language with other modal responses, such as proximity, posture, gesture, gaze, body movement, and head movement to duplicate or reinforce the same meaning through different modes. As in Interaction 3, the teacher verbally directs the student as she moved in closer proximity to the workspace, “Now say the whole thing and listen for what’s here.” all while simultaneously reaching in with her right hand and head down, eyes focused on the work page as she extends her index finger and points to the final sound box.

Students’ Modal Communication

The modal interactions between teachers and students support the research that meaning making is not limited to spoken language but also includes the actions people take as they communicate with one another (Kress, 2010; Norris, 2004; Norris and Jones, 2005; Scollon,
Students across all three interactions, drew upon numerous modal responses at different levels of intensity to communicate a range of messages such as confusions, uncertainty, and resignation. Students communicated this in subtle ways such as adjusting their proximity, often retreating away from the workspace (Interaction 1 and 3) or by avoiding direct eye contact with the teacher (Interaction 2). At times, students were more explicit and communicated through spoken word “I can’t even do that…I can’t even remember” (Interaction 2). Additionally, students communicated with gestures, gaze, and head movement to communicate the degree to which they understood the task at hand. In Interaction 3, the student silently responded to the teacher’s question, “There is an ‘r’. Where would it go?” by reaching into the workspace and pointing to the middle sound box while he laterally rotated his head to gaze at the teacher for approval.

Modal Communication and Reading Recovery Writing Lessons

MMIA helped to magnify the complexity of how different modes of communication are used to navigate teaching and learning within the writing segment of a Reading Recovery lesson. The interactions show that communication is multimodal and carries interactional meaning, which are directly and indirectly perceived by persons engaged in the interaction (Norris, 2004). Ways in which teachers used modal responses within the context of teaching across the Interactions, fostered or inhibited student learning. For example, in Interaction 1, the student lacked the confidence to monitor her writing attempts. She observed, interpreted, and adjusted her interactions and writing attempts based on the teacher’s modal responses. In other words, the student lacked the agency to evaluate her writing attempts. She relied on the teacher’s modal responses (body movement, proximity, facial expressions, head movement, and tone of voice) as feedback. Depending on how the teacher responded (closed fist to the mouth, furrowed
eyebrows, or sagittal or rotational head movements) the student made another corrective attempt. On the other hand, teachers were equally sensitive to modal responses exhibited by students. When teachers observed confusions or misunderstandings, teachers modified their instructional responses to clarify misunderstandings by scaffolding instruction. In Interaction 2, the teacher used spoken language intertwined with gesture as she clarified the student’s misunderstanding of the concept of word and sounds. When students engaged in successful responses with writing tasks, as in Interaction 3, teachers combined several modal responses to communicate confirmation or affirmation of their attempts through spoken language, “That’s how you say it!” while making direct eye contact and sagittal head movements.

**Summary**

The data in the study offers insights into what educators, both teachers and administrators, can learn about teaching and learning when they attend to how messages are communicated through modes other than spoken language. This study also situates modal interactions between teacher and learners as informational. That is, modal interactions may reveal a child’s learning, and in turn, what a child learns about how teachers work with them as learners.

Teachers observed and evaluated students’ understandings based on modal interactions to communicate. In cases where students responded successfully, teachers assumed students understood the instruction and learning had taken place. In other cases, where students found difficulty in performing literacy tasks, teachers assumed students misunderstood the instruction. Mercer (2000) would argue, “rather than misunderstandings, there are variations of interpretations, therefore variations in understandings” (p.5).
What seems to be of utmost importance is close attention to all modes of communication, specifically unique subtle recurring cues exhibited by teachers and students as they interact with each other around literacy learning. Closer attention to this may offer insight into what or when children understand concepts around literacy learning within the context of the writing process in a Reading Recovery program. To ignore or overlook seemingly conscious or unconscious cues children and teachers repeatedly use to communicate puts at risk the opportunity to clarify instructional messages sent and received by teachers and children that become lost in translation which is central to this study.
CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this multi-case study was to explore the wide range of modalities teachers and students used to communicate as they navigated and negotiated the academic demands of literacy learning in a one-on-one instructional setting. The goal of the study was not to define particular modes to have universal or definitive meanings, but to look for patterns of responding used by individual participants (teachers and students) that seemed to signal or communicate particular messages unique to the individual as they interacted around teaching and learning. Navarro (2008) refers to this as ‘idiosyncratic behaviors’—patterns of behaviors that are relatively unique to the individual, signaling possible thoughts, emotions, or intent. Additionally, it was equally important to understand the complexity of modal responses and their significance when intermixed with other modal responses to communicate a message.

Norris (2004) and Navarro (2008) found when one observes another person’s behavior over time, one comes to understand the person’s feelings or intentions when they interact with the same behaviors under similar situations and contexts. In light of this study, understandings about the patterns in student-teacher communicational modes is important when delivering and/or receiving instructional information. Attending to all modes of communication, specifically unique subtle recurring cues, exhibited by teachers and students as they interact and communicate around literacy learning can offer critical insights into how instruction is delivered and received. This chapter is designed to explain how modal interactions offer insights into pedagogy, practice, and learning in writing sessions in Reading Recovery.

Data from the study suggests that educators pay closer attention to habituated or recurring modal responses as this attention provides insight into what aspects of literacy concepts or tasks
students understand or misunderstand within the context of the writing process. To ignore seemingly innocuous modalities such as head movements, proxemics, and gestures used by students and teachers in these interactions undermines the opportunity to clarify instructional messages.

The conclusions from this study follow the research questions and the findings and therefore address three areas: (1) Mutual understanding of nonverbal modal instruction and learning is important in Reading Recovery writing sessions; (2) when the demands of the literacy tasks were perceived too challenging, students used a collection of modal responses to express distress and loss of agency; (3) modal responses operate in combinatorial relationships to support learning and co-construct meaning. Following is a discussion of the major findings and conclusions drawn from this research. This discussion is followed by my recommendations and a final reflection on the study.

**Mutual Understanding of Nonverbal Modal Instruction and Learning Is Important in Reading Recovery Writing Sessions**

The first major finding of this research was that teachers and students used a range of modal interactions to communicate and respond to confusions or errors in the writing section of the Reading Recovery lesson. Unlike other studies (Block et al., 2002; Matczuk and Straw, 2005; Gibson, 2010, and Van Bramer, 2003) where the scope of teacher feedback was limited to spoken interactions, this finding supports the findings of Lose (2008), and suggests that nonverbal modal actions are equally, if not more important than spoken word. Lose (2008) found Reading Recovery teachers used nonverbal modal responses more often to convey critical information and feedback to students as they interacted and responded with literacy tasks. This study found that teachers used nonverbal modes to communicate, but learning and teaching
depended on the teacher-student mutual understanding of how modes communicate expectations in the writing session. That is, teachers must be able to read and interpret students’ responses as much as students must be able to read and interpret teachers’ responses. This mutual understanding of modal communication is essential in teaching students to write in Reading Recovery sessions.

