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UNDERSTANDING TEACHER AND STUDENT TALK
DURING LITERACY INSTRUCTION
IN A ONE-TO-ONE TUTORING SETTING

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree of Doctorate of Philosophy in the Graduate
School of The Ohio State University

By


The Ohio State University
1998

Dissertation Committee:

Dr. Carol Lyons, Advisor
Dr. Gay Su Pinnell
Dr. Becky Kirschner

Approved by

Carol Lyons
Adviser

College of Education
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Emily M. Rodgers
1998
ABSTRACT

One-to-one tutoring is a recognized form of intervention however simply having a tutor is not sufficient to guarantee a student’s success. One important element of tutoring programs which positively influences a student’s reading progress is the pattern of language interactions between student and teacher.

The purpose of this study was to examine the nature of the talk between student and tutor in a one-to-one literacy program to describe how language was used to scaffold literacy understandings. The study was carried out within the context of Reading Recovery lessons; a well-researched literacy tutoring program with demonstrated effectiveness.

A qualitative case study approach was used to characterize the patterns of talk between one Reading Recovery teacher and two of her students when the student read a new book with the teacher’s support.

Analyses of the data revealed three kinds of scaffolds created within the student and teacher interactions. Continuous and mended scaffolds were helpful to the student in that he was able to immediately use the teacher’s talk to problem solve at difficulty. Misleading scaffolds, characterized by the presence of at least two consecutive teacher contributions to which the student could not respond, were not as helpful to the student.

The researcher found that the teacher created helpful scaffolds just as frequently for John as she did for Nathaniel. In addition, misleading scaffolds were rarely present in either students’ interactions with the teacher. The researcher concluded that the presence of scaffolds was not sufficient to account for the difference in John and Nathaniel’s reading progress.
A closer examination of the talk within the scaffolds revealed an important distinction that may account for the difference in their progress: the teacher frequently demonstrated critical literacy behaviors for John yet demonstrations were notably absent from her interactions with Nathaniel. The researcher concluded that demonstrations were critical to John’s accelerated reading progress.

These findings demonstrate that talk within one-to-one tutoring is critical to the student’s growing literacy understandings. While scaffolds are necessary to a student’s learning, the nature of the talk within scaffolds is even more critical if the student is to become an independent reader.
To My Parents
Lily and Reg Thorne
My Very First Teachers
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return to university, even though it meant moving far from home, has been a real lesson to me in patience, encouragement and unconditional love.

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1985 B.A.(Ed.) Memorial University
St. John's, Newfoundland

1985 Classroom Teacher
Norman's Cove, Newfoundland

1985-1986 Special Education Teacher, Clarke's Beach Elementary School
Clarke's Beach, Newfoundland.

1986-1989 Special Education Teacher, J.R. Smallwood Collegiate
Wabush, Newfoundland.

1988 Bachelor of Special Education, Memorial University,
St. John's, Newfoundland

1989-1994 Remedial Reading Teacher, A.P. Low Elementary School
Labrador City, Newfoundland

1995 Master of Arts, The Ohio State University,
Columbus, Ohio

1995 - 1996 Graduate Teaching Assistant
The Reading Clinic
Department of Literacy, Language and Culture
The Ohio State University

1996 -1997 Graduate Research Assistant
Early Literacy Learning Initiative
Department of Literacy, Language and Culture
The Ohio State University

June 1997 -
August 1997 Editor
Reading Recovery in Ohio, 1996-1997 State Report
Reading Recovery Program,

1997-1998 Reading Recovery Trainer-in-Training
The Ohio State University
PUBLICATIONS


FIELDS OF STUDY

Major Field: Education

Literacy

Dr. Robert Tierney

Language Development

Drs. Gay Su Pinnell and Becky Kirschner

Teaching and Learning

Dr. Carol Lyons
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CHAPTER 1
Defining The Study

Introduction
One-to-one tutoring is a recognized form of intervention and is becoming more widely used to prevent reading failure (Wasik & Slavin, 1993). For example, President Clinton recently called for an ‘army’ of volunteers to tutor young students, in order to meet his administration’s goal of all children being able to read by the end of third grade. As part of this initiative, efforts to organize the program “America Reads” have been underway at The Ohio State University and by early 1998 the first group of university students began tutoring children in reading.

As well, John Pikulski, on behalf of the International Reading Association (IRA), recently testified at a Washington hearing that new legislation regarding funding for special education services should include a provision that children be provided with “appropriate reading instruction” before being considered as learning disabled. The following definition of “appropriate reading instruction” was suggested by Pikulski:

Appropriate reading instruction shall mean that students encountering difficulty in learning to read in grades kindergarten through third have been provided with small group (no more than five students), or preferably, individual reading instruction based on a verified model of reading instruction for at least 30 minutes each day for at least one full year.

Reading Today, 1998, p.39

Pikulski went on to define a verified model of reading instruction as being an “...instructional program for which clear evidence has been presented and documented in one or more juried professional journals...” and offered as examples, “…Reading Recovery, Success for All, Early Intervention in Reading, Right Start and the tutorial
program described by Frank Vellutino of the State University of New York at Albany” (p.39).

The growing trend to recommend one-to-one tutoring as a viable early literacy intervention focuses attention on this type of teaching for our students who are most at risk of literacy failure.

One-To-One Tutoring

Wasik & Slavin (1993) recently reviewed five tutoring programs: Reading Recovery, Success for All, Prevention of Learning Disabilities, Wallach Tutoring Program and Programmed Tutorial Reading. While they found that most children in each of these programs made significant gains in reading, Wasik and Slavin also noted that some of the programs were more successful than others. For example, the programs that used certified teachers as tutors had a greater impact on children’s literacy learning than those that used paraprofessionals. Secondly, the authors found that tutoring programs with a more comprehensive model of the reading process were more successful than programs that focused on specific skills. Finally, Wasik and Slavin found that tutoring methods also influenced children’s reading progress; simply having a tutor present was not enough to ensure success.

These findings are corroborated by an extensive study conducted by Pinnell, Lyons, DeFord, Bryk and Seltzer (1994) who compared four literacy instructional models, three of which used one-to-one instruction: Reading Recovery, Reading Strategies and Direct Instruction Skills Plan. Like Wasik and Slavin (1993), Pinnell et al. also found that having one-to-one tutoring was a necessary but not sufficient explanation for a program’s effectiveness. In addition, they also found that the nature of the tutor’s training and the program’s instructional approach impacted the progress of children and enabled the teachers to be more effective.
The increasing trend to use one-to-one tutoring programs to assist young children with literacy problems is no doubt a good idea. However, the studies by Wasik and Slavin (1993) and Pinnell et al. (1994) inform us that some tutoring programs are more successful than others. It is apparent that the effectiveness of tutoring programs is not ensured by merely providing a student with a tutor.

**Essential Role Of Language In One-To-One Tutoring**

It would seem sensible that the talk between child and tutor should receive special attention in any study designed to understand the effectiveness of a literacy tutoring program. After all, the talk between child and teacher is a focal point of the literacy learning. Wells and Chang-Wells write, “... in the case of such cultural practices as those associated with literacy, talk in and about the activity can no longer remain an optional aspect of the collaboration ... but must be seen as both central and essential” (Wells & Chang-Wells, 1992, p.148).

The central and essential nature of talk in cognitive development has been well documented (Diaz, Neal & Amaya-Williams, 1990; Luria, 1982; Vygotsky, 1986; Wertsch, 1991). It seems that the language of the teacher, or caregiver, becomes the child’s private speech and later his own internal speech. In other words, the child can make the teacher’s language her own (private speech) and later use her own internal speech to “plan, guide and monitor his behavior from within and flexibly according to changing circumstances” (Diaz, Neal & Amaya-Williams, 1990, p.130).

I will provide an example from my own one-to-one literacy tutoring of a first grade student to illustrate how language becomes a tool for learning, first through its shared use between tutor and child, to forming the child’s private speech and then finally, by being internalized by the child so that she can flexibly guide her own behavior.
When I began to work with Keiarrra at the beginning of her first grade year, she used the pictures of a story and her own understanding of the structure of the English language, to approximate the print on the page of a book. However, at difficulty, she did not use the letters of a word to help her problem solve. Therefore, she might say “horse” instead of “goat” knowing that the word horse made sense in that the book she was reading was about animals on a farm.

Much of our talk early in lessons was about using the first letter of a word as well as thinking about the story when she came to a difficult word. Therefore, I would say to her, “It could be horse, but look at the first letter (while I pointed to the first letter “G” in the word “goat”). Early in our lessons, my language served a social purpose in that I shared a plan of action with Keiarrra; sharing something she could try at difficulty.

Within a very short time, Keiarrra could be heard to use my language at difficulty to help herself. For example on one occasion when she read “bunny” for “rabbit”, she suddenly stopped and said, “Hold up, check the first letter. That’s rabbit.” By this time, my language had become Keiarrra’s private speech, in that she used it to guide her reading behavior at difficulty.

Before long however Keiarrra no longer relied on my language to problem solve unfamiliar words. She had become proficient at using visual information and now used her own internalized speech to guide her reading behavior. For example, she took the following action when she came to the word “mice” in a story that she was reading aloud. She said, “Mouses, no, mouse, no it’s mice”. This student appeared to be using her own internal language to guide her reading. I can infer that Keiarrra tried “mouses” first because it made sense in the story and it looked a lot like the word on the page. Then she may have noticed that there was no “s” on the end of the word “mice” so she next tried “mouse”. This attempt provided a better visual match to the word in the story but now did not fit the
meaning - the story was about more than one mouse after all. Finally Keiarra made meaning, structure and a better visual match when she tried “mice”.

This is an example of internal speech because Keiarra directed her own problem solving activity by monitoring her reading, evaluating each attempt then planning her next move. She was no longer using my language, but her own internalized speech to direct her problem solving efforts in creative ways. Her language use meant that she could regulate her own reading behavior, in response to changing circumstances.

I should mention that I can only infer by Keiarra’s behavior that she was noticing all these things because there is obviously no way to know what is going on inside a child’s head. However, it seems plausible that, based on her changing attempts, Keiarra was using the cueing systems available to her in the manner in which I described.

The self-regulative nature of speech, and the process by which it is at first shared and later internalized by the child, will form an important part of this study.

Reading Recovery: An Effective Tutoring Program

I have chosen to investigate the role of language in learning within the context of the Reading Recovery program because it seems sensible to conduct such a study on a tutoring program that has demonstrated effectiveness. Evidence that Reading Recovery is an effective program comes from research that has documented the accelerated progress of students who have been in the program, the maintenance of students’ gains in reading after first grade, and the reduction in numbers of students who are referred for special education and learning disabilities services.

Accelerated Progress Of Reading Recovery Students

Several studies have documented the accelerated progress of children who have gone through the Reading Recovery program (Allington & Walmsley, 1995; Dyer, 1992;
During the 1996 - 1997 school year, approximately 65,551 first grade children in North America were discontinued from the Reading Recovery program (Reading Recovery Executive Summary, 1997). This means that, although they initially represented the lowest achieving 20 percent of their classmates, these children reached the average reading and writing levels of their peers after about 12 - 20 weeks of daily half-hour lessons.

**Maintenance Of Gains**

Further evidence of the program's effectiveness comes from national studies that show children maintain their gains well into the third and fourth grades (Jaggar, 1997; Wang & Johnstone, 1997). A study conducted in Ohio followed former Reading Recovery students into fourth grade and found that these students remained well within the average band of their peers on a measure of text reading ability, although they fell just short of the average band by fourth grade (Reading Recovery State Report, 1997).

Another study in Ohio examined former Reading Recovery students' performance on their fourth grade proficiency tests and found that these students scored above proficiency on the reading and writing measures of the test (Hovest & Day, 1997).

**Reduction In Numbers Referred For Special Services**

As well, there is evidence from some school districts that the implementation of Reading Recovery has resulted in a reduction in the numbers of children referred for remedial or learning disabilities services (Long, 1995; Lyons, 1994, Lyons, Pinnell & DeFord, 1993). A national study conducted by Schmidt (reported in Lyons, 1994) examined the rate of referring first graders to learning disabilities services prior to and after
one to years of implementing Reading Recovery in the district and found that the referral rate dropped from 2.3 percent to just 1.3 percent.

**Essential Features Of The Reading Recovery Program**

As described earlier, several features of Reading Recovery that seem to be linked to its success, have been identified: the use of one-to-one teaching, the nature of the instruction and the nature of teacher training (Pinnell et al. 1994). With regard to one-to-one teaching, Pinnell et al. noted that “Reading Recovery interactions appeared to be better tailored to individual children. Their decisions were more powerful…” (p.58). The authors call for further research to give a detailed qualitative analysis of the interactional patterns between child and tutor in order to shed more light on the “intensity and effectiveness of the teaching” (p.58).

Several studies already have more closely examined the one-to-one teaching that is characteristic of Reading Recovery. Lyons (1993) described a Reading Recovery teacher’s developing ability to make effective teaching decisions on a moment-by-moment basis while teaching. Hobsbaum, Peters & Sylva (1996) described the interactions between child and teacher as being in keeping with the features of scaffolding, which meant that the teachers responded to what children were attempting to do, rather than imposing a preconceived plan for teaching, upon the child. Wong, Groth & O’Flahavan (1994) also found that Reading Recovery teachers used teaching prompts flexibly, in response to the child’s reading. When reading was more difficult for the child, teachers increased their modeling, prompting and discussion comments.