Students interpreted particular nonverbal modes used by the teacher that they needed to correct their written responses. Teachers moved closer and leaned in when students needed to correct their writing, leaned away and moved their bodies upward, gazed directly towards the workspace, and used rotational or sagittal head movement (lifting the head slightly backwards, rotating the head, or shakes/nods from side-to-side). These nonverbal modal responses indicated to the student that their writing was incorrect. In Interaction 1, the student was unaware of her error until the teacher intervened with modal responses that signaled for the student to re-evaluate and correct her attempts. Her use of limited verbal responses, “Does it look like ‘Bella’?” or “Does it have...?” were used alongside nonverbal modal responses such as adjusting her proximity, moving closer to the student and workspace without comments, engaging gestures with her index finger as she pointed to the target word and/or the direction of her gaze towards the student or the error. In Interaction 2, the teacher also subtly moved closer into the student’s space across the interaction. She pointed directly to the targeted task (sound boxes) and used spoken language to indicate that the student’s interaction was not correct (“Oh my goodness. You said sleep—ing. That wouldn’t work.”). Unlike the teachers in Interaction 1 and 3, who used gaze to show the need for correction, the student understood the teacher’s gaze as collaborative. Both worked towards correction, coordinating the physical interaction with the task (seven sounds versus two syllables) and spoken relationships. Across the interactions,
students needed to interpret all modes used by the teacher, in combinatorial relationship, to understand when to correct him/herself and/or when s/he met the expectations of the task.

The data also showed students were attentive to the nonverbal modal responses used by teachers, sometimes responding before the teacher interjected with spoken language to direct instruction. Students were aware of teacher’s nonverbal signals and responded to these signals in a range of ways. Students provided feedback to the teachers in specific ways. For example, they often stopped writing (Interaction 1 and 3), distanced themselves from the workspace and task to make room for the teacher to intervene (Interaction 2 and 3), or turned their gaze towards the teacher for confirmation or further instruction (Interaction 1 and 3). Some conclusions that can be drawn from the data suggest students internalized certain reoccurring modal responses used by teachers to hold specific messages or meanings with regard to literacy instruction. As in the case with the student in Interaction 1, she learned to monitor her writing attempts by attending to her teacher’s modal responses, largely through gaze. The student relied on the teacher’s modal responses to monitor, confirm, and/or reject her attempts by observing ways in which her teacher engaged in gaze, body movement, gestures, head movement, and facial expressions. In this case, the student developed a strategy for self-monitoring—she became dependent on the actions of a more knowledgeable other, the teacher, rather than developing the “inner control” (Clay, 1991) to learn how to attend to the orthographic features of words and confirm for herself. This reliance on teachers to signal miscues was true of other students across the study. As such, students acknowledged modal responses used by the teacher to confirm, reject, or redirect the student’s attention through a wide range of responses. Students provided teachers feedback to the teachers’ modal response with gaze. In Interaction 1, the student returned her gaze to her written attempt in search of determining the error. In Interaction 3, the student directed his gaze at the teacher and
waited for further direction or to gather further information, such as the teacher gesturing with her finger. Students adjusted their head movements. In Interaction 1, the student lifted or turned her head towards the teacher when she noticed peripheral modal responses made by the teacher, whereas, the student in Interaction 2, positioned his head forward to avoid eye contact and minimize his responses with the teacher. The data from the study conclusively suggests students are alerted to their errors through the signals teachers, perhaps unwittingly, use in instructional settings, silently or otherwise. For this reason, educators would be misguided to think literacy instruction is limited to the spoken word.

In turn, the data showed that teachers also responded to students’ modal communications to understand the extent to which students could complete the task at hand. Teachers observed and responded to verbal and nonverbal modal responses communicated by students as they interacted with literacy tasks. Teachers used modal responses in combinatorial ways as they entered the student’s workspace to intervene when students were challenged or removed themselves from the workspace to observe student responses (Interaction 2 and 3), used head movements and gestures, alongside spoken language, to affirm or clarify when students directly appealed to the teacher (Interaction 1 and 3), or used gestures to demonstrate literacy concepts or model interactions with the task (Interaction 2 and 3). Some conclusions that can be drawn from the data suggests Reading Recovery teachers in the study were aware of and thoughtful in their observations of students’ modal responses. The teachers reflected and used this information to respond with instructional feedback intended to maximize learning opportunities for students. For example, in Interaction 2, when the student verbally communicated his confusions around literacy concepts (word, sound, and syllable breaks), the teacher immediately responded, clarifying his misunderstandings with clear examples through gestures and instructional
language. She entered the student’s workspace and used metaphoric gestures to differentiate the concept of word and sound. She also clarified his confusion using syllable breaks in a task designed for sound segmentation by mimicking his gestures as she verbally explained. In this way, the teacher modeled the mismatch, only interacting with the first two of seven total sound boxes. While this student rarely made eye contact with the teacher, he directly appealed through spoken language. He made statements such as, “That’s a lot of words” and “That’s so long I can’t even do that.” The teacher responded in ways that ensured the student’s success with the task. She verbally offered support then jointly interacted with the task, physically holding the student’s hand and guiding his finger into each sound box as she articulated and segmented the sounds in the target word. These responses provided the student with clear examples of literacy concepts (word and sound) as well as the knowledge of how to use literacy scaffolds (sound boxes) for longer and more complex words. Other students in the study appealed to teachers using direct eye contact or questioning tones in their voices. In Interaction 1, after several attempts to correct her mistake, the student moved her body away from the workspace and appealed to the teacher by turning her head to make direct eye contact. In response, the teacher redirected her gaze away from the student towards the workspace by rotating her head downwards and gestured with her hand towards the student’s written attempt as she questioned, “Does it look like ‘Bella’?” and “Does it have...” In this way, the teacher instructed the student through questioning to search and check her knowledge of orthographic features of a familiar word in text, rather than rely on the teacher. In Interaction 3, the student directly appealed to the teacher using modal responses to elicit affirmation. He made direct eye contact with the teacher as he responded with a questioning tone in his voice, “Girl. R?” and “G—ir—l. L?” In both instances, the teacher responded by first nodding her head up and down. The teacher, however,
did not stop at just confirming the student’s attempts, she extended the learning opportunities in ways that would lead to his own construction of learning. In the first instance, the teacher added spoken language to confirm, “There is an ‘r’.”, then followed up with an instructional probe, “Where would it go?” In this way, the teacher checked for the student’s awareness of sound sequences in two ways, first, hearing the r as a medial sound and second, using the sound boxes as a scaffold to correctly record the sound. In the second instance (“G—ir—l. L?”), the teacher identified and praised the student for correct responding, in this case his attempt to articulate the sound segments correctly, “That’s how you say it!” This was an important learning opportunity for the student. The teacher captured the moment and responded to the student when he correctly segmented the sounds, an aspect of the task that was most challenging for him throughout the interaction. The data from the study suggests teachers are aware of students’ modal responses and used these responses to inform teaching and learning opportunities as they extended students’ knowledge of literacy.

Data seemed to show that such modal responses, especially the nonverbal modes, are habituated and learned within educational spaces. Students have come to learn that particular modal responses by teachers indicate when they have made errors or when they have had successes. They have learned when teachers redirect their gaze away from them and point toward written attempts or aspects of a literacy scaffold such as a sound box, the teacher is calling for the student to re-evaluate his/her attempt, locate the error, and take corrective actions. Students are aware of teachers’ reactions to correct and incorrect responding. They are sensitive to sudden changes in proximity and head movements as it relates to correction. Teachers sit upright or lean back when students make an error and lean into the workspace to intervene when a correction must be made by either the teacher or the student. Students rely on teachers’ head movements for
approval or rejection of their attempts. In turn, teachers understand students’ recurring and habituated nonverbal responses and prompt them to respond instructionally. Students withdraw from the task when they do not know the answer the teacher expects. They position their arms and hands close to the front of their bodies, below the table, or inside pockets of jackets they are wearing. They also look down and away to avoid eye contact with the teacher or retreat in proximity. When students are unsure of their responses, they verbally respond with questioning tones (“A little girl...came?”) or declarative statements (“That’s so long, I can’t even do that.” and “Ah...that’s too much. I can’t even remember.”). Teachers used questions to invoke from the student what s/he understood or used complete sentences to instruct. Teachers have also learned that a student’s gaze is telling. Students gaze directly at the teacher searching for confirmation or waiting for clarification or further instruction. Students looked down and/or away from the teacher when the task was too difficult to complete on their own. At first glance, modal responses seemed varied and common place. However, upon closer inspection, the data revealed the modal responses selected by teachers and students communicate particular messages.

This study contributes to existing data, especially in Reading Recovery literature, about how modal interactions are co-constructed to communicate meaningful information that can encourage students to learn or inhibit them from learning. Attention to how nonverbal modes communicate within tight spaces of Reading Recovery lessons, along with verbal communication, is critical in supporting students’ learning of literacy.

**Modal Responses, Distress, and Loss of Agency**

The second major finding of the research study found that, equally informative, teachers attended both to spoken language used by students to communicate when tasks felt challenging,
and gave attention to nonverbal modal responses. Both provided additional visual cues that supported messages communicated through spoken language. Data from this study suggests that a teacher’s attention to nonverbal modal responses provided insight into underlying risks that may upset a student’s confidence when their teacher increased the rigor of instructional tasks. There were many instances within these Interactions in which teachers challenged students with literacy tasks that extended just beyond their emerging skill set or their zone of proximal development (Vygotsky, 1986). This resulted in students exhibiting confusions around a familiar task or perceptions that the task was too difficult to tackle independent of the teacher. For example, in Interaction 2, when the teacher presented the student with the seven sound boxes needed for the target word, *sleeping*, the student communicated his concerns with the task by engaging in nonverbal modal responses that communicated sentiments aligned with his verbal messages. This student used nonverbal responses to express his uneasiness, prior to verbally communicating with the teacher. He avoided direct eye contact with the teacher as he fixated his gaze at the sound boxes. He then combined rotational head movements (shaking from side-to-side) with distinct facial expressions—eyebrows raised and eyes widening, before he verbalized, “That’s so long I can’t even do that” and “Ah...that’s too much. I can’t even remember.”

In other Interactions, students’ modal expressions of confusions or misunderstandings around increased difficulty of literacy concepts or aspects of the literacy task were evident. From over-exaggeration of sound segments, “*Gu—o—ru—l*” or “*Gu—or—lu*”, or complete resignation to the task by withdrawing their bodies and hands. In Interaction 2 and 3, the students drew their hands and arms closer to the center of their body. Other gestures suggested disengagement such as closing the cap on the marker (Interaction 3) or hands stacked on top of
the other with fingers wrapped closed around a marker and held close to the front of the body (Interaction 3). These nonverbal responses clearly showed students’ frustrations.

Students across the study used a collection of modal responses to express their uncertainty. When student participants in the study felt outside their comfort zone, they seemed to display modal responses that disengaged them or distanced them from actively participating in the literacy task. They expressed confusion or uncertainty through what might be called avoidance behavior. That is, they tapped their marker on the table or story page to show uncertainty, or used head and eye movements (e.g., tilting head back and rolling eyes upwards towards the ceiling. Often students distanced themselves from the workspace by sitting upright with their backs against the back of the chairs (Interaction 1 and 2) or leaned their bodies to the far left of the workspace (Interaction 1 and 3). This placed the student the farthest distance from the teacher and the workspace without leaving their seat. Other indicators of avoidance include removing hands from the workspace (Interaction 2 and 3). Some students drew their hands closer to their bodies or touched their faces or tops of their heads. One student regularly placed his hands in the pockets of his jacket or positioned them under the table on his legs (Interaction 3). These nonverbal responses reflected student’s lack of confidence.

This study provides some insights into how modal interpretation and understanding can indicate the extent to which students do or do not understand complicated literacy tasks. Further, if students believe that teachers do not read these responses, they may withdraw or limit their interest in engaging with the task as the student in Interaction 2 did—he physically retreated from the workspace and articulated that he just could not do the task. In addition, when students believe they cannot do a task, they lose agency in the task.
Modal Responses and the Co-construction of Meaning

The third major finding from the study revealed ways in which modes operated in combinatorial relationships and allowed students and teachers to co-construct meaning through engagements of teaching and learning. Norris (2004) described engagements as the ‘interplay of many communicative modes’ whereby participants draw upon numerous modal responses to communicate messages and, in some ways, duplicate the same meaning with different modes, as well as respond to these messages.

Data within the Interactions showed how teachers used a range of nonverbal modal responses along with spoken language for purposes of accentuating and/or clarifying instructional messages as they attempted to scaffold student learning in complex literacy tasks. As suggested by Norris (2004), these modal responses were interconnected and occurred alongside one another at different intervals to facilitate and assist teachers and students in communicating messages around the teaching and learning of literacy tasks. For example, alongside spoken language, teachers often used head movement and proximity to facilitate gaze to conduct formative assessments. In Interactions 2 and 3, teachers observed student interactions from an upright position to gather information about their understandings about literacy instruction through modal responses before making instructional decisions about how to scaffold learning.

Across the Interactions, teachers also engaged in open and closed postures as they raised or lowered the position of their head. In open postures, such as in Interaction 2 and 3, the teachers were better able to evaluate student attempts. In both Interactions, the teachers positioned their heads at a distance, just above the student. This position afforded the teacher a broader view of the workspace and student as they interacted with literacy tasks. These
observations provided teachers with the opportunity to identify and reflect on student interactions and the possible misconceptions they may have concerning literacy tasks or teacher directed instruction before intervening with instructional scaffolds. In Interaction 2, the teacher was able to observe the student in a muddle. He misunderstood how to engage in the task when presented with sound boxes. Instead of using sound segmentation across the boxes, the student articulated a syllable break, “Sleep—ing.” In response, the teacher asked, “Would you like some help?”. This provided the student with a high level of support and guidance he needed to successfully engage in the learning task.