These three studies suggest that it is the nature of the talk during teaching, that may account for the “intensity and effectiveness” of Reading Recovery instruction. Teachers are scaffolding children’s reading behaviors by using language effectively, by this I mean that they are responding to the child’s reading behaviors, with talk that is designed to bring the child a little further along.
One-to-one tutoring is a recognized form of intervention and is becoming more widely used to prevent reading failure. In addition, studies have shown that language plays a critical role in learning. For example, just having a tutor is not enough to guarantee a child’s success, there seems to be something about the pattern of language interaction between tutor and child that leads to a child’s accelerated learning. Studies of Reading Recovery, an effective tutoring program, suggest that tutors are able to use language effectively to scaffold a child’s learning. These studies are supported by research that describes the important role of talk in learning.

Wasik and Slavin (1993) identify this element as “tutoring methods” while Pinnell et al. (1994) characterize it as the “intensity and effectiveness of the teaching” - an outcome of the tutor’s training. However, no study has as yet attempted to describe in a qualitative manner the nature of the interaction between child and tutor in a one-to-one tutoring setting. Such a study would have the potential to inform us, in a more detailed manner, about the nature of effective one-to-one tutoring. For this reason, I conducted a detailed analysis of the patterns of interactions between child and teacher in a one-to-one reading tutorial setting. The purpose of this study is to relate a child’s growing understandings about literacy to his language interactions with his teacher during one-to-one literacy instruction.

In order to do this, I conducted an in-depth analysis of one expert Reading Recovery teacher in order to describe the pattern of interaction between her and two of her students. I limited my study to the last ten minutes of the Reading Recovery lesson when the teacher introduces a new book to the child and the child attempts to read it. At this time during the lesson, the child’s role is to read as independently as possible, using the strategies that he has been learning, while the teacher supports his reading behaviors. I focused my study on this part of the lesson because I found during my pilot study that this component is most rich in teacher-student interactions around text. I termed these
interactions as “critical learning moments” because they seemed to provide important opportunities for the student to further his literacy understandings.

**Research Questions**

The following questions guided my study:

1. What is the nature of the interaction, as characterized by the patterns of talk, between teacher and child when the child reads a new book with the teacher’s support?

2. How do the patterns of interaction between teacher and child change, in relation to the child’s changing reading behaviors?

3. How does the pattern of interaction during critical learning moments further the child’s literacy acquisition?

**Definition Of Terms**

**Cognitive Development:** Change within an individual characterized by a transformation of lower mental functions to higher mental functions (selective attention, applied memory) with the aid of tools such as language and other sign systems (Vygotsky, 1978). Occurs within a sociocultural context.

**Confirming Move:** A teacher move in which the teacher confirmed a student’s attempt.

**Continuous Scaffold:** A type of scaffold in which every teacher move took the student further along in his problem solving at difficulty.

**Cues:** Sources of information in the text available to the reader. They include at least: the *meaning* of the message, the *structure* of the sentence, and the *visual* information of the print (Clay 1993b, p.31).

**Cycle:** Similar to “exchanges” (Sinclair & Coulthard, 1975, p. 49): a unit of interaction between teacher and student. In this study a cycle occurred whenever the student and
teacher began to talk to each other during the reading of the new book, usually occurring when the student came to an unfamiliar word in the text. Cycles were often preceded and followed by the student's accurate reading and independent problem solving.

**Demonstrating Moves:** A teacher move in which the teacher took the student's role and performed a problem solving action that she eventually wanted the student to do for himself. Similar to Wood, Bruner and Ross's (1976) definition of a teacher demonstration and to Wong et al.'s (1994) "modeling comments".

**Directing Move:** A teacher move in which the teacher tells the student to take a specific action.

**Inner Speech:** Inner speech is a tool that allows an individual to plan, monitor and evaluate behavior. It is internal speech that has been transformed from social speech (talk shared between people) via the bridge of private speech (Vygotsky, 1978).

**Internalization:** The process by which tools for learning and thinking (such as language) are transformed and become part of an individual's ways of knowing and responding. The individual is an active participant in this process. Similar to Rogoff's (1995) term "participatory appropriation".

**Linked Moves:** At least two teacher moves given together, one after another. The teacher might demonstrate an action for a student and then direct the student to try it for himself, for example.

**Mended Scaffold:** A type of scaffold which contains a non-helpful move followed by a helpful one. For example, a move within the scaffold may not support the student in his problem solving but the teacher follows this non-helpful move with one that the student can use.

**Misleading Scaffold:** A type of scaffold in which the teacher makes at least two consecutive moves that the student cannot use to further his problem solving.

**Move:** A turn or contribution by the teacher or student to a cycle. Moves may involve social, private or internal speech.
**Noticing Moves:** A type of move made by a student in which inner speech has been used to guide behavior. For example, a student may say "...said Mom" instead of "...shouted Mom" but then correct his substitution and read the text correctly. Between the student's first move of substituting "said" for "shouted" and his correcting move, there must have been another move in which he noticed the visual mismatch. This internal, noticing move can only be inferred from a student's behavior.

**One-To-One Matching:** Refers to the ability to coordinate oral language with words while reading; an utterance for each word (Clay, 1991).

**One-To-One Tutoring:** A teaching context in which the teacher works individually with a student.

**Praising Move:** A move in which the teacher praises the student.

**Private Speech:** A bridge between social speech and inner speech. Also referred to as self-directed speech. Overt language used to guide one's behavior, not intended to be shared with others. Often appears at difficulty (Diaz, Neal, & Amaya-Williams, 1990). Origins of private speech are found in social speech (Luria, 1982).

**Questioning Move:** A move in which the teacher poses a question to the student.

**Scaffold:** In this study, a scaffold refers to the support given by an adult to a learner during cycles of interaction. I identified types of scaffolds: continuous, mended and misleading.

**Self-Control:** The ability to use a teacher's direction to control one's behavior, even if the teacher is not present. For example, a student who comes to difficulty while reading independently may reread and articulate the first part of the unfamiliar word because the teacher has earlier demonstrated to him that this can help. However, the behavior is developing but not yet self-regulated. If rereading and articulating is not helpful then the student may not have another plan of action (Diaz, Neal & Amaya-Williams, 1990).

**Self-Extending System:** A system of literacy expertise (referring to one's ability to use
strategies effectively and efficiently) that improves the more it is used (Clay, 1991).

**Self-Regulated Behavior:** Behavior that is planned, monitored and evaluated from within. It can be changed in flexible ways to meet changing circumstances (Diaz, Neal & Amaya-Williams, 1990).

**Social Speech:** Shared speech between individuals. Used in particular in stage one of the ZPD as a tool for furthering a child’s learning.

**Strategies:** In-the-head operations which a student uses to problem solve while reading text. Rereading, searching for further cues, self-correcting and checking one cue against the other are some examples of reading strategies (Clay, 1991).

**Telling Move:** A teacher move in which she reveals to the student what will help.

**Zone of Proximal Development (ZPD):** The ZPD represents the difference between a child’s actual development and potential level of development and is created by learning in that learning “awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment...” (Vygotsky, 1978). Tharp and Gallimore (1988) have conceptualized the ZPD as a series of phases that the child moves through on the way to internalization.
CHAPTER 2
Review Of Literature

Introduction

In this review of related literature I will discuss the relevant tenets of a sociocultural theory of learning. Within this theory, I will describe how cognitive development may be viewed from this perspective, including concepts such as self-control and self-regulation and the roles of culture and language in learning. I will also discuss “scaffolding”, the process by which adults can assist a child’s learning. I will then summarize the preceding topics by linking the key concepts of language use and literacy learning. Finally, I will describe Clay’s theory of the reading process and review literature that describes scaffolding in Reading Recovery lessons.

A Sociocultural Theory Of Learning

Vygotsky maintained that in order to understand cognitive development it is necessary to understand change at a sociocultural level (Wertsch, 1985) which involves examining how the human mind has evolved. At this level, Vygotsky examined how lower mental functions are transformed into higher mental functions. Lower mental functions consist of such things as basic memory, attention, perception and are produced by natural, or biological development. At this level of development, humans differ very little from higher primates. However, unlike apes, humans are also affected by cultural and historical development because we exist within a social world. We have available to us signs and psychological tools (such as language, sign systems) that enable us to reach a higher
ground intellectually. With the aid of these tools, lower mental functions are transformed to higher processes.

For example, natural memory becomes mediated memory because we have tools such as pen and paper and a symbol system to aid memory. Natural attention becomes selective attention in that we can direct and hold our attention despite distracting stimuli. This is not to say that lower mental functions disappear. After all, the mind is a product of an individual’s biological (which accounts for the development of lower mental functions) and cultural evolution (which accounts for the development of higher mental functions) (Wertsch, 1985). As an example, suppose I am listening to a very important lecture when suddenly there is a loud bang from the back of the room. No matter how much I am attending to the person who is speaking, I will likely not be able to prevent myself from reacting to the noise. Involuntarily, I will turn to see what made the noise.

In order to understand Vygotsky’s theory of cognitive development, we must ask “What is it that changes?” What changes, according to Vygotsky’s theory, is the individual’s increasing intentionality and greater freedom from the environment (V. Sloutsky, personal communication, February 19, 1997).

Vygotsky’s explanation of how the human mind has developed (a sociocultural domain) is similar to his understanding of cognitive development within the ontogenetic domain, or at the level of the individual. In fact, much of Vygotsky’s work was devoted to understanding change within this genetic domain (Wertsch, 1985, p.27). Vygotsky argued that at this level, cognitive development is affected by the coming together of two forces: the natural maturation of an individual’s brain and the individual’s environment or immediate culture. In other words, Vygotsky attributed a large role to “others” in affecting the course of a child’s cognitive development.

In the following section I will discuss Vygotsky’s understanding of the role of culture in cognitive development and how that is exemplified by his notion of a “zone of proximal development”.
The Role Of Culture

Vygotsky maintained that human psychological functions are different from animals in that they are culturally mediated (Cole, 1990). As Vygotsky has noted, “Culture, generally speaking, does not produce anything new apart from that which is given by nature. But it transforms nature to suit the ends of man” (Vygotsky, 1994, p.59).

Through social interaction, “others” constantly seek to incorporate children, from birth, into their culture” (Luria, 1979). Initially, adults mediate the child’s contact with the world through shared activity, supporting the child and acting as an “external agent” (p.45). Indeed, children learn or acquire a mental process by sharing it first - only after this can the process be internalized and used independently. According to Vygotsky, “Every function in the child’s cultural development appears twice: ...first between people (interpsychological) and then inside the child (intrapsychological) “ (Vygotsky, 1978, p.57).

This process is exemplified by the concept of the zone of proximal development (ZPD). The ZPD represents the difference between a child’s actual development and potential level of development and is created by learning in that learning “awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment…” (Vygotsky, 1978). Tharp and Gallimore (1988) have conceptualized the ZPD (Figure 1) as a series of phases that the child moves through on the way to internalization.
Tharp and Gallimore describe the four stages of the ZPD in this way:

Stage 1: Assistance is provided by a more capable other who seeks to achieve “intersubjectivity” with the child (a meeting of the minds - knowing what the child knows). Child’s partial performance provokes adult assistance. Stage one is completed when responsibility for the task is handed over to the child.

Stage 2: In this stage, assistance is provided by the self - child carries out the task himself. A hallmark of this stage is self-speech (egocentric speech) which may be used by the child to assist himself. When speech is internalized this stage is complete.

Stage 3: Performance is developed, automatized and “fossilized”. Assistance from others would be a disruption.

Stage 4: De-automatization and recursion. A new wrinkle sends the child back through zone for assistance, either from others or self.
Certainly social interaction is vital to extend a child’s cognitive processes through the ZPD because, according to Vygotsky’s theory, human mental functions emerge from and are located within social practices (Rogoff & Gardner, 1984).

**Self-Control And Self-Regulation**

Diaz, Neal & Amaya-Williams (1990) apply another layer to Vygotsky’s theory by conceptualizing the movement towards internalization as a change from self-control to self-regulation. According to Diaz, Neal & Amaya-Williams, a child’s behavior is self-controlled when he is doing something because he was told so even in the absence of a teacher and is self-regulated when he can guide, plan, monitor and evaluate his own behavior. They describe self-control as a rigid response to a certain stimuli.

In chapter one, I provided an example of private speech by relating how one of my student’s, Keiarra, told herself to check the first letter of a word. This is also a good example of a child whose behavior, in this instance, was self-controlled. She was able to comply with her teacher’s commands as to what to do at difficulty. However, Keiarra was not able to be flexible with her approach and once her self-directive failed to problem solve the word, she had no other plan.

In fact, a child’s behavior is not regulated until his program of action has been internalized as described within Vygotsky’s concept of a ZPD. This means that the child has a “…capacity to plan, guide, and monitor his or her behavior from within and flexibly according to changing circumstances” (Diaz, Neal & Amaya-Williams, 1990, p.130).