Teachers often reinforced verbal messages with nonverbal modes, such as sagittal or rotational head movements, to affirm or refute students’ attempts. For example, in Interaction 2, the teacher rejected the student’s attempt by rotating her head from side-to-side as she spoke, “Oh, my goodness. You said sleep—ing. That wouldn’t work.” Teachers generally lowered their body and head to a closed posture to make direct eye contact with the student. With their head lowered in a lateral position, teachers either conveyed verbal instructions/feedback to the student or remained silent to allow students an opportunity to communicate. In Interaction 3, the teacher made eye contact with the student as she lowered her head in a lateral position before nodding her head up and down as she verbally confirmed, “That’s how you say it!” When teachers used gestures to model tasks or direct attention to different aspects of the task, they adjusted their bodies closer in proximity to the student and the workspace. For example, in Interaction 3, the teacher gestured by pointing to a particular aspect of the task she wanted the student to focus his attention. She said, “Now, say the whole thing and listen for what’s here.” as she leaned her body into the workspace, extending her left index finger to point to the final sound box.
Students also communicated their understandings and/or misconceptions through the use of multiple modes as they interacted with their teacher while attempting to perform complex literacy tasks. In Interaction 3, the student had difficulty coordinating different aspects of the literacy task. He had difficulty slowly articulating the sound segments of the target word while synchronizing the changes in sound segmentations with pushing his finger into each sound box as he listened, linked, and identified sounds to letters. Jones (2010) explains that phonemes are not distinct, unvarying, and discrete entities. For this reason, beginning literacy learners sometimes find it difficult to discriminate and identify segmented sounds in words as they are blended with the sounds around them and they alter their form in different contexts. This explains the difficulty the student in Interaction 3 had with his attempts to slowly articulate the target word, *girl*, “Gu—o—ru—l” and “Gu—or—lu”. While sound boxes are designed to support students to increase their phonological awareness, sometimes the task is more challenging for the student. It can leave the student feeling inadequate and reluctant to engage in the task. In Interaction #3, the student expressed his feelings of inadequacy through his questioning tone of voice and his directed gaze towards the teacher in search for feedback that confirmed, refuted, or redirected his attempts. He also distanced himself from the task by changing his proximity from the workspace with different modal responses. He often leaned his body to the far left of the table, drew his arms in a closed position in front of his body, and instead of using his finger to push in the sound boxes, he substituted the tip of his marker.

The data also suggests, in order for educators to clarify literacy instruction, they must also consider what students understand or misunderstand about the literacy task. This is different for different students whether it be over the number of boxes that were drawn (Interaction 2) or coordinating aspects of the task that required layers of modal responses—slow articulation while
gesturing with his finger in sync with the changes in sound segments (Interaction 3). Attention to student’s modal responses would provide teachers insight into the challenges that interfere with literacy learning.

**Modal Importance and Significance in Literacy Learning**

Clay’s (2005) complex theory posits that many parts of the brain work together to utilize information of many kinds: phonological, syntactic, visual, perceptual, symbolic, orthographic, and motoric with interconnections among all. This helps to explain why literacy learning for some children is more challenging than for others. For this reason, it is imperative that teachers understand all goes into literacy processing and recognize that it is far more complicated. Literacy processing requires the learner to connect many print concepts with the brain while engaging in multiple modal responses simultaneously. Thus, orchestration of learning tasks may be far more complex for beginning literacy learners and require intentional scaffolding and support from the teacher. Missing in Reading Recovery literature is that not enough attention is given to other modes through which young readers and writers learn (or not) reading and writing. This study offers acute awareness of how students draw upon different modal responses to communicate their understandings and confusions around literacy learning and the risk of lost opportunities for teaching and learning when modal responses are ignored or overlooked. Teachers lose valuable information about how and what children learn by not attending to nonverbal modal responses that children communicate. Further, this study suggest that teachers must also have awareness of what modes mean and how modes work. Scholars such as Navarro (2008) and Norris (2004) offer explanations of how modes work. This study argues that teachers must be aware of not only how they communicate outside of spoken language, but what children communicate across modes.
In Interaction 1, as the student drew upon orthographic knowledge of words to say and write “Bella”, the teacher lost a valuable opportunity to acknowledge and confirm the student’s hesitancy, thus fostering agency in the student by encouraging her to trust her instincts rather than rely on the teacher’s modal responses to evaluate her attempts. The teacher might have guided the student to learn how to use a primary resource in a familiar book to cross-check her attempt for accuracy. Attention and response to the student’s modal responses in this way might have extended the student’s learning in such a way that would begin to reduce her need from relying on the teacher to monitoring her attempts and eventually increase her sense of agency to expand her resources for learning.

In Interaction 2, with the increase in rigor, using a sound box for a longer, more complex word, upset the student’s understanding of literacy concepts (sound, words, and syllable breaks). Clay (2005) refers to this as the ‘pebble in the pond’ effect, where new learning can sometimes create a disturbance in old response patterns that had seemed to be learned. In this Interaction, the student was overwhelmed by the number of sound boxes drawn by the teacher for the target word, sleeping. Clay (2005) explains that adding a new component to learning sometimes sets off a network of brain reactions that are temporarily unsettled, taking time to rearrange old learning. In this case, the teacher was attentive to the student’s modal responses, aspects of the student’s communication that could have been lost, and immediately addressed and clarified his confusions using spoken language and gestures to model her instruction. The teacher framed the entire sound box using her thumb and index finger stretched across the boxes as she verbally explained, “This is one word.” She gestured with her finger to represent individual sounds as she pushed into each sound box and said, “These are lots of sounds.” The teacher also addressed syllable breaks by reenacting the student’s attempt and saying, “You said sleep—ing. That
wouldn’t work.” Fortunately for the student, the teacher reduced the load of independently performing the task by first offering to assist, “Would you like some help?” and then by physically guiding his hand and index finger across the sound boxes as she articulated the target word, “Okay, here we go. S—l—ee—p—in—g.” A less attentive teacher might have overlooked the student’s modal responses and risked leaving the student in a state of further confusions.

Finally, in Interaction 3, the student expressed difficulty with coordinating the modal demands required for sound boxes used in a word analysis. The task required the student to speak, listen, gesture, and link to the sounds within a word simultaneously. These modal responses are interrelated and dependent upon one another for the success of word analysis. As shown within the Interaction, difficulty with any aspect of the task impacts other aspects of the task. For example, the student’s difficulty with slowly articulating the sounds in the target word, “Gu—o—ru—l” and “Gu—or—lu”, made it difficult for him to listen and link sounds for recording as well as coordinating sound segmentations with gestures across the sound boxes, (four sound segments and three sound boxes). In response to her observations of the student, the teacher addressed and clarified the task by thoughtfully deconstructing aspects of the task that were most challenging for the student. She modeled slow articulation of the target word while physically demonstrating a smooth sound segmentation by gesturing with her hand sweeping across the air as she spoke. The teacher also offered feedback, modeling, and redirection following the student’s attempts to articulate, “Oh, don’t break it up. G—in—l.” and “Is that how you say it?” She demonstrated through gestures, pushing across the sound boxes as she asked the student to listen and link the sounds to letters, “Listen, g—in—l.” and “Now say the whole thing and listen for what’s here.” By attending to both verbal and nonverbal modes
through which the student communicated his challenges with this task, the teacher was able to support his attempts.

This study provides insights into what can be lost when some modes of communication are privileged over others. That is, when spoken or written language are the only modes that are evaluated in children’s knowledge and performance of a literacy task, what the child knows and can do is lost in the teacher’s instructional choices in how the child learns to read and write. Additionally, this study confirms Norris’s (2004) and Navarro’s (2008) theoretical and situational knowledge about how modes operate in synchronicity to express meaning. As shown across the Interactions, communication happens all of the time, both verbally and nonverbally. Even though this student study examined closely, only a small part of a 10-minute writing segment, what becomes clear is that spoken and written language only communicate a small portion of what children express. Thus, this study demonstrates that attention to all modes through which children communicate must be taken into consideration when making instructional and pedagogical decisions in literacy learning.

**Implications for Practice**

Moving forward, data from the study suggests the importance of attending to all the modes that teachers and students use to communicate within instructional settings. This study does not suggest that nonverbal modes are more valuable than verbal; quite the contrary. What the findings of this study do claim is that all modes contribute to conveying and receiving communication, and that some modes carry more of the meaning than others. Nonverbal modes may convey critical information that is of importance to the teacher and student within the context of literacy learning that goes beyond spoken words (Clay, 2005; Lose, 2008). For this reason, it is important for educators to reflect and notice the extent to which modal responses are
habituated and routinized within the instructional setting; consider what underlying meanings are being communicated through particular modes; and contemplate how modal responses impact the relationship between teacher and student within the context of teaching and learning. If left unnoticed, it reduces teaching interactions to be more about disseminating instruction to students, rather than thoughtfully responding to students with differentiated responses to clarify and scaffold learning (Cazden, 2001; Clay, 1987; 1991; 2005; Johnston, 2004; Mercer, 2008; Vygotsky, 1986). This puts at risk students valuing teacher responses over learning how to be strategic—in control of confirming and adjusting their attempts independently. Several key points arise from this study that offer implications for practice.

First, data suggests that educators may need to consider what messages, unintended or otherwise, they are communicating to students about teaching and learning. In the aforementioned examples, habituated teacher interactions with students may become problematic if the teacher is unaware of the messages his/her modal responses are communicating to the student. For example, some modal responses (sudden head or body movement) when a student makes an error may potentially rob the student from learning how to self-monitor, an important literacy strategy. In such cases, students may not develop their own sense of agency and begin to adopt a more passive stance with regard to literacy learning, relying on the teacher to monitor and intervene. Clay (2005) cautions teachers to avoid establishing a “pattern where the child waits for the teacher to do the work. The child must learn to take the initiative, make some links, and work at difficulty.” (p. 107). Thus, students must understand what they are learning how to do, if not, this puts at risk for students to unconsciously internalize that ‘no news is good news’—in other words, all must be correct until the teacher intervenes. To be clear, I am not arguing for extremes such as ‘always’ or ‘never’ with regard to teachers intervening, but rather
consider the role modal responses play in developing agency and independence with literacy learning, especially with struggling students.

Second, teachers would benefit by digitally recording several different sessions with a child over time to see which modes of communication s/he uses, how often, and for what purpose. A teacher might study her or his modal responses over time to match where the student is in their evolution of inner control with the writing process (Clay, 2005). For example, if a student has shown in the past independent control of writing a high frequency word but for whatever reason, overlooks an occasional misspelling, the teacher might wait to ask the student to reread his/her story. This allows the student the opportunity to self-monitor and actively engage in the editing process—checking for misspellings, writing conventions (when to use capital letters and lower-case letters, spacing, and punctuation), and grammatical errors. Another consideration for educators, might be to reflect when the teacher chooses to intervene. For example, is there a pattern of only intervening when there is an error or does the teacher also have a student check and confirm when they are correct to consolidate newly acquired learning.

Finally, considering the timing of modal interactions—does the teacher respond at the moment of correct or incorrect responses, negating the opportunities for the student to develop the self-regulating skills to discover, monitor, and confirm for themselves. For example, in Interaction #1, the teacher would have benefited by noticing the student’s nonverbal modes that were evident in her attempts. The child was engaged in the first steps of self-monitoring—noticing. She hovered over the workspace with her head turned to the side as she continued to gaze at her writing while pointing her finger towards the final letter of the target word, Balla for Bella. Her continual gaze while turning her head to the side as she touched the final letter suggested the student self-monitored, she noticed, but was maybe unsure of how to take corrective action. The
teacher could have seen this as an opportunity to confirm her suspicions and scaffold the student’s next step. The teacher might have verbally prompted, “You’re right, it doesn’t look like ‘Bella’ in the book. Can you think which letter needs to be changed?” With teacher support in this way, the student might have discovered the power of trusting her instincts and learned more about noticing as well as develop the agency to take corrective action and search for ways to check and confirm her attempts. Teachers should be thoughtful and intentional, changing over time to accomplish an outcome that leads to agency and independence in literacy learning.

Third, data from the study also revealed literacy teaching and learning are complex processes. Teaching students to navigate and control literacy tasks requires teachers to understand the complex layers embedded in instructional tasks for which students are expected to perform and learn from (Clay, 1991; 1998; 2005; Jones, 2010). Data from the study suggests, if modal cues expressed by students are left unnoticed by teachers, some students may become overwhelmed with the complexity of the learning task and less likely to understand or benefit from the intended goal of the task. Efficiencies in instruction could be gained by observing ways children communicate their understandings outside of spoken words. Such observations would enable teachers to inform next steps for instruction targeting aspects of the task that were most challenging or misunderstood. If left unnoticed, educators risk the possibility of some students continuing to struggle in a web of misunderstandings and ultimately impede the academic progress for these students (Clay, 1987; 1991; 1998; 2005; Velluntino, et al., 2004; 2006; Wood, 2002). Additionally, important to this reflective process, teachers should be cognizant of their own modal responses and inventory whether or not their teaching interactions clarify student learning or risk further confusions when meaning is lost in translation. This can be accomplished if teachers collaborated with one another to examine not only the modal responses of students,
but reflect on the modal responses teachers used, as they instruct complex literacy tasks. Video-taping, colleague visits, or conversations around literacy teaching with a focus on the instructional language and nonverbal modal responses used to enhance spoken language might narrow areas for teachers to target and clarify literacy learning for struggling students.

This study provides some evidence that student success in understanding instruction around literacy concepts and the purposes for engaging in literacy tasks depends upon educators acknowledging the modal responses expressed by students in order to adjust instructional support in response to what students are communicating about their understandings and misunderstandings. If Reading Recovery teachers ignore such modes while working one-on-one with students, they may risk overlooking confusions students have around literacy concepts and risk further confusions that derail future learning. Additionally, educators may be making learning more difficult when we fail to address student confusions. Close attention to what students are communicating through modal responses guides teachers in meeting the needs of their students.