Once again, we can return to my example of Keiarra from the previous chapter in which I described how she was able to use her internalized speech to problem solve the word “mice” in a story that she was reading. She said “Mouses, no mouse, no it’s mice”. This is also an example of self-regulated behavior because Keiarra was flexible in her problem solving. She had several plans, the first plan, apparently, was to think about the
story and how the word looked when she said “mouses”. When this did not sound right, Keiarrra still had another plan that she could use; she made the word sound right by saying “mouse” instead of “mouses”. However, she seemed to then notice that “mouse” did not fit the meaning of the story. Still Keiarrra had another plan of action; this time she seemed to take a closer look at the word and said “mice”. The critical piece here is not that she successfully solved the word but that she had a flexible plan of action to use at difficulty. Keiarrra had become self-regulated in this problem solving behavior and was no longer relying on her private speech but her internalized speech to guide her behavior.

An analogy might be helpful to clarify this concept of self-controlled and self-regulated behavior. When I first learned to ski, I relied on my “private speech” to control my descent down the slope. This private speech consisted of the things that my instructor told me to do. For example, in order to turn, or slow my speed I would tell myself to turn my skis or shift my weight. The language that I used to direct my behavior was almost exactly that of my instructor as I tried to recall exactly what she had said I should try at difficulty.

Later as I became a more proficient skier I was able to ski seemingly effortlessly, responding easily to unexpected things such as another skier in my path or a bump on the slope. I no longer relied on my instructor’s language to guide my behavior but I was able to use my own internalized language to respond in flexible ways. My skiing had become self-regulated.

Returning now to Tharp and Gallimore’s conceptualization of the ZPD in Figure 1, we can apply the notion of self-control and self-regulation to the ZPD (C. A. Lyons, personal communication, February 10, 1998). The zone itself, from the time that assistance is provided by more capable others and then provided by the self can be regarded as self-controlled behavior. Once the behavior has become internalized, then the behavior can be said to be self-regulated or guided and monitored by the child’s own plan.
In the following section I will discuss the role of speech in Vygotsky’s sociocultural theory of cognitive development. I also will connect the role of speech to self-controlled and self-regulated behavior and Vygotsky’s ZPD.

The Role Of Speech

Speech is a critical psychological tool for thinking (Luria, 1979). Its acquisition plays a crucial role in the development of higher psychological processes (Scribner & Cole, 1981) because it enables thinking to be more abstract, flexible, and independent from the immediate situation (Bodrova & Leong, 1996). In fact, the acquisition of speech, combined with the use of tools produces new behavior for our species - a key difference between us and higher primates (Vygotsky, 1978).

Unlike Piaget who characterized a child’s early language as “egocentric”, Vygotsky felt that a child’s earliest speech is already socialized and that private speech is a transition from social to inner speech. This difference between Vygotsky and Piaget’s views, is presented in Table 1.

<table>
<thead>
<tr>
<th>Vygotsky</th>
<th>Piaget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social speech</td>
<td>Egocentric thought</td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td><em>private speech</em></td>
<td><em>egocentric speech</em></td>
</tr>
<tr>
<td>↓</td>
<td>↓</td>
</tr>
<tr>
<td>Inner speech</td>
<td>Social speech</td>
</tr>
</tbody>
</table>

Table 1. The Role of Speech

The internalization of social speech to inner speech, via the bridge of private speech, describes the process by which speech becomes a tool to regulate behavior (Luria,
An example may clarify this concept. One of my goals as a teacher working with a first grade student who was having difficulty learning to read, was to have the child match her voice to the print on a page. This student (whom I shall call Debbie) was freely inventing text as she read aloud instead of achieving a one-to-one match between what she was saying and the words on the page. During one lesson, I talked with Debbie about using her finger as a tool to make a voice-print match. We shared the task of matching one-to-one for several lessons. If she failed to notice, for example, that she had inserted words that were not on a page, I might ask her, "Did that match?" Our speech had a social role.

A short time later, as Debbie read a book, she again invented text, but this time she said, "Ooops, that didn't match". On another occasion I heard her say, "I gots to keep my finger under the words. That's what I gots to say." These are examples of private speech - Debbie was talking not to me, but to herself and she was using my language to control her behavior. Within a short period of time Debbie was able to match one-to-one effortlessly, as most readers do, seemingly without any conscious thought. The behavior of matching one-to-one had become self-regulated, meaning Debbie could do it with little attention to the process. At this time she was using her own plan of action, her own inner speech to guide her behavior and not mine at all.

This next example, again from Debbie's reading, will clarify the difference between private and inner speech and its relationship to self-controlled and self-regulated behavior. Several weeks after Debbie began using private speech to control her one-to-one matching, she stopped saying anything aloud and matched one-to-one seemingly effortlessly while reading. I suspected, but could not be certain, that Debbie was now using her own speech to guide her matching. The evidence for this came one day when she was reading a book in which the print went around and around in a circle to illustrate a spider's web. Debbie paused briefly, then turned the book around and around to read the page.
This is not a possibility that I had ever prepared her for, instead, because Debbie had become self-regulated with one-to-one matching, she was able to use her own plan to respond to this unexpected event. I can infer, based on her behavior, that Debbie used her own, inner speech to guide and monitor her one-to-one matching. She must have, because I did not ever talk with her about what to do when print was arranged in circles.

By this process, as illustrated in Table 2, our social speech about matching one-to-one became Debbie’s private speech which was then transformed into inner speech. Debbie’s inner speech is her own, no longer the teacher’s, and she is able to use it to form her own plan of action and to monitor, guide and evaluate her behavior. This same process has been well documented in research involving one-to-one tutoring situations (Askew, 1993; Elliot, 1994; Kelly, Klein & Pinnell, 1994).

<table>
<thead>
<tr>
<th>Vygotsky and Luria’s internalization of speech</th>
<th>Phases leading to self-regulation of behavior</th>
<th>Examples from Debbie</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social speech</td>
<td>Our talk: “You can use your finger to make it match.”</td>
<td></td>
</tr>
<tr>
<td>Private speech</td>
<td>“Oops, that didn’t match”</td>
<td></td>
</tr>
<tr>
<td>Inner speech</td>
<td>Behavior is regulated, Debbie matches her voice to print and is prepared for diversity when print is arranged in creative ways on a page.</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Vygotsky and Luria’s Internalization of Speech

Vygotsky allows for the possibility that children can learn from language early on, because he viewed early speech as being social. So, from Vygotsky’s perspective, speech
can actually impact thought because it can be used to regulate one’s behavior. It becomes an instrument for planning and carrying out action - a way to sort one’s thoughts (Vygotsky, 1978). The importance that Vygotsky and Luria placed on the role of speech is evident in this quotation:

Unlike the ape, which Kohler tells us is the ‘slave of it’s own visual field’ children acquire an independence with respect to their concrete surroundings; they cease to act in the immediately given space. Once children learn how to use the planning function of their language effectively, their psychological field changes radically.

Vygotsky, 1978, p.28

A brief summary of the discussion thus far may be helpful. Cognitive development has been characterized as the transformation of lower mental functions to higher. This transformation means that behavior is becoming increasingly self-regulated in that the individual is developing greater intentionality and freedom from the environment. The internalization of speech from a social plane to an internal one, leads to self-regulation in that the individual has a means to plan, guide, monitor and evaluate her behavior.

I would like now to return to Tharp and Gallimore’s conceptualization of the ZPD and apply this understanding of the role of speech to cognitive development (Figure 2).
Recursive Loop

Capacity begins

developed

ZONE OF PROXIMAL DEVELOPMENT

Assistance provided by more capable other Parents Teachers Experts Coaches

Peers

Assistance provided by the self

Internalized automated, "fossilized"

De-automatization: recursiveness through prior stages

Self - Regulation

Inner Speech
Example: Behavior is regulated, Debbie matches her voice to print and is prepared for diversity when print is arranged in creative ways on a page.

Self-control

Social Speech
Example: Our talk: "You can use your finger to make it match."

Private Speech
Example: Debbie said "Oops, that didn't match"

Behavior is regulated, Debbie matches her voice to print and is prepared for diversity when print is arranged in creative ways on a page.

(Tharp and Gallimore's conceptualization of the ZPD, adapted by C. A. Lyons, personal communication, February 10, 1998)

Figure 2. Applying the Role of Speech to Cognitive Development

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Figure 2 depicts how speech is at first social; shared between the child and caregiver as the child needs assistance from another in order to complete a task. Behavior is self-controlled but later becomes self-regulated as the child internalizes the caregiver's language and makes it her own. She is then able to guide, plan and monitor her own behavior, flexibly in the face of changing circumstances.

Earlier in this chapter I provided the example of Debbie learning to match one-to-one while reading - moving from self-controlled behavior to self-regulated. I also described her speech as moving from a social realm (when she and I shared the task of matching one to one) to becoming private and then inner when the behavior of matching one to one had become internalized. I have mapped my example of Debbie onto Figure 2 to provide an example of how language is related to self-controlled and self-regulated behavior within Vygotsky’s notion of a ZPD.

In the following section I will review literature related to the concept of scaffolding, in order to describe how others may use language to move a child through a ZPD towards self-regulated behavior.

**Scaffolding**

Cognitive processes occur first on a social plane in that external knowledge and abilities are shared by a child and more capable other. These shared processes are internalized by the child and transformed to form the individual plane (Vygotsky, 1978; Wertsch, 1979, 1984). The zone describes a “dynamic region of sensitivity to learning” (Rogoff, 1990) - the difference between what the child can do independently and what he can do with assistance. Children are able to participate in activities that they are not capable of doing on their own. Gradually they increase their responsibility for the task as they move through the zone (Cole, 1985).
The process by which adults assist children through a zone is “scaffolding” (Wood, Bruner, Ross, 1976). The analogy of a scaffold is a useful one because it describes the process by which teacher and child interact as the child moves towards independence. A worker constructs a scaffold to allow him to work on an area of a building, for example, that is out of reach. It is only temporary and is removed when the work is finished. A scaffold can be put together and taken down quickly, as the need for assistance arises.

In terms of learning, the teacher is responsible for constructing the scaffold to support the child. It is only a temporary means of support and is removed when it is no longer needed. Perhaps most importantly, a scaffold is not used when assistance is unnecessary, just as you would normally not see a worker using a scaffold to work on easy to reach areas.

For example, I was able to scaffold Keiarra’s efforts to achieve a one-to-one match while reading by at first telling her, “Use your finger and point to each word while you read.” If she did not make a match, I might say something like, “You ran out of words” Once Keiarra understood what I meant by one-to-one matching, then all I had to say to scaffold her attempt was “Try that again and this time make everything match.” This direction is on a higher level than telling her to use her finger and point to each word and requires Keiarra to be more independent. The process by which I “upped the ante” and required Keiarra to be more independent is scaffolding.

Parents seem to intuitively know how to scaffold their children’s efforts to take on an oral language. Mothers, for example, shift what they accept as language from their babies, raising the ante from burps to coos, as their children’s attempts become more like speaking (Cazden, 1983).

Several important studies have already described the complex manner in which children emerge into using an oral language (Bruner, 1983; Wells, 1986). Importantly, we have seen that rather than being a “natural, simple” process, learning to use oral language
involves unrelenting interaction between caregivers and child in which the adult usually
“ups the ante”, expecting the child to take on an increasingly complex share of the talk.
This interaction has been characterized as scaffolding (Cazden, 1983).

Ninio & Bruner (1978) examined the interaction between mother-child dyads
during storybook reading and found that the mothers tended to scaffold their children’s
turn-taking. At first, the mother provided most of the talk, often taking the child’s turn in
the interaction. Eventually, the child’s turn grew to include pointing, smiling, and
vocalizations. The child was able to take on a greater role through the support, or
scaffolding by the mother during the interactions around storybook reading.

Research suggests that the type of assistance provided to the child is critical in order
to scaffold development. Wood & Middleton (1975) in a study of mothers helping their
children build a pyramid of blocks, identified five levels of intervention, shown in Table 3.

<table>
<thead>
<tr>
<th>Wood and Middleton’s Five Levels of Intervention</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>• General verbal instruction</td>
<td>“That was good.” “Can you make another like that?”</td>
</tr>
<tr>
<td>• Specific verbal instruction</td>
<td>“Can you find a large one now?”</td>
</tr>
<tr>
<td>• Indicating what is needed next</td>
<td>“You need that one over there.”</td>
</tr>
<tr>
<td>• Providing material and preparing it</td>
<td>Child has only one step to finish.</td>
</tr>
<tr>
<td>• Demonstrating what needs to be done</td>
<td>Child does not have to do anything.</td>
</tr>
</tbody>
</table>

Table 3. Wood and Middleton’s Five Levels of Intervention

Wood & Middleton (1975) noted that mothers whose children were more
successful were able to pitch their help at just the right level of sensitivity. A child whose
mother intervened only ten times, was more successful than a child whose mother
intervened 78 times. The most disastrous approach was just telling the child how to put the
toy together. Mothers who simply modeled the task seemed to convince their children that
the task was beyond their ability and the children soon lost interest in the activity. By
contrast, mothers who varied their responses by giving less support when their children met with success and more support when difficulty was encountered, were able to teach their children how to build the toy independently.