**Implications for Future Research**

This study examined different aspects of modal responses used between teacher and students to communicate as they negotiated writing instruction. The data suggests that modal responses used by teachers and students were unique to the individual and often habituated and routinized. Participants showed individual preferences in drawing upon specific modal responses to communicate particular messages. For students, modal responses often revealed their understandings and confusions around concepts about print as well as to express their level of confidence as they engaged in the instructional task. For teachers, modal responses were used to clarify or redirect students or were evaluative in nature, affirming or rejecting student attempts.
More research in Reading Recovery around studying modal responses across teacher-student lessons would offer insights into a deeper understanding of the relationship between modal responses as it relates to teaching and learning and the underpinnings of Clay’s (2005) complex literacy theory. Greater awareness in this area would help teachers know the best ways to support students and minimize instructional confusions as they interact with students using modal responses that guide students to engage in constructive actions. Clay (2005) cautioned too much teacher talk risked confusing students. As an alternative, Clay (2005) suggested teachers draw upon speechless demonstrations to clearly model the learning task as a more useful tool for teaching some things than instructional talk. In this way, teachers minimize their instructional talk, so the student can focus on the actions and demands of the task to construct their own learning.

This study showed the limitation and missed opportunities to effectively communicate when underlying meanings that might be expressed through any of the modes of communication are overlooked. However, because I studied three teachers with three different students, I was unable to draw conclusions about whether or not the teacher’s modal responses were consistent and habituated in similar circumstances across different students or if they were distinct modal responses specific to the individual student needs. Thus, research that studies a single Reading Recovery teacher across her or his different students might reveal underlying instructional issues that impact the extent to which students to become less confident learners and contribute to becoming, in some ways, instructionally disabled. Additionally, this research did not seek for teachers to reflect and adjust their use of modal responses in response to student responses. More research in this area might provide greater insight on the impact of agency on the part of the student as teachers make adjustments to their modal responses during instruction.
While MMIA is a challenging and time-consuming analytical process, additional research into why MMIA affords Reading Recovery educators opportunities to thoroughly study student responses around different parts of a lesson would raise the consciousness of teachers to examine the extent to which modal responses are used in literacy teaching and to consider the critical role it plays in enhancing our communication with students as well as discovering ways to go beyond words to support learning. Additional research in this area would contribute to teaching practices that ensure all students who are at risk of reading and writing failure receive instructional responses that meet the individual needs of students to build a strong literacy foundation fostering confidence and agency for future success.

Additionally, it would be advantageous to use the lens of MMIA to explore literacy tasks that require students to orchestrate multiple modal responses to understand complex literacy concepts such as sound analysis. This would provide greater insight for teachers to consider the student’s perspective in navigating the different layers of complexity to perform such learning tasks and the threshold of how students respond to rigor. Closer attention to what students are expressing about their understandings, misgivings, and confusions would offer instructional guidance to teachers how to clarify and scaffold different aspects of instruction as students interact with literacy learning. More insight into the practice of consciously and deliberately observing and interpreting modal interactions will help educators to respond with more precise instructional messages that are less confusing and foster agency for students.

**What Difference Does Studying Modal Responses in Reading Recovery Make?**

Findings from the study address some of the critiques of Reading Recovery and its effectiveness in communicating and serving culturally diverse student populations. For example, Compton-Lilly (2015) raised concerns with regard to a teacher’s awareness and attention to the
social relationships and culturally-informed experiences that intersect and inform literacy learning. Compton-Lilly studied one Reading Recovery teacher’s experience and her difficulties in communicating with a culturally diverse student. Compton-Lilly concluded that this one teacher’s lack of knowledge of the student’s cultural experiences affected his literacy learning. Compton-Lilly argued that when “teachers ignore their students’ racial identities and unique cultural beliefs, perceptions, values, and worldviews, they miss opportunities to accelerate children’s literacy development” (p. 401). Arguably, teachers and students bring diverse backgrounds and experiences to the social structure of schools, and while it is important to acknowledge and understand cultural differences, this alone does not preclude teachers and students from successfully communicating and co-constructing meaning in the context of teaching and learning.

Unlike Compton-Lilly, this study found that even though teachers and students were culturally and linguistically diverse, they found ways to communicate and co-construct meaning within the context of an instructional setting. For example, in Interaction 2, the student was challenged to perform a sound analysis on a longer, more complex word (“sleeping”) using a familiar task (sound boxes). Overwhelmed with the complexity, the student lost his confidence and, through spoken language, verbalized his confusion, “That’s a lot of words!” The observant teacher quickly intervened and responded by selecting “the clearest, easiest, most memorable example with which to establish a new response, skill, principle or procedure” (Clay, 2005, p. 23). Through an economy of spoken words and clear demonstrations, the teacher differentiated the principle of word and sound and re-established the skill of pushing sounds in boxes. First, she verbalized, “This is one word.” and demonstrated through the use of gestures, using her right thumb and index finger to span the distance across the outside frame of the sound boxes. Next,
she stated, “These are a lot of sounds.” and slid her right index finger in a upward direction, one by one into each individual sound box. This example represented one of many ways teachers across the study met the individual needs of students, in spite of cultural differences, by drawing upon different modes with the intent to understand and to be understood.

This study extends the work of Compton-Lilly, and helps to minimize critique around cultural differences. Studying modal communication broadens out what is known in research about communication in Reading Recovery; that is, how children communicate and how culture must be considered. This study brings into play not only the cultural and linguistic diversity of teacher-student, but how modes operate within cultural learning situations. For example, in Interaction 2, the student continually looked away and down from the teacher. While one could interpret this as the student not knowing, within some Latinx cultures, looking down is a form of respect. Thus, studying the modal responses—especially nonverbal-- within Reading Recovery lessons adds additional insights into what children mean, how they mean, and from where these meanings arise. As data in this study showed, teachers and students both drew upon a wide range of modal responses to express their thoughts and feelings and worked together to ensure their messages were interpreted and understood. In this way, modes operated together to co-construct meaning. When teachers observed students’ feedback, in the way of expressing confusion, uncertainty, or a reluctance to engage in literacy learning through nonverbal modes, teachers appropriately responded to the student by adjusting their modal support to scaffold and assist in learning.

Studying modes in Reading Recovery is new. This study demonstrated the power of using of video recordings to identify how teachers communicated instruction through nonverbal modes along with spoken language. Further, videorecorded study of Reading Recovery teachers
afforded opportunity to study students’ understandings around literacy learning communicated through nonverbal modes. Identifying and analyzing nonverbal modes that students use to communicate, for example, such as confusion, uncertainty or understanding helps teachers understand children’s developing literacy learning. Awareness of what modes mean and how they operate together provide Reading Recovery teachers insight in how to adjust their instruction so that students develop and act in strategic ways as they self-monitor and process text.

As a non-scripted program, Reading Recovery affords a great deal of flexibility in how teachers work with students and how students learn in Reading Recovery lessons. Further, a study of the modes within Reading Recovery lessons, unique to this study, provides insights into literacy learning. Scripted programs depend solely on written and spoken language and do not take into account how teachers should respond to the child’s modal responses to learning. Further, scripted programs do not guarantee instruction would be carried out without the influence of modal responses by the teacher. This study provides greater awareness about how modes mean, and the degree to which some carry more meaning than others. In Reading Recovery, teachers more often used spoken language to communicate and direct instructional tasks alongside nonverbal modes to restate or support instructional messages as well as assess, confirm, or reject student responses. On the other hand, students more often exhibit nonverbal modal responses to express their current understanding of the instructional task and/or instructional directives from the teacher. Awareness of modal communication allows for a stronger instructional direction and purpose when working with Reading Recovery students.
What I Learned About Reading Recovery and Literacy as a Researcher

While not a common part of a dissertation, this study taught me a great deal about Reading Recovery and myself as a researcher. I have learned, meaning making in the context of teaching and learning is more complex, more personal, and even more challenging than experts in the field or publishers with carefully scripted programs would have legislators and educational leaders believe. Students and teachers are unique individuals with diverse experiences and undoubtedly successfully communicate messages in diverse ways.

While participating as the role of researcher, in some ways, I was a participant as I learned from the data and reflected on my own teaching interactions with students. Analyzing the data helped me become more aware of my own habituated modal responses as I interacted with students. I even had one student verbally express, “I knew because of your face.” In our time together, he picked up my ‘idiosyncratic behaviors’ (Navarro, 2008), specifically my facial expressions, to evaluate his attempts. I think about the ways in which I unwittingly and unintentionally may have prevented this student the opportunity to be an agent of his own learning. In this way, I underestimated the intended and untended messages I have signaled to students through these modal responses.

Conclusion

In the end, students must learn the complex rules of how print works, how the symbols on a page represent language, and how students use this knowledge to communicate at that moment and in the future. The challenge, however, is for teachers to notice and respond to the idiosyncratic modal responses a student uses to reveal what they understand and misunderstand about how reading and writing come together and influence each other. Noticing what the student finds difficult informs the path the teacher needs to take with instruction. Otherwise,
conscious or unconscious decisions to ignore or overlook seemingly innocuous modalities such as head movements, proxemics, or gestures used by students and teachers in these interactions undermines teaching and learning opportunities to clarify instructional messages that may be lost in translation.
REFERENCES


Taylor & Francis Group.


APPENDICES

Appendix A

INSTITUTIONAL REVIEW BOARD

Mail: P.O. Box 3999
Atlanta, Georgia 30302-3999

In Person: Dahlberg Hall
30 Courtland St, Suite 217

Phone: 404/413-3500
Fax: 404/413-3504

January 05, 2017

Principal Investigator: Margaret Albers
Key Personnel: Albers, Margaret; Fujimoto, Cindy Hisako; Tinker Sachs, Gertrude, PhD

Study Department: GSU - Middle & Secondary Education

Study Title: Lost in Translation: A Multimodal Look at Crucial Conversations and Interactions in One-on-One Writing Instruction

Review Type: Expedited 6, 7

IRB Number: H17276

Reference Number: 341798

Approval Date: 01/05/2017

Expiration Date: 01/04/2018

The Georgia State University Institutional Review Board (IRB) reviewed and approved the above referenced study in accordance with 45 CFR 46.111. The IRB has reviewed and approved the study and any informed consent forms, recruitment materials, and other research materials that are marked as approved in the application. The approval period is listed above. Research that has been approved by the IRB may be subject to further appropriate review and approval or disapproval by officials of the Institution.

Federal regulations require researchers to follow specific procedures in a timely manner. For the protection of all concerned, the IRB calls your attention to the following obligations that you have as Principal Investigator of this study.

1. For any changes to the study (except to protect the safety of participants), an Amendment Application must be submitted to the IRB. The Amendment Application must be reviewed and approved before any changes can take place.

2. Any unanticipated/adverse events or problems occurring as a result of participation in this study must be reported immediately to the IRB using the Unanticipated/Adverse Event Form.
Appendix B

Recruitment Letter to Eligible Teacher Participants Via Email

Dear (name of teacher participant),

You are invited to participate in a research study. The study is to learn how Reading Recovery teachers and their students interact. As the Student Principal Investigator, I want to study how teachers and students work together while writing a short story during a Reading Recovery lesson.

You are invited to participate because you are a trained Reading Recovery teacher. The total number of volunteers for this study is three Reading Recovery teachers and one of the students they teach. The study will require no more than 9 hours of your time. The study will take place during school hours. The study will consist of observations and video recordings of Reading Recovery lessons. This will occur nine different times throughout a child’s Reading Recovery program. As the Student Principal Investigator of the study, I will conduct all the observations. Participants in the study will be protected. There is no evaluation attached to any lesson(s) observed in this research. All observations will be kept confidential as will the identity of the participants.

If you are interested in learning more about this research, please attend an informational meeting at the Literacy Lab on January 18, 2017 at 4:00 o’clock.

Sincerely,

Cindy Fujimoto
Appendix C

Georgia State University
Department of Middle and Secondary Education: Language and Literacy
Informed Teacher Consent

Title: A Multimodal Analysis of Teacher-Student Interactions in Reading Recovery Writing Sessions

Principal Investigator: Dr. Peggy Albers
Student Principal Investigator: Cindy Fujimoto

Sponsor: NA

I. Purpose:

You are invited to participate in a research study. The study is to learn how Reading Recovery teachers and their students interact. Cindy Fujimoto (Student Principal Investigator) will study how teachers and students work together while writing a short story. You are invited to participate because you are a trained Reading Recovery teacher. You work with struggling first grade students one-on-one.

The total number of volunteers in this study is three Reading Recovery teachers and one of the students they teach. The study will require no more than 9 hours of your time (4.5 hours observing lessons). The study will take place during school hours. Observations for the study will occur nine different times during a child’s 20-week Reading Recovery program.

II. Procedures:

If you are willing to volunteer for this research, you will be video/audio taped during your regular instructional time with a Reading Recovery student. The Student Principal Investigator will make copies of lesson records and student work. All research will take place on the campus of (insert elementary school name) during normal school hours. If you are a willing volunteer for this study you will be recorded and observed during your normal one-on-one instructional time. Recorded observations will take place three times during the beginning, middle, and end of the student’s Reading Recovery program for a total of nine observations.

III. Risks:

In this study, you do not have any more risks than you would in a normal day of life teaching a Reading Recovery lesson. However, you will be volunteering to be observed and recorded for this study. It should be understood that Cindy Fujimoto’s role as the Student Principal Investigator does not have any bearing on her role in the district as the trainer of Reading Recovery teachers. There is no evaluation attached to any lessons observed in this research study and there will be no communication with administrators. All observations will be kept
confidential.

IV. Benefits:

Participation in this study may not benefit you personally. We hope to gain a better understanding about the different ways students and teachers communicate. We hope this will inform teachers how to respond and support student learning.

V. Voluntary Participation and Withdrawal:

Participation in the research is voluntary. You do not have to be in this study. If you decide to be in the study, you can change your mind. You have the right to drop out at any time. You may stop participating at any time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled.