It is not just the matter of intervening that makes a difference to learning, but the quality of that interaction. In other words, the critical feature of assisted learning is not the amount of help given, but the kind of help and when it is offered. Recall Tharp and Gallimore’s definition of teaching: “Teaching can be said to occur when assistance is offered at points in the ZPD at which performance requires assistance.” (Tharp & Gallimore, 1988, p. 31, italics added).

Studies such as Wood and Middleton’s (1975) are useful because they inform us about the nature of scaffolding. Indeed, examples of scaffolded learning are apparent in many settings, from helping a child learn to walk, or ride a bike, yet it is notably absent from the one place that you would most expect to see it - schools (Tharp & Gallimore, 1988). Educators need to know how scaffolding a child through a zone would operate. In order to examine this, I will use Reading Recovery as a model for literacy instruction for children who are at risk of reading failure.

Language Use And Literacy Learning

In this section, I will tie together the preceding topics of this literature review and also provides some links to studying literacy acquisition.

My theoretical frame is nested within a sociocultural perspective that learning can be characterized as one’s developing freedom from the environment and the growing self-regulation of one’s own behavior. From this perspective, cognitive change takes place within the social milieu; we benefit from interacting with more knowledgeable others who are able to scaffold our learning.
The human capacity to use speech provides us with a powerful tool for learning through interactions. Through the internalization of social speech to inner speech, via the bridge of private speech, speech allows us to think in more abstract and flexible ways. As well, speech gives us a way to plan our behavior and to regulate and evaluate our actions.

In this respect, my study is not a study of the communication system of a classroom. Such a study would be situated in a social interaction perspective which seeks to understand the “nature of the classroom as a social system” through the discourse of the students and teachers (Green & Weade, 1986). Cazden explains the goal of research from that perspective quite well when she says, “We are interested in linguistic forms only insofar as through them we gain insight into the social events of the classroom and thereby into the understandings which students achieve (Cazden, 1986, p. 432). By contrast, I am interested in the talk between student and teacher insofar as I can understand the process by which language is a tool for learning. In other words, I am not so much interested in what teachers might mean by what they say and how students might construct meaning from these actions as I am interested in the process by which language is internalized to regulate behavior.

“Cultural learning” from my perspective is very easily understood if one considers examples of humans learning through demonstrations such as building a toy together or learning to ride a bike. But what about learning to read? As Wells, (1992) says, because learning to read is an essentially mental activity that cannot be learned simply by observing experts, the role of talk between child and adult, takes on a critical role. In order to understand how children learn to read, it is necessary to study the patterns of talk that take place during the interactions between adult and child.

Several studies have examined these patterns of interaction in literacy learning settings and found that these interactions provide opportunities for children to have
mediated literacy experiences with an expert who can monitor and guide the children’s sense-making (Cochran-Smith, 1984, Taylor, 1983).

However, not all children come to school with the same early literacy experiences. For these children, it is the responsibility of educators to provide these missed opportunities for interactive literacy experiences with experts who can guide their learning. Wells (1986) is convinced that these children who have not yet learned about print, need a “...personal introduction to literacy through stories...” , they need “...one-to-one interaction with an adult centered on a story...” (p.215). These experiences can provide the child and adult with opportunities to use talk in a collaborative fashion to extend the child’s literacy learning. Reading Recovery provides an excellent example of such interactive experiences.

**Reading Recovery**

The Reading Recovery program was developed by Marie Clay, a clinical psychologist and educator from New Zealand, and is based on the view that children are actively involved in constructing their knowledge of the reading process (Clay, 1991).

An important factor to the success of the program is the nature of the instruction (Pinnell, Lyons, DeFord, Bryk & Seltzer, 1994) which goes to where the child is functioning and builds on the child’s strengths. During the 30 minute lesson the child, no matter what his level of functioning, reads and writes continuous text providing a context for the teacher to observe the child’s reading and writing behaviors (Clay, 1993b).

In chapter three I will describe the structure of Reading Recovery lessons in greater detail.
**Clay's Theory Of The Reading Process**

Clay (1991) posits that reading is a "meaning-making, problem-solving activity that increases in power and flexibility the more that it is practiced." The reader’s task is to integrate what he knows about the hierarchical (words are made up of letters and sounds) and serial order (words are written from left to right across a word and across a page) of language with the experiences he has had and tailor this to the text that he is reading. The more practice he has with reading, the more categories and sub-categories that are formed which inform the problem-solving process. This orchestration leads to the "construction of an inner control" as the child is able to monitor his reading, checking one source against another in a sequential solving process. With this strategic inner control, the reader develops a self-extending system that extends itself and improves on itself the more that it is used.

From this perspective reading is about in-the-head processing with an emphasis on cognitive and perceptual processing. A child who is having difficulty learning to read is viewed as practicing inefficient strategies and has not yet developed a self-extending system. Such a child can be taught to read if she is taught strategies for reading that will lead to the development of a self-extending system. In order for this to occur, reading instruction needs to be organized to meet the child’s needs.

Clay’s description of how a child must develop a self-extending system is supported by Vygotsky and Luria’s ideas about self-regulation and cognitive development. However, Clay’s theory of how children learn to read goes beyond a description of “in-the-head processing” because she acknowledges the critical role of others in a child’s literacy learning. In the next section, I will review literature that describes the kind of interactions between student and teacher in Reading Recovery lessons as fitting the concept of “scaffolding”.

30
Scaffolding In Reading Recovery

Wong, Groth & O’Flahavan (1994) examined five Reading Recovery teachers and ten students over 25 lessons as the children read familiar and new books. They identified five types of scaffolding comments made by the teachers: discussing, telling, coaching, prompting and modeling, but perhaps more importantly, the authors also found that the teachers varied their scaffolding comments as a function of the text familiarity. When the reading became more difficult the teachers increased their modeling, prompting and discussion comments to provide more assistance to the child, as needed.

Hobsbaum, Peters & Sylva (1996) examined 17 children and seven Reading Recovery teachers during the writing portion of their lessons and described the nature of the talk between teacher and child as “interactive talk cycles”. The authors defined the teacher’s role as being “paramount”. They went on to say that, “There is no relaxation of the challenges posed and the teacher is constantly moving to what can be considered as the outer limits of the zone of proximal development” (p.31).

According to this review of the related literature, the Reading Recovery teacher makes deliberate teaching decisions which increase accessibility to the task all the while supporting the child’s performance and maintaining the child’s accelerated learning (Clay & Cazden, 1990). What seems to be a casual conversation between child and adult in the context of reading and writing, is actually an excellent example of a highly skilled adult moving a child through his zone of proximal development.

My study proposes to examine this interaction in a qualitative manner, in order to relate the child’s growing literacy understandings to the language interactions between child and teacher during Reading Recovery lessons. A closer look at the nature of the talk between the child and adult may reveal how the adult is able to scaffold the child’s learning in the context of a Reading Recovery lesson.
Summary

I used a sociocultural lens to understand cognitive development. From this perspective, there is no time out from one's culture: children are immersed in the cultural practices into which they are born, whether that be mat weaving, farming and/or written literacy. Within their culture children are actively participating with more knowledgeable others in their cultural practices, therefore, social interaction is critical to learning.

The difference in the way a child participates in these activities over time can be viewed as cognitive development. Initially the child requires assistance from more capable others but gradually, as capacity develops, the child's behavior becomes more self-regulated. Speech is a critical tool to this change in the child's way of thinking and responding.

The process by which adults mediate a child's attempts to take on new learning has been termed "scaffolding". This is the process by which the adult and child interact as the child is learning something new. The adult controls the elements of the task that are beyond the child's ability all the while "upping the ante" in terms of what the child is expected to be able to do next.

I am proposing in my study to extend this research in order to understand the role that language plays in a student's literacy acquisition. I intend to go beyond classifying the language to understanding how the talk between the student and teacher is related to the student's literacy learning. In doing so, I will also classify the teacher's language and look for evidence of scaffolding in the lessons. In this way, my research may also support the findings of the studies that I have reviewed.
CHAPTER 3
Methods And Procedures

Introduction

The purpose of my study was to relate a child's growing understandings about literacy to his language interactions with his teacher during one-to-one literacy instruction. I planned to characterize the patterns of talk between the student and teacher and to describe how these interactions changed in relation to the student's changing reading behaviors. This study has the potential to inform us about the effective use of language to scaffold a child's learning. A qualitative approach was used to characterize the nature of the teacher-student talk and quantitative data were collected and compared to assess the students' reading progress over time.

In this chapter, I plan to describe my theoretical frame and the underlying assumptions which guided my study. I will describe the research design and discuss how my choice of research methodology suited the nature of the inquiry that I proposed to undertake. I will provide the context of the study and discuss how I selected the site and participants involved. Finally, I will outline my data collection procedures and review the process I utilized to analyze the data.

Theoretical Frame

The inquiry that I undertook in this study is situated within a theoretical frame that views learning as a sociocultural process. Wertsch (1991) notes that the goal of sociocultural research is to "...understand the relationship between human mental
functioning on the one hand, and cultural, historical, and institutional setting on the other” (p.56). The focus of such research is not only on mental functioning but its relationship to the sociocultural setting in which it occurs. Therefore, the research that I undertook does not focus solely on “in-the-head” processing but also on the students’ interactions with the teacher because I assume these interactions are related in a critical way to the students’ growing understandings about literacy.

I take as a given that others play a crucial role in our learning and that language is a tool by which this learning can occur. This process is exemplified by the concept of a zone of proximal development which represents the difference between what a child can do unassisted and what he can potentially do easily and automatically.

Language is a critical tool available to others to scaffold a child’s learning through a zone. At first it is shared between the child and the tutor but eventually the child internalizes language to regulate his own behavior. This internalization of language, from a social plane to an internal one, leads to self-regulation in that the child now has a means of planning, guiding and evaluating his own behavior.

These assumptions about learning led me to collect data not only on the students’ changing reading behaviors but also on their interactions with the teacher as they read a new book.

**Research Design - Qualitative Case Study Approach**

In order to describe a teacher and student’s language interactions and relate them to the student’s increasingly self-regulated reading behaviors, it was necessary to describe their talk during the lesson in rich detail.

I used a qualitative case study approach (Patton, 1990) to describe the pattern of interaction between a teacher and two of her students during one-to-one literacy instruction. Marshall & Rossman (1995) suggest that a case study is a useful research strategy when
the purpose of the study is to describe a phenomenon of interest and when the research questions involve describing the "...salient behaviors, events, beliefs, attitudes, structures, processes occurring in the phenomenon" (p.41).

According to Patton (1990, p.384) the purpose of the case study approach is to gather comprehensive, systematic and in-depth information about each case. The case can be an individual, a program, an institution or a group. This approach can be particularly useful when the study aims to understand some special situation in great depth (p.54). For these reasons, I chose to use a case study approach to examine the interactions between one Reading Recovery teacher and two of her students. As I stated in chapter one, available research suggests that there is something about these interactions that leads to a child's accelerated learning.

To examine this, I conducted a case study of one particular Reading Recovery teacher. Within that case study I conducted individual case studies of two of the students in her program.

My rationale for conducting case studies on two of the Reading Recovery teacher’s students was related to my research questions. My questions are largely descriptive in an attempt to characterize the patterns of talk between teacher and child and relate these patterns to the child’s changing reading behaviors. In order to have a fuller description of these patterns of interactions I asked the Reading Recovery teacher to allow me to observe her working with two different kinds of students: one who might make quick gains in the program and the other who might not. (I will elaborate further on the process of selecting students for the study in another section in this chapter). I felt I would have a richer sense of patterns of interaction within this particular context of one-to-one tutoring.
Context Of The Study

I focused my data collection on the portion of the lesson in which a new book was introduced to the child and he attempted to read it. This portion of the lesson always occurred at the end of the 30 minute tutorial; usually lasting approximately ten minutes. First I will describe the routine of the Reading Recovery lesson that I observed in this study and then I will provide a rationale for examining this particular portion of the lesson study.

The lesson activities were organized within three distinct phases. Generally speaking, during the first ten minutes of a lesson the student read two to three books which were familiar to him. This was followed by an independent reading activity in which the student read a story that he had read for the first time during the previous lesson, while the teacher, acting strictly as an observer, recorded all of his oral reading behaviors. Finally, during this first phase the student was engaged in a letter or word-study activity using magnetic letters.

During the second distinct phase of the lesson, the student wrote a short story in a writing notebook. The teacher provided various levels of support to the student during this activity. Once the story was written the teacher, having written the sentence(s) on a strip of paper, would cut up the story into either phrases, words, syllables or phonemes depending on the level of analysis chosen by the teacher for that child. The student then reassembled the story.

During the third phase of the lesson, the phase that was the focus of this study, the teacher introduced a new book to the student and the student read it as independently as possible. The teacher provided various kinds of support to the student during the reading. This is the portion of the lesson that I proposed to study. Figure 3 illustrates the routine of the Reading Recovery lesson and the phase of the lesson which I examined.
Figure 3. Routine of Reading Recovery Lessons in this Study*

My rationale for collecting data from this last portion of the lesson lies in the purpose of my study and the questions that I proposed to research. As I stated earlier, one purpose of this study was to relate a child’s growing literacy understandings to the kinds of language interactions with his teacher.

In the pilot study that I conducted, I found that this last portion of the lesson, when the child reads a new book with the teacher’s support, was most rich in interactions. By contrast, during the first portion of the lesson, the child reads familiar books with little or no interaction from the teacher during the reading. Therefore in order to describe the interactions between teacher and student and relate these to the child’s growing abilities as a reader, I decided to collect data from the third portion of the lesson when the child reads a new book with the teacher’s help.
Data Gathering - Gathering Access And Selection

The selection of the Reading Recovery teacher, whom I shall call Adrienne, was based on several factors. First, because I planned to study language and learning within an effective one-to-one tutoring program, it was important to ensure that the teacher was also effective. This judgment was based, in part, on a recommendation from Adrienne's Reading Recovery teacher leader. One of the roles of a teacher leader is to train Reading Recovery teachers within her site, thereby making the teacher leader a likely person who can identify expert Reading Recovery teachers.

Second, I also examined Adrienne's discontinuing rate for the last three years. Discontinuing rate refers to the number of children who have successfully completed the Reading Recovery program by reaching the average reading level of their peers. The Reading Recovery Council of North America (RRCNA) agreed to give me access to at least two data sets for two sites in the same state so that I could ascertain these discontinuing rates. Adrienne had at least a rate of discontinuing that was equal to or greater than the average rate of discontinuing for other Reading Recovery teachers in her state.

As well, I secured the permission of several individuals in order to proceed with this study. Along with the agreement of the Reading Recovery teacher, I also obtained the permission of the caregivers of the teacher's two students, as well as the principal of the school, the school district and the Ohio State University's Human Subjects Review Board. See Appendix A for copies of these letters.

The selection of the students was largely left to Adrienne. I asked her to choose two of her four students who, based on the results of An Observation Survey of Early Literacy Achievement (OS) (Clay, 1993a), were likely to make different kinds of progress from each other. At the outset of the program the OS is individually administered by the Reading Recovery teacher to all first graders in order to determine who qualifies for Reading Recovery services.
The OS is composed of six literacy tasks which include the following:

1. Letter identification (LI) which measures how many upper and lower case letters a child can identify by either name, sound or a word that starts like that. The highest score that can be achieved is 54. (The two extra letters include the typewritten “g” and “a”).

2. Word Identification (WI) task which measures how many words a child can correctly identify from a list of 20 words. These words are high frequency words that commonly appear in basal readers for young children.

3. Concepts About Print (CAP) contains a set of questions asked while the teacher reads a book to the child to examine the child’s concepts or understandings about print. The highest score that can be achieved is 24.

4. Hearing and Recording Sounds in Words (HRSIW) measures how many phonemes a student can hear and record when dictated a sentence that contains 37 phonemes.

5. Writing Vocabulary (WV) measures the number of words that a child can write in 10 minutes. There is no ceiling score on this task.

6. Text Reading Level (TRL) involves having the child read aloud while the teacher records the child’s oral reading behaviors. The highest level at which the child reads with no less that 90 percent accuracy is considered the child’s instructional text reading level.

The text reading levels that have been developed for use by the Reading Recovery program are applied to children’s trade books and are decided upon by a committee of The Reading Recovery Council of North America. The lowest level books are at Levels B and A and are equivalent to a basal readiness level. Generally, books within levels 1-4 rely on oral language structures and usually have 1-2 sentence patterns that comprise the text of the entire story. Very often there is a good match between the pictures and the print on the page making the text highly predictable for a child just emerging into literacy. Books within levels 5-8 still rely on oral language structures but there is more variation in the vocabulary.
of the story. By levels 9-12, the illustrations of the story provide only moderate support to the text and there are by now, 3 or more sentence patterns in the story. These sentence patterns become quite varied by levels 13-15 and now include written language structures that might be rare in oral language (for example, "Once upon a time..."). Beyond level 15 the stories become more episodic and the pictures provide only low support requiring the student to rely heavily on the print for the message of the story (Peterson, 1991, p.135).

On the basis of the OS results, Adrienne selected John and Nathaniel to take part in the study. Table 4 summarizes the results.

<table>
<thead>
<tr>
<th>Observation Survey Tasks</th>
<th>Range of Possible Scores</th>
<th>John</th>
<th>Nathaniel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Identification (LI)</td>
<td>0-54</td>
<td>51</td>
<td>24</td>
</tr>
<tr>
<td>Word Test (WT)</td>
<td>0-20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Concepts About Print (CAP)</td>
<td>0-24</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Writing Vocabulary (WV)</td>
<td>Timed task: 10 minutes, no ceiling score</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Hearing and Recording Sounds in Words (HRSIW)</td>
<td>0-37</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Text Reading Level (TRL)</td>
<td>A-24</td>
<td>1</td>
<td>A</td>
</tr>
</tbody>
</table>

Table 4. Fall Observation Survey Results for John and Nathaniel

Nathaniel scored lower than John on each task of the OS except HRSIW and CAP. In analyzing the results, Adrienne noted that Nathaniel was not looking at the print and did not understand the concept of one-to-one matching. Although he knew that print contains the message and that print operates from left to right across a page, he knew few letters and words to aid him with reading.

John also knew that the text contained the message and that print operates from left to right. Like Nathaniel, John did not attend to the print while reading, instead he used his
oral language to approximate the text based on what the teacher told him about the story. Unlike Nathaniel, John was able to identify many more letters of the alphabet and he was able to form these letters fairly easily on the writing tasks.

While it is impossible to predict each child's progress based on the results on the OS, I asked Adrienne to choose two students: one student who might make fast progress and another who might not make as fast progress. I did this because I hoped to be able to observe Adrienne interact with two students who were making different kinds of progress. This would provide richer data about the nature of student-teacher interactions.

**Qualitative Measures**

Reading Recovery lessons tend to last for 30 minutes, daily, for approximately 12-20 weeks (Reading Recovery Executive Summary, 1997). Each teacher works individually with four students during this time period. Therefore I collected data on one exemplary Reading Recovery teacher and two of her students over the course of twelve weeks. Students were not finished with the program by the end of twelve weeks but because my research questions are aimed at describing the pattern of interaction between child and student, twelve weeks was sufficient for patterns to emerge.

Glesne and Peshkin (1992) recommend the use of “multiple data collection methods” (p.24) to contribute to the trustworthiness of the data collected. They note that this process is often referred to as triangulation and that three data gathering techniques have dominated in qualitative research: participant observation, interviewing and document collection (See Figure 4).

![Figure 4. Triangulation of Data (Glesne & Peshkin, 1992, p.24)](image-url)
In the following sections I will describe in detail what sorts of data were collected, using these three methods. See Table 5 at the end of this chapter for an overview of my data collection schedule.

**Participation Observation**

Glesne and Peshkin (1992) describe the main outcome of participation observation as understanding the research setting, its participants and their behavior (p. 42). Participant observation occurs along a continuum, from mostly participant to mostly observer (Glesne & Peshkin, 1992, p. 40; Patton, 1990, p. 217). At one end of the continuum, the full participant takes part in the research setting much like one of the members of the setting. At the other end of the continuum, the observer has no role to play in the setting. Glesne and Peshkin (1992) give as an example of researcher as observer, a researcher who views a lesson through a one-way mirror. Often in this case, when the researcher is completely observer, the subjects do not know they are being observed for a study.

The context of my study meant that my role fell further on the continuum as observer than participant. In order to observe the interactions between an effective Reading Recovery teacher and her students I could not take part in the teaching. However I was not strictly an observer. The participants in the study were aware of my presence. In addition, I did have many conversations with the teacher about the students. Because I was neither full participant nor complete observer, I will refer to my role as observer participant in the remainder of this study.

I videotaped two consecutive Reading Recovery lessons for both students every three weeks. Video taping is an accepted method of documenting verbal and nonverbal communication (Marshall & Rossman, 1995). This yielded data from eight lessons for each child, or 16 lessons in total for the two children. I chose these weeks in particular because they are equally spaced over the twelve week period of the study. I did not include
weeks one and two because the Reading Recovery teacher usually does not begin the routine of lessons until the third week. Instead, the first and second weeks are a time for the teacher to observe the child reading and writing, all the while developing an intimate picture of the child’s strengths and needs with literacy.

Figure 5 illustrates the consecutive lessons that were videotaped and when they occurred within the twelve week study.

![Figure 5. Timing of Videotaped Observations for Each Student](image)

In order to aid my immersion into the setting, I also observed each child twice a week on consecutive days for the duration of the study. This meant that I observed each child twice during weeks one, two, four, five, seven, eight, ten and eleven. During weeks three, six, nine and twelve I observed the students and videotaped at the same time for a total of 24 observations per child.

In addition, each lesson for both children was audio taped daily for the duration of the study. During their lesson, the student wore a small clip-on microphone and a lightweight tape recorder stored in a pouch strapped about the waist. Initially I was concerned that the student might feel self-conscious or uncomfortable wearing the pouch and microphone. However, they became accustomed to the equipment very quickly. Jonathan was soon able to attach the clip-on microphone to his shirt and several times both students nearly left the room at the end of the lesson without removing the waist pack.
I also observed each child in their classrooms, once every two weeks, during a regularly scheduled read-aloud time. These read aloud sessions lasted 30 minutes in both Nick and Jonathan's classrooms. Each student was expected to select several books from baskets around the room and to read independently or with a friend for the 30 minutes. During this time, the classroom teacher went from student to student, either listening to them read or reading to them.

During each read aloud session, the student wore the clip-on microphone and waist pack with tape recorder in it. I sat as unobtrusively as possible elsewhere in the classroom and wrote field notes while the students read. Jonathan seemed not to mind wearing the equipment. His classmates asked him several times why he had to wear the waist pack but soon stopped asking. However, Nathaniel never seemed comfortable wearing the waist pack and microphone in his classroom. I was able to collect these data on only two occasions instead of four as I had planned. On the third planned session I took field notes only during Nathaniel's read aloud session and on the fourth session he did not take part in any reading activities at all.

Document Analysis

I photocopied all lesson records for both children. The lesson record contains two forms: one which contains the teacher's plan for that day, including information about the books that the student read, the story he wrote and also the teacher's observational notes. A sample lesson plan is provided in Appendix B.

Occasionally these observational notes would include the student's substitutions at difficulty when reading familiar or new texts. Usually, the teacher would describe how the student responded when they used magnetic letters to do isolated word work. She also usually noted some anecdotal comments on the lesson record, writing for example on one occasion: "Tougher with him, tired of his behavior, needs to learn sounds".
The second form, the running record, is a written notation of the student’s oral reading behaviors when he read a book independently that day. It is a record of all the child’s reading behaviors, including words omitted, inserted, substituted, when the student reread and how much text was included in the rereading, any errors that the student self-corrected or the teacher told because the student could not problem solve on his own. Each word read accurately is noted with a ✓. A sample daily running record form is located in Appendix C. I used the running records to inform me about the child’s changing independent reading behaviors over time by noting in particular, the child’s plan at difficulty.

The daily lesson records, including the lesson plan and running record, gave me a better sense of the continuity of the lessons on the days that I was not present to observe. They also provided me with a complete record of the lessons in case I needed to do a more in-depth analysis of a particular child.

Interviews

Marshall and Rossman (1995, p.102) state that within the role as observer as participant, it may be useful to use unstructured interviews as a method to gather data. This method of data collection has been referred to as “a conversation with a purpose” (Kahn & Cannell, 1957 cited in Marshall & Rossman, 1995, p.80) and varies in terms of the amount of pre-set structure that the interviewer employs. Patton (1990, p.280) calls this kind of interview an “informal conversational interview” and describes it as one of three variations that may occur in qualitative interviewing.

On each of my 24 visits to the school I conducted unstructured interviews with Adrienne between each student’s lesson and after both lessons. My purpose was always to hear the teacher’s perspective on the students’ progress and also to understand more about the teacher’s decision-making during the lessons. The teacher usually did not need any
prompt to begin talking; often she began her own analysis of the lesson as soon as the student left the room. In keeping with my purpose to understand better the teacher's perspective I avoided making evaluative comments about the students' progress unless Adrienne directly asked for my opinion.

The character of these interviews can best be described by Patton (1990) who said that this kind of interview “...relies entirely on the spontaneous generation of questions in the natural flow of an interaction...” and that “…the persons being talked with may not even realize they are being interviewed” (p.280).

I either took notes after we spoke or more often, left the video camera or tape recorder running between lessons and after the last lesson to record our conversations. Later I made written notes from the audio and video tapes. In analyzing these notes, I focused on four kinds of comments that the teacher usually made during the course of these interviews: descriptive evaluative, hypothesizing and plan of action comments.

1. Descriptive comments: The teacher recounted something that had occurred. For example, “He read all level three books today.”

2. Evaluative comments: The teacher evaluated the student’s behavior. For example, “The book should have been easy for him because there was only one word that he didn’t know.”

3. Hypothesizing comments: The teacher described her theory about the student’s reading behaviors. For example: “It’s not easy for him to learn the sounds and he can’t really do a lot more reading until he learns those sounds.”

4. Plan of action comments: The teacher described what she planned to try next with the student: “I’ll use the alphabet chart with the game so he can know the letters better.”