VI. Confidentiality:

We will keep your records private to the extent allowed by law. Dr. Albers and Cindy Fujimoto will have access to the information you provide. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP). You will never be identified personally. We will use a pseudonym rather than your name on study records. Your name and other facts that might point to you will not appear when we present this study or publish its results.

Any information you provide will be stored in a locked cabinet and on a password and firewall protected computers. The audio/visual recordings will be stored in a locked cabinet and on password and firewall protected computers for five years before it is destroyed.

VII. Contact Persons:

Contact Dr. Peggy Albers at malbers2@gsu.edu or Cindy Fujimoto at 404-317-7691 or csugarman1@student.gsu.edu if you have questions, concerns, or complaints about this study. You can also call if you think you have been harmed by the study. Call Susan Vogtner in the Georgia State University Office of Research Integrity at 404-413-3513 or svogtner1@gsu.edu if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, offer input, obtain information, or suggestions about the study. You can also call Susan Vogtner if you have questions or concerns about your rights in this study.

VIII. Copy of Consent Form to Subject:

We will give you a copy of this consent form to keep.

If you are willing to volunteer for this research and be video recorded, please sign below.

_________________________  __________________
Participant                                      Date
<table>
<thead>
<tr>
<th>Principal Investigator or Researcher Obtaining Consent</th>
<th>Date</th>
</tr>
</thead>
</table>

Appendix D

Georgia State University
Department of Middle and Secondary Education: Language and Literacy
Parental Consent Form

Title: A Multimodal Analysis of Teacher-Student Interactions in Reading Recovery Writing Sessions

Principal Investigator: Dr. Peggy Albers
Student Principal Investigator: Cindy Fujimoto

Sponsor: NA

I. Purpose:

Your child is invited to be a part of a research study. The study is to learn how Reading Recovery teachers and their students interact. The research will study the writing activities that take place during a Reading Recovery lesson. Cindy Fujimoto (Student Principal Investigator) will observe how teachers and students work together while writing a short story. Your child is invited to be a part of this study because he or she is receiving Reading Recovery services.

The total number of volunteers in this study is three Reading Recovery students and three Reading Recovery teachers. The study will require 4.5 hours of your child’s time. The study will take place during school hours. Your child will be observed during their Reading Recovery lesson. Observations for the study will take place nine different times during your child’s 20-week Reading Recovery program.

II. Procedures:

If you agree for your child to be a part of this study, your child will be video and audio taped with their Reading Recovery teacher. We will make copies of your child’s written stories. The study will take place during normal school hours on the school campus of (elementary school name). Your child will be recorded and observed during their normal one-on-one teaching time for up to 4.5 hours. This represents nine 30-minute lessons over the course of your child’s Reading Recovery program. A digital copy of your child’s Observation Survey literacy assessment will also be obtained by researchers to help understand the Reading Recovery program.

III. Risks:

In this study, your child will not have any more risks than he or she would in a normal day of life. If you agree to have your child in the study, photographs of your child’s work and/or video tapes of your child may be used in the study.
IV. **Benefits:**

Volunteering for this study may not benefit your child personally. We hope to gain a better understanding about the different ways students and teachers communicate. We hope this will help teachers know how to respond and support students.

V. **Voluntary Participation and Withdrawal:**

Participation in research is voluntary. Your child does not have to be in this study. Your child will continue to receive Reading Recovery services. If you decide to allow your child to be in the study, you have the right to change your mind at any time. You can decide to drop your child out of the study with no questions asked. Whatever you decide, your child will continue to be served in Reading Recovery. Your child will not lose any benefits to which he or she is entitled by law.

VI. **Confidentiality:**

By law, we will keep your child’s records private. Dr. Peggy Albers and Cindy Fujimoto will have access to the information your child provides. Information may also be shared with those who make sure the study is done correctly (GSU Institutional Review Board, the Office for Human Research Protection (OHRP). Your child will never be identified personally. We will protect the identity of your child. We will not use his or her real name in the study. We will use a pseudonym rather than your child’s real name on study records.

The information your child provides will be protected for up to five years before it is destroyed. All information will be stored in a locked cabinet. All information is on password and firewall protected computers. Audio and video recordings will be protected and stored in a locked cabinet. These also will be on password and firewall protected computers. Your child’s name and other facts that might reveal your child will not appear when we present this study or publish its results. Your child will not be identified personally.

VII. **Contact Persons:**

Contact Dr. Peggy Albers at malbers2@gsu.edu or Cindy Fujimoto at 404-317-7691 or csugarman1@student.gsu.edu if you have questions, concerns, or complaints about this study. You can also call if you think your child has been harmed by the study.

Call Susan Vogtner in the Georgia State University Office of Research Integrity at 404-413-3513 or svoigtner1@gsu.edu if you want to talk to someone who is not part of the study team. You can talk about questions, concerns, offer input, obtain information, or suggestions about the study. You can also call Susan Vogtner if you have questions or concerns about your rights in this study.

VIII. **Copy of Consent Form to Subject:**

We will give you a copy of this consent form to keep.
If you are willing for your child to volunteer for this research and for your child to be recorded, please sign below.

___________________________________________  __________________________
Child’s Name  Parent or Guardian  Date

___________________________________________  __________________________
Parent or Guardian  Date

___________________________________________  __________________________
Principal Investigator or Researcher Obtaining Consent  Date
Appendix E

Georgia State University
Department of Middle and Secondary Education: Language and Literacy
Verbal Assent

Hi. My name is Cindy Fujimoto. I am a teacher at Georgia State University. Right now, I am trying to learn about what you and your teacher do to help you learn how to write stories. I would like to ask you to help me by being in a study, but before I do, I want to tell what will happen if you decide to help me.

I will ask you to let me come watch you write stories with your teacher. I will visit you 9 different times. I will use the iPad to video tape your lesson with your teacher so I can learn how to be a better teacher. I will sit behind you and your teacher and take notes about how your teacher teaches you how to write stories. I will not talk with you as you work with your teacher. I just want to watch. If you ever feel uncomfortable and want me to stop, you can tell me to stop and that will be okay. By being in the study, you will help me understand the best way to teach children like yourself how to write stories.

Your parents or classmates will not know what you have said or done as you work on writing stories with your teacher. When I tell other people about my study, I will not use your name, and no one will be able to tell who I’m talking about.

Your parents have said it is okay for you to be in my study. But if you don’t want to be in the study, you don’t have to be. You will still work with your teacher. I just will not be watching you work together. I will not be upset, and no one else will be upset, if you do not want to be in the study. If you want to be in the study now but change your mind later, that is okay too. You can stop at any time. If there is anything you don't understand you should tell me so I can explain it to you.

You can ask me questions about the study. If you have a question later, you can call me or ask your teacher to call me or send me an email.

Do you have any questions for me now?

Would you like to be in my study? (Yes or No)

Name of Child: ______________________ Parental Permission on File _____Yes _____ No

Child’s Voluntary Response to Participation: ____ Yes ____ No

Signature of Researcher: ___________________________ Date: ______________

Signature of Adult Witness: ___________________________