I was assisted by these data to understand the teacher’s perspective on her student’s progress and also her decision-making during the lessons.
Quantitative Measure: The Observation Survey

I also photocopied the results of Clay’s Observation Survey (described in detail earlier in this chapter) which is given to each child before the start of the program and at the end of the program. The Observation Survey provided me with important baseline data about each child’s understandings about print. It also provided a means to objectively compare each student’s progress on six literacy-related tasks from the beginning of the program to the end of the study.
Summary Of Data Collection Procedures

Table 5 outlines the data collection which I described in the preceding sections.

<table>
<thead>
<tr>
<th>Data collected</th>
<th>Weeks of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation survey results collected at the beginning and end of the program</td>
<td>X</td>
</tr>
<tr>
<td>2 consecutive lessons are video taped at four points in time. N=8</td>
<td>X.X</td>
</tr>
<tr>
<td>Observe each child's Reading Recovery lesson twice a week on consecutive days (when not videotaping) N=16</td>
<td>X.X</td>
</tr>
<tr>
<td>Daily lesson records are photocopied</td>
<td>X X X X X X X X X X X X X X</td>
</tr>
<tr>
<td>Lessons are audio taped daily N=40</td>
<td>X X X X X X X X X X X X</td>
</tr>
<tr>
<td>Unstructured interviews are conducted with the Reading Recovery teacher</td>
<td>X.X</td>
</tr>
<tr>
<td>Each child is observed in their classroom during read aloud time. N=4</td>
<td>X X X X</td>
</tr>
</tbody>
</table>

*X refers to one student in the study. Data were collected for the other student using the same schedule.

Table 5. Data Collection Schedule for Each Student
Table 6 outlines how I used the data to inform my research questions.

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Data Collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What is the nature of the interaction, as characterized by the patterns of talk,</td>
<td>• 2 consecutive lessons are videotaped at four points in time, for each child.</td>
</tr>
<tr>
<td>between teacher and child when the child reads a new book with the teacher’s support?</td>
<td>• Lessons are audio taped daily.</td>
</tr>
<tr>
<td></td>
<td>• Observe each child’s Reading Recovery lessons twice a week (when not</td>
</tr>
<tr>
<td></td>
<td>videotaping) for a total of 16 observations per child.</td>
</tr>
<tr>
<td>2. How do the patterns of interaction between teacher and child change, in relation</td>
<td>• Observation survey results collected</td>
</tr>
<tr>
<td>to the child’s changing reading behaviors?</td>
<td>• 2 consecutive lessons are videotaped at four points in time, for each child.</td>
</tr>
<tr>
<td></td>
<td>• Lessons are audio taped daily.</td>
</tr>
<tr>
<td></td>
<td>• Daily lesson records are photocopied.</td>
</tr>
<tr>
<td></td>
<td>• Observe each child’s Reading Recovery lessons twice a week (when not</td>
</tr>
<tr>
<td></td>
<td>videotaping) for a total of 16 observations per child.</td>
</tr>
<tr>
<td>3. How does the pattern of interaction during critical learning moments further the</td>
<td>• 2 consecutive lessons are videotaped at four points in time, for each child.</td>
</tr>
<tr>
<td>child’s literacy acquisition?</td>
<td>• Lessons are audio taped daily.</td>
</tr>
<tr>
<td></td>
<td>• Observe each child’s Reading Recovery lessons twice a week (when not</td>
</tr>
<tr>
<td></td>
<td>videotaping) for a total of 16 observations per child.</td>
</tr>
<tr>
<td></td>
<td>• Observe students every two weeks in classroom during read-alouds.</td>
</tr>
</tbody>
</table>

Table 6. Rationale for Data Collection

I was able to gather the data with minimum intrusion into the setting. According to the teacher, the format of the Reading Recovery lesson was not altered in any way by my presence. On the days that I videotaped I set up the video camera before the lesson began. I did not ask the children to be involved in any way than would normally be expected by their participation in the Reading Recovery program.

In the following section I will review the three step process that I used to analyze the data.
Data Analysis

In the following sections, I will describe the three levels of my data analysis: data organization, creating typologies, and describing the changing reading behaviors of the students. In the first level, I organized the data by applying two sensitizing concepts that had emerged from my pilot study. As part of the second level of analysis, I created a typology, or classification system to make explicit, patterns of interactions that appeared to exist within the data. This analysis enabled me to construct hypotheses to respond to my three research questions. Finally, I also analyzed the running records at four points in time (the days that I video taped the students’ lessons) and the classroom audio tapes of the child reading aloud, describe the student’s changing reading behaviors over time. Before I discuss each level of data analysis in detail, I will first review my research question:

1. What is the nature of the interaction, as characterized by the patterns of talk, between teacher and child when the child reads a new book with the teacher’s support?
2. How do the patterns of interaction between teacher and child change, in relation to the child’s changing reading behaviors?
3. How does the pattern of interaction during critical learning moments further the child’s literacy acquisition?

First Level Of Data Analysis: Organization

The first step in data analysis is to organize the data (Marshall & Rossman, 1995; Patton, 1990). In order to do this, I examined all the videotaped lessons for both Nathaniel and John looking for cycles of interaction between the teacher and child. Before I discuss how I organized the data around cycles of interactions, I will first define what “interaction” means in the context of this study.
In a pilot study that I conducted earlier in the year, I found that the student’s reading of a new book could be characterized by accurate reading, independent problem solving and also brief periods of interacting with the teacher (Rodgers, 1998). I found that these interactions between student and teacher occurred often, but not exclusively, around points of difficulty when the student needed the teacher’s support to problem solve a word.

These periods of interacting are similar to Sinclair and Coulthard’s “exchanges” (Sinclair & Coulthard, 1975, p. 49). According to Sinclair and Coulthard, an exchange is a unit of interaction between teacher and student, the most common type consisting of an initiation by the teacher, a response by the student, followed by feedback by the teacher.

Hobsbaum, Peters and Sylva (1996) described a similar type of structure in their observations of the writing component of Reading Recovery lessons. They termed these interactions “talk cycles” because they found cycles of teacher and student talk around the construction of individual words while they wrote a story together (p.24).

In my pilot study I also defined these interactions as “talk cycles” in that they were cycles of talk between the student and teacher which punctuated the student’s independent reading of the new book. I have provided an example of a talk cycle, or interaction, from my pilot study, in Table 7.
In the example provided by Table 7, Ellen the student, is reading a new book. She had been reading accurately and problem solving independently until she came to a place in the text where she experienced some difficulty. The cycle or interaction began when Ellen asked the teacher, “Isn’t it a woman?” and continued until the teacher said, “I’m so glad you decided to look”. After the teacher’s last comment Ellen continued to read, marking the end of this particular talk cycle. I found in the pilot study that during Ellen’s reading of the new book, there were sometimes as many as 13 talk cycles between Ellen and her teacher (or one cycle for every 16 words read) or as few as four cycles (one cycle for every 33 words read).

Another important concept that emerged from my pilot study data is that of “moves”. Sinclair and Coulthard identified “moves” as the units which make up exchanges between teacher and student (Sinclair & Coulthard, 1975, p.44). Essentially, they are the turns that the teacher and student take, during an exchange or talk cycle. Table 8 provides
an example of a talk cycle from my pilot study data. This is the same table as Table 7, this
time with the moves identified.

<table>
<thead>
<tr>
<th>Student Move: Letters for Mr. James</th>
<th>Teacher Move: WELL WHY DON'T YOU CHECK TO SEE WHICH IT IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letters for Mr. James</td>
<td>(Laughs) It says man, oh, mailwoman (covers “post” leaving “woman” visible)</td>
</tr>
<tr>
<td>Any letters for me today</td>
<td>I didn’t look (covers “wo”, leaving “man” visible)</td>
</tr>
<tr>
<td>Mr. James asked the mailman</td>
<td>and I (covers “woman” leaving only “w” visible)</td>
</tr>
<tr>
<td>(to the teacher) isn’t it a woman?</td>
<td>didn’t see that (covers all but “man”) at the end</td>
</tr>
</tbody>
</table>

Table 8. Example of Student and Teacher Moves Within A Talk Cycle

The notions of talk cycles and moves can be regarded as sensitizing concepts which
I brought to the data to “...provide directions along which to look” (Patton, 1990, p.391).
In this first level of data analysis, I inductively applied these sensitizing concepts to the
data. Patton explains that the purpose of applying sensitizing concepts to data is to
“...examine how the concept is manifest in a particular setting or among a particular group
of people” (p.391). In this particular case, I had identified talk cycles in my pilot study as
moments of interactions between the teacher and student and moves as the turns that the
student and teacher took within the talk cycle. I applied these sensitizing concepts to the
data in my dissertation study. Much of my data analysis had to do with understanding the
moves within talk cycles and relating them to the child’s growing literacy understandings.

Table 9 summarizes my definitions of talk cycles and moves.

<table>
<thead>
<tr>
<th>Definition of Terms: Talk Cycles and Moves</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Talk Cycle</strong></td>
</tr>
<tr>
<td><strong>Move</strong></td>
</tr>
</tbody>
</table>

Table 9. Definitions of Talk Cycles and Moves

The first step in my data analysis was to organize the data. In order to do this, I viewed each videotaped lesson in its entirety. Then, applying the sensitizing concept of talk cycles, I catalogued each student and teacher interaction during the reading of a new book and recorded the occurrences of the talk cycles. I did not transcribe the talk cycles, instead I summarized the character of each interaction. My goal was simply to catalogue each interaction so that I could easily find them on the videotapes. This procedure is in keeping with that suggested by Marshall and Rossman (1995, p.113) who recommend that the first step in data analysis is to develop a schema to record data to make them easily retrievable. I organized my data in tables, such as the one in Table 10.
Table 10. Sample of Method Used To Catalogue Talk Cycles

The last column of each table contains an inventory of each talk cycle. The numbers refer to the counter on the video tape player that I used to view each video tape and indicate where on the tape each talk cycle occurred. I catalogued every talk cycle for each videotaped lesson for both Nathaniel and John, in this manner. Once I had organized the data in this manner I began the second level of data analysis: creating typologies to make explicit patterns within the data.
Second Level Of Data Analysis: Creating Typologies

I had already organized my data around the sensitizing concepts of talk cycles and moves and listed the available data in tables such as the example provided by Table 10.

At this level of analysis, I created typologies to describe the data contained in the talk cycles. Patton (1990) describes the task as thus: “The second task of induction, then, is for the analyst to look for patterns, categories, and themes for which a typology can be constructed by the analyst to elucidate the findings” (p.398). Patton defines typologies as “…classification systems made up of categories that divide some aspect of the world into parts” (p.393). My task was to create typologies that would make sense of the teacher-student interactions within the talk cycles.

Earlier I described how I used inductive analysis to discern patterns of moves, within talk cycles. This simply refers to the teacher’s or student’s turn taking within a talk cycle or interaction. Analyzing these moves, a theme soon emerged. It appeared to me that most if not all of the teacher’s moves were made to propel the student further in his reading of the new book. Initially, I coded the teacher’s moves simply as being either helpful or non-helpful in getting the student past the difficulty he had encountered in his reading of the new book. A helpful move is one that moved the student further along, while a non-helpful move appeared to be a “shot in the dark” and not successful in moving the student further in his problem solving. I created a typology or classification system to represent these teacher and student moves to show how they related to each other. An example should clarify what I mean.

Table 11 is an example of a typology of a talk cycle from my pilot study. That table is followed by Table 12 which provides a transcription of the talk cycle. Following these two tables, I will construct the typology, one move at a time so that the reader can see how the teacher and student moves comprise the typology.
Table 11. Typology Example of One Student-Teacher Interaction

<table>
<thead>
<tr>
<th>Talk Cycle</th>
<th>Ellen 4/30 New Book: Rosie at the Zoo</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Move</td>
<td>It, it, (long pause)</td>
<td></td>
</tr>
<tr>
<td>T'er Move: A</td>
<td>IT'S GOING TO GIVE HER A SHOWER ISN'T IT? (pointing to picture)</td>
<td></td>
</tr>
<tr>
<td>Child Move</td>
<td>/uh-huh/*</td>
<td></td>
</tr>
<tr>
<td>T'er Move: T'er Move:</td>
<td>/YEAH/</td>
<td></td>
</tr>
<tr>
<td>T'er Move: B</td>
<td>WHAT DOES IT DO /NOW/?</td>
<td></td>
</tr>
<tr>
<td>Child Move</td>
<td>/lah .../ (C puts her finger under the word “lifted”)</td>
<td></td>
</tr>
<tr>
<td>T'er Move: C</td>
<td>DOES THAT MAKE SENSE?</td>
<td></td>
</tr>
<tr>
<td>Child Move</td>
<td>(Continues to read)</td>
<td></td>
</tr>
</tbody>
</table>

*Parallel slashes (//) indicate that the teacher and student spoke simultaneously.*

Table 12. Accompanying Transcription for Table 11
Next, I will construct the typology in Table 13 one move at a time. The final typology will be the one represented in Table 12 above.

The student, Ellen, has been reading accurately and problem solving independently until she came to the word “lifted”. Ellen made no attempt to read the word aloud, instead she repeated the word that came before, “It, it…” This is Ellen’s first move and it is depicted as a horizontal line with the notation underneath that Ellen has not attempted to say the word “lifted”.

After a long pause, the teacher then makes the second move - this is noted by the capital letter A on the typology of the interaction, Table 12. The teacher’s move consists of a comment on the story, she says, “It’s going to give her a shower isn’t it.” I have depicted this move as a dashed vertical line.

If the teacher’s move had taken Ellen further in her problem solving, then Ellen’s next move (the third move) would be drawn on top of the teacher’s move to look like a step, much like this:
However, it seems that the teacher's move of saying, "It's going to give her a shower isn't it" doesn't move Ellen ahead in her problem solving because Ellen's response is simply to say "uh-huh". Because the teacher's move does not take Ellen further in her problem solving, then Ellen's responding move is depicted as another horizontal line:

```
  ▼-------
  |
  |
```

The teacher's next move is to pose a question to Ellen: "What does it do now?" This move is represented in the typology as another vertical, dashed line, and is noted by the capital letter B in Table 12. Now the typology looks like this:

```
  ▼-------
  |
  |
  ▼-------
```

This move by the teacher seems to have been successful in bringing Ellen further along in her problem solving because Ellen's next move consists of: "lah, lifted". Because the
teacher’s move seems to have propelled Ellen further along. Ellen’s move is drawn as a solid line above the teacher’s last move; much like a step.

The teacher follows Ellen’s move by asking a question, “Does that make sense?”

This question is represented in Table 12 as the capital letter C. The typology now looks like this:

It is unclear whether or not the teacher’s last move has moved Ellen further along, however, because the student continues to read on, then her move is represented as another step: a solid line above the teacher’s last move:
A typology was created in this manner for every teacher and student interaction for both Nathaniel and John, at four points in time: weeks three, six, nine and twelve.

Patton (1990) notes that one way to see if analyst-created topologies are accurate and useful is to share them with a member of the group being studied to see if they make sense to someone on the “inside”. I shared the typologies that I had created, with other trained Reading Recovery teachers who all agreed that the visual representation of the interactions that the typology provided, made sense to them.

The next step in my data analysis was to examine the descriptions of the interactions provided by the typologies to see which categories of teacher talk emerged. I coded the teacher moves in six ways: demonstrating, questioning, telling, confirming, praising and directing. These categories of moves emerged through inductive analysis of the data and were checked against another coder who was a trained Reading Recovery teacher. Agreement was reached on 88% of the codes.
<table>
<thead>
<tr>
<th>Questioning (Q):</th>
<th>Telling (T):</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher asks the student a question.</td>
<td>The teacher reveals or tells the student.</td>
</tr>
<tr>
<td>Examples:</td>
<td>Examples:</td>
</tr>
<tr>
<td>Are you right?</td>
<td>That word is girl.</td>
</tr>
<tr>
<td>Does it say leopard or lady?</td>
<td>You skipped a page.</td>
</tr>
<tr>
<td></td>
<td>That didn’t sound right to me.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Directing (D):</th>
<th>Demonstrating (De):</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher directs the student to take a</td>
<td>The teacher takes the student’s role and</td>
</tr>
<tr>
<td>specific action</td>
<td>demonstrates a problem solving action.</td>
</tr>
<tr>
<td>Examples:</td>
<td>Examples:</td>
</tr>
<tr>
<td>Check it to make sure you’re right.</td>
<td>The teacher rereads.</td>
</tr>
<tr>
<td>Use the first sound and read that again.</td>
<td>The teacher articulates the first sound</td>
</tr>
<tr>
<td></td>
<td>of a word.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Praising (P):</th>
<th>Confirming (C):</th>
</tr>
</thead>
<tbody>
<tr>
<td>The teacher praises the student.</td>
<td>The teacher confirms for the student.</td>
</tr>
<tr>
<td>Examples:</td>
<td>Examples:</td>
</tr>
<tr>
<td>Good job!</td>
<td>You’re right, it does say “can”.</td>
</tr>
<tr>
<td>I like the way you tried the first sound.</td>
<td></td>
</tr>
</tbody>
</table>

Table 13. Categories of Teacher Moves

Creating typologies and coding the teacher moves assisted me in conducting a content analysis of the data in order to respond to my first research question:

What is the nature of the interaction, as characterized by the patterns of talk, between teacher and child when the child reads a new book with the teacher’s support?

In order to respond to the second and third research questions, I needed to relate my findings from question one, to the student’s changing reading behaviors of time. This was my third level of data analyses.

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Third Level Of Data Analysis: Describing The Student’s Changing Reading Behaviors

In order to describe each student’s changing reading behaviors over time, I examined their plans of action at difficulty while reading aloud in their classroom during read aloud time and also their running records from the days that I videotaped their lessons. My purpose was to describe what the students did at difficulty when they were reading independently.

I described the actions they took whenever they came to a point of difficulty by transcribing what they said and did. I analyzed each transcription, and looked for patterns of responding. Patterns emerged within each lesson for each student and I was able to construct a picture of each child as a reader at four points in time, over the course of the study.

Summary

The major purpose of my study was to relate a child’s growing understandings about literacy to his language interactions with his teacher during one-to-one literacy instruction. I hypothesized that a closer look at the nature of the talk between child and tutor might reveal how the adult is able to scaffold the child’s literacy learning. I proposed to describe these interactions from within the context of one effective literacy tutoring program: Reading Recovery.

As I described in this chapter, I collected data on one effective Reading Recovery teacher and two of her students. The data included video tapes, audio tapes, related documents, and my own field notes.

I analyzed the data on three levels: first by organizing the data, then by creating typologies to describe the interactions between teacher and students and finally, by describing the students’ reading behaviors at four points in time.

In the next chapter, I will report my findings as they relate to my three research questions.
CHAPTER 4

Findings

Introduction

The purpose of my study was to relate a child’s growing understandings about literacy to the interactions with his teacher when he read a new book with her support. The following research questions guided my inquiry:

1. What is the nature of the interaction, as characterized by the patterns of talk, between teacher and child when the child reads a new book with the teacher’s support?

2. How do the patterns of interaction between teacher and child change, in relation to the child’s changing reading behaviors?

3. How does the pattern of interaction during critical learning moments further the child’s literacy acquisition?

In response to question one, in order to characterize the patterns of talk between the student and teacher I examined the ratio of cycles to words read in each of the lessons during the focus week of the study. I also described the division of moves within the cycles. By conducting these analyses I was able to draw conclusions about the nature of the talk at difficulty.

I conducted a more detailed analysis of the talk by coding the teacher moves and creating typologies of the scaffolds that were created by the teacher and student in their interactions. This allowed me to respond in part, to question two. Also, as part of question two, I characterized the child’s changing reading behaviors over time through an
examination of their action at difficulty when they read independently. I related the
students’ changing reading behaviors to the patterns of interacting with their teacher.

Finally, in response to question three, I discussed how these patterns of interaction
may have influenced one student becoming a self-regulated reader and the other remaining
self-controlled.

Comparison Of Students’ Progress

John and Nathaniel were selected for this study by their teacher because she thought
that they might make different kinds of progress from one another. Primarily, she based
this judgment on their initial Observation Survey (OS) scores, in particular the letter
identification task. On that task, students are asked to identify 54 letters (lower and upper
case letters and the typewritten “g” and “a”), either by name, sound or by a word that starts
like that. When the OS was first given, John correctly identified 51 letters while Nathaniel
identified only 24. On the remaining tasks, both students received similar scores. (See
chapter three for a more detailed discussion about John and Nathaniel’s OS entry scores).

By the end of the study it became apparent that John had made significantly more
progress in both reading and writing, than Nathaniel. Evidence to support this finding
comes from two sources: a comparison of the students’ pre and post OS scores and an
examination of the changes in their text reading levels over the course of the study. I will
discuss these results in detail in the next two sections.

Comparison Of Pre And Post OS Scores

When the OS was first administered Nathaniel and John’s scores were very similar
on every task except Letter Identification. However when the OS was re-administered,
there was a marked difference between Nathaniel and John’s scores on nearly every task.
Table 14 displays both students’ pre and post OS scores.
<table>
<thead>
<tr>
<th>Observation Survey Tasks</th>
<th>John Pre</th>
<th>Nathaniel Pre</th>
<th>John Post</th>
<th>Nathaniel Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Identification (LI)</td>
<td>51</td>
<td>24</td>
<td>53</td>
<td>49</td>
</tr>
<tr>
<td>Range: 0-54</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Word Test (WT)</td>
<td>2</td>
<td>0</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Range: 0-20</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concepts About Print (CAP)</td>
<td>12</td>
<td>12</td>
<td>21</td>
<td>Not tested</td>
</tr>
<tr>
<td>Range: 0-24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Writing Vocabulary (WV)</td>
<td>6</td>
<td>5</td>
<td>41</td>
<td>24</td>
</tr>
<tr>
<td>Timed task: 10 minutes.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing and Recording Sounds in Words (HRSIW)</td>
<td>1</td>
<td>5</td>
<td>34</td>
<td>29</td>
</tr>
<tr>
<td>Range: 0-37</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text Reading Level (TRL)*</td>
<td>1</td>
<td>A</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Range: A-24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*In chapter three I described the characteristics of the book levels used in the Reading Recovery program (Peterson, 1991).

Table 14. Pre and Post Observation Survey Scores

It is apparent from these pre and post OS scores that after 14 weeks in the tutorial program both students made progress. By the end of the program Nathaniel could identify 49 letters, a substantial improvement from 24 letters when he entered the program. He could hear and record 29 phonemes, up from just 5, 14 weeks earlier. Also, he wrote 24 words in 10 minutes on the Writing Vocabulary task, compared to 5 words when he entered the program.

However, John seems to have made more significant gains than Nathaniel. John was able to identify half of the words on the Word Test and he could write 41 words in 10 minutes on the Writing Vocabulary task, compared to 6 words 14 weeks earlier. Significantly, John could hear and record 33 more phonemes at the end of the program while Nathaniel could hear and record just 19 more.
Perhaps even more telling is the difference in John and Nathaniel's text reading levels on the pre and post OS administrations. Even though they both began at a similar level, John was able to read at level 8 when given the OS at the end of the study, while Nathaniel could only read at level 3. In other words, John had progressed 7 levels in 14 weeks while Nathaniel had progressed only 3 levels.

It can be inferred from the pre and post OS scores that John has made more gains in reading and writing during the 14 weeks of this study. Further evidence to support this finding comes from both students' record of text reading levels over the course of the study.

Record Of Text Reading Levels

Figure 6 displays each student's text reading levels at weeks three, six, nine and twelve of the study. I obtained these levels from each students' lesson records. They represent the level of the running record book which the student read during the last lesson of that particular week.

Figure 6. Text Reading Levels for John and Nathaniel
It is clear that not only did John consistently read at a higher level than Nathaniel, but also that John continued to make steady progress each week. Nathaniel, who always read at a lower level than John, even dropped a level from 4 to 3 and remained at level 3 for several weeks.

It seems apparent from the pre and post OS scores and the record of text reading levels, that John has made better progress than Nathaniel in reading. How can one account for this difference in progress? How is it that John and Nathaniel could work with the same teacher, who used the same framework for lessons and had access to the same resources, yet John was able to make such fast, dramatic progress and Nathaniel made much smaller gains?

In the remainder of this chapter, I will address this issue by first describing the nature of the interaction between Adrienne and each of her students when the student comes to difficulty while reading a new book. Then I will describe the patterns of interacting between Adrienne and her students and relate them to the students’ changing reading behaviors. Finally, I will discuss how these patterns of interacting further the student’s literacy acquisition.

Nature Of The Interactions

Adrienne’s interactions with Nathaniel and John during the reading of the new book, can be described through an examination of the cycles and moves which made up their talk. I plan to characterize these cycles and moves in two ways: the ratio of cycles to words read at four points in time and the division of teacher and student moves within cycles.
Ratio Of Cycles To Words Read

One way to characterize the teacher-student interactions is to examine the number of cycles, or interactions that occurred during the reading. I counted the number of cycles between Adrienne and each student for two consecutive lessons at four points in time: weeks three, six, nine and twelve of the study. Then I calculated the ratio of cycles between the teacher and student to the total number of words read in each new book for both lessons, for the four focus weeks. “Words read” simply refers to the number of words in the book that the student read during that lesson.

Ratio Of Cycles To Words Read - Adrienne And John.

There were 10 cycles during the two consecutive lessons in week three and John read 120 words in total for both new books. This means there was an average of one cycle for every 12 words that John read. During the two lessons in week six there was one cycle for every 9 words read. In week nine, there was one cycle for every 15 words and in week 12 there was a cycle for every 17 words that John read in the new books.

This information is displayed in the figure below.

Figure 7. Ratio of Cycles to Words Read in John’s Lessons
It is important to explain what may have occurred during week six of the study when there was a high ratio of interactions to words read, between Adrienne and John. It seems that this was an unusual case. I checked the ratio of cycles to running words on other days during that same week and found that most often there was a cycle for every 14 words read, a rate that better fits the emerging pattern of John’s growing independence as a reader. It seems that on one of the days that I had pre-selected to calculate the ratio of cycles to running words, there were significantly more interactions between John and Adrienne than was typical. This may be due to several reasons.

Perhaps the book that day was too difficult for John to read, an idea that is not unlikely when you consider that the teacher’s selection of a new book for the day’s lesson is not based on any predetermined sequence but on the teacher’s understanding of the student’s strengths and needs. An alternative explanation could be that the teacher’s introduction of the story that day was not supportive enough, leaving so much problem solving for John that he needed the teacher’s support more often than usual to read the book. As a result, one might expect more cycles of interactions between the teacher and student. In any case, I feel I can safely conclude that the high ratio of cycles to running words that seems evident in week six of the study is not typical of John’s tutoring lessons.

Ratio Of Cycles To Words Read - Adrienne And Nathaniel.

During two consecutive lessons in week three of the study, there were 14 cycles of interactions between Nathaniel and his teacher. He read 86 words in total in both lessons’ new books which meant that across these two lessons, there was one cycle of interaction for every six words read. In week six, there were 11 cycles and 90 words read, which meant a cycle for every 8 words read. In week 8 there was one cycle for about every 20 words read and in week 12 of the study, there was one cycle for about every 10 words that Nathaniel read. The figure below displays this information.
Week nine, in which there was only one interaction for every 20 words read, deserves further discussion because it does not seem to fit the usual pattern of interactions between Nathaniel and Adrienne. This low ratio of cycles to words read suggests that Nathaniel was reading long stretches of text without support from his teacher.

During one of the two consecutive lessons that week there were no interactions at all with Adrienne. In that lesson, Nathaniel read the new book completely independently. I observed this lesson and noted that Adrienne gave Nathaniel a very supportive introduction to this new book before he read it. The book was about a house, and begins with the sentence, “I made a house with walls.” There was a repeated pattern on each of the following pages that went like this: “and a floor” “and a step”. Adrienne’s introduction was so supportive that she repeated the pattern “and a…” as she introduced the book to Nathaniel and also told him the third new word on each page.

In addition, the illustrations were highly supportive of the text. On each page there was a drawing of the house. Each new part that was being built on was always in a
different color from the rest of the illustration - as Adrienne pointed out to Nathaniel during her introduction.

I asked Adrienne why she made the book so easy for Nathaniel to read and she said that his behavior had been really bad and she suspected it was because he was working so hard in reading. She wanted him to feel some success with reading and to feel good about himself as a reader, therefore she decided to make this particular book very easy to read.

The following lesson that week was more typical. There were four cycles and 31 words read, meaning a ratio of one cycle for every eight words that Nathaniel read. However, because I obtained the ratios for each focus week by the sum of cycles and words read for two consecutive lessons, then the resulting ratio for week 8 was very low: about one cycle for every 20 words read.

**Ratio Of Cycles To Words Read: Comparison Of John And Nathaniel.**

Figure 9 below offers a comparison of Nathaniel and John’s ratio of cycles to words read.

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**Figure 9. Ratio of Cycles to Words Read: John and Nathaniel**

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With the exception of week six, John appears to be reading increasingly more complex text with more and more independence. I can conclude that the text is indeed increasingly more complex because of the evidence from John’s record of text reading level (See Figure 6, “Text Reading Levels for John and Nathaniel”). This record shows that during week three, John was reading text at level four and at week six he was reading at level seven. This rose to level ten by week nine and level 13 by week 12.

Even though John is reading increasingly more difficult text, he is also reading with more and more independence. Evidence to support the view that he is reading with more independence comes from the fact that there are fewer cycles or interactions with his teacher. This is in keeping with my definition of a cycle: an interaction initiated by the child or teacher during the reading of the new book, usually occurring around point of difficulty. When the student is not interacting with the teacher, he is either reading accurately or problem solving independently. Therefore, fewer cycles means fewer occasions when the student needs the teacher’s support to read.

By contrast, although Nathaniel read with increasingly more independence, he did not read with as much independence as John. At the beginning of the study, John read about 12 words at a time before needing support from his teacher, while Nathaniel needed support after reading about six words. At the end of the study John read approximately 17 words without support while Nathaniel required support about every 10 words that he read.

A second critical feature to keep in mind when comparing the ratio of words read to cycles of interactions is that Nathaniel did not read increasingly difficult text as John did throughout the study. At the four points of the study that I focused on (weeks three, six, nine and twelve) John read at levels 4, 7, 10 and 13 while Nathaniel read at levels 3, 4, 3 and 3.
A second way to characterize the teacher - student interactions during the reading of the new book is to calculate the percentage of moves made by student and teacher during the four points in time: weeks three, six, nine and twelve. A move, as I explained in chapter three, refers to each contribution made by student or teacher to a cycle. In the following section I will add the dimension of moves to this description of student-teacher interactions.

**Division Of Teacher And Student Moves Within Cycles**

This is an interesting dimension to consider because it gives us a feel for who was doing more talking when the student came to difficulty: the teacher or the student. In this sense, this piece of descriptive information adds important information to my response to question one, which is to characterize the nature of the teacher-student interactions.

In order to calculate the share of moves made by the teacher and student I again examined the focus lessons at weeks three, six, nine and twelve. I totaled the number of moves made by the student and those made by the teacher for the two consecutive lessons during the four points in time. I then calculated the percentage of moves made by the teacher and the student at each point in time.

**Division of teacher and student moves within cycles - Adrienne and John.**

In week three of John’s lessons, across two consecutive lessons there were ten cycles of interaction between John and his teacher. Within these ten cycles, the student made 26 moves and the teacher made 19 moves. During two consecutive lessons in week six, there were 19 cycles. John made 55 moves within these cycles and Adrienne made 28. In week nine of John’s program he made 60 moves in 18 cycles while his teacher made 46 moves. During the final week of the study, there were 20 cycles of interactions in which John made 59 moves while his teacher made only 28.

Figure 10 displays the percentage of moves made by Adrienne and John at weeks three, six, nine and twelve.
It is apparent that John always made more moves, or contributions to cycles of interactions with his teacher, than Adrienne has made. This is true for all four points in time that I examined. With the exception of week nine, John’s share of moves increased over time, from 61 percent in week three to 68 percent in week 12.

Division Of Teacher And Student Moves Within Cycles - Adrienne And Nathaniel.

Nathaniel’s share of moves within the cycles of interaction did not increase as dramatically as John’s over time, nor did he take as large a share of the moves as John did. Nathaniel made 40 moves in 14 cycles in week three, while his teacher contributed 31 moves. In week six, Nathaniel contributed 32 moves and his teacher 27 moves in 11 cycles. During week nine, the week that he read one of his new books completely independently, Nathaniel made 16 moves, as did his teacher in just four cycles. During the last week of the study, Nathaniel made 36 moves and his teacher made 26 in 9 cycles.

Figure 11 displays the percentage of moves made by Adrienne and Nathaniel at weeks three, six, nine and twelve.
It can be inferred from the previous table that Nathaniel and Adrienne usually made about the same number of moves as each other. This remained relatively unchanged over the course of the study.

In the following section I will compare the division of moves between each student and Adrienne, with each other.
Division Of Teacher And Student Moves Within Cycles: Comparison Of John And Nathaniel.

Figure 12 below compares John and Nathaniel’s percentage of moves in relation to Adrienne’s moves.

![Bar chart comparing the percentage of moves by John, Nathaniel, and Adrienne across weeks.](chart.png)

Figure 12. Comparison of Moves

Even though the level of difficulty of texts remained relatively unchanged, the level of support that Adrienne had to give Nathaniel remained about the same. Throughout the course of the study, she contributed about 50 percent of the moves.

By contrast, it is interesting to note that John made the most moves, or contributions to their interactions, during the lessons in the last week of the study when the level of text was most difficult. Not only did John assume a greater role in the moves made during a cycle of interaction, but the nature of his moves changed in a very significant way.

Early in lessons when John came to difficulty, his teacher provided most of the scaffolding to assist his problem solving attempts. An example from week three will illustrate what I mean.
Table 15. Sample of John and Adrienne’s Moves, Week 3

<table>
<thead>
<tr>
<th># of Moves</th>
<th>Moves</th>
<th>Text: Little Pig (L4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Move 1</td>
<td>Go home said the butcher, or I’ll make you into mmm,meat</td>
<td>Go home said the butcher, or I’ll make you into sausages. Yes, I will said Little Pig</td>
</tr>
<tr>
<td>Teacher Move 1</td>
<td>What would meat start with?</td>
<td></td>
</tr>
<tr>
<td>Student Move 2</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 2</td>
<td>Mmm-eat. What would it start with?</td>
<td></td>
</tr>
<tr>
<td>Student Move 3</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 3</td>
<td>An “M”. How does that word start? Give me the …</td>
<td></td>
</tr>
<tr>
<td>Student Move 4</td>
<td>S-s-s-s…</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 4</td>
<td>What’s he going to make him into? S-s-s-s…</td>
<td></td>
</tr>
<tr>
<td>Student Move 5</td>
<td>(no response)</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 5</td>
<td>Look at your picture, what are those?</td>
<td></td>
</tr>
<tr>
<td>Student Move 6</td>
<td>(no response)</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 6</td>
<td>Sausages</td>
<td></td>
</tr>
<tr>
<td>Student Move 7</td>
<td>Sausages</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 7</td>
<td>Sausages, right</td>
<td></td>
</tr>
<tr>
<td>Student Move 8</td>
<td>(Continues to read) Yes I will said Little Pig</td>
<td></td>
</tr>
</tbody>
</table>

Elapsed Time: 20 seconds

This one particular cycle from week three of the study contains 15 moves; eight were made by John and seven by his teacher. It is apparent that John needed support every step of the way, from noticing that his initial attempt did not visually match the word on the page, to thinking about the story, checking the picture and noticing the first letter “s”. This pattern was fairly typical early in John’s lessons; Adrienne usually made as many or nearly as many contributions to the problem solving, as John.

However later in lessons, the number as well as the nature of John’s moves changed. Instead of immediately needing his teacher’s support at difficulty, John was usually able to help himself to some extent. In a sense, he had taken over his teacher’s role of providing support and was able to scaffold his own attempts. However, this process is difficult to display because the moves that John made to help himself were not made aloud.
They can only be inferred whenever John appeared to noticed something that made him change his attempt.

Even though these “noticing moves” are not made aloud, they still need to be counted. We cannot be sure exactly what John noticed but the fact that he changed his attempt -not necessarily correcting it - is evidence that he has noticed something. Whereas earlier in lessons Adrienne directed John to notice helpful information, such as first letter or checking the picture, John appears to have taken on this role himself. The following example from week 12 is indicative of this change.

<table>
<thead>
<tr>
<th># of Moves</th>
<th>Moves</th>
<th>Text: Ben’s Tooth (L13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Move 1</td>
<td>Ben ran home. A-</td>
<td>Ben ran home after school and showed Mom. “Look at me,” he said “Where is your tooth?” said Mom.</td>
</tr>
<tr>
<td>Student Move 2</td>
<td>(Noticing move)</td>
<td></td>
</tr>
<tr>
<td>Student Move 3</td>
<td>Ben ran home fast.</td>
<td></td>
</tr>
<tr>
<td>Student Move 4</td>
<td>(Noticing move)</td>
<td></td>
</tr>
<tr>
<td>Student Move 5</td>
<td>Away</td>
<td></td>
</tr>
<tr>
<td>Student Move 6</td>
<td>(Noticing move)</td>
<td></td>
</tr>
<tr>
<td>Student Move 7</td>
<td>A-fas</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 1</td>
<td>I like how you reread but when you reread, when you come up to it you have to follow right through it.</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 2</td>
<td>Now A has two sounds. Which one do you want to try?</td>
<td></td>
</tr>
<tr>
<td>Student Move 8</td>
<td>aah... (Like “a” in “after”)</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 3</td>
<td>Okay let's reread it and blend it through. /Ben ran home aah-, aah/</td>
<td></td>
</tr>
<tr>
<td>Student Move 9</td>
<td>/Ben ran home aah-, aah/ ter school</td>
<td></td>
</tr>
<tr>
<td>Student Move 10</td>
<td>(Student continues to read) and showed Mom. “Look at me,” he said. “Where is your tooth?” said Mom.</td>
<td></td>
</tr>
</tbody>
</table>

*Parallel slashes indicate when student and teacher spoke simultaneously
Elapsed Time: 44 seconds

Table 16. Sample of John and Adrienne's Moves, Week 12

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In this example from week 12 of the study, John made 10 moves as part of this particular cycle of interaction while the teacher only made 3 moves. Three of John’s moves are noticing moves. At first John said “A”. Next he reread the sentence up to the difficult word and tried “fast”. In order for John to change his attempt, he must have noticed something, perhaps in this case he noticed the first letter “f”. This noticing move is counted as John’s second move.

John’s fourth move was another noticing move. Perhaps he noticed that by saying “fast”, he was neglecting the first letter “a”. His fifth move was to try “away”. Again he noticed something and this is his sixth move. John changed his attempt to A-fas on his seventh move. At this point the teacher intervened to support him.

By contrast, Nathaniel and his teacher continue to share the moves within the cycles of interactions, nearly evenly throughout the study. I will provide examples of cycles from Nathaniel’s lessons in week three and week twelve of the study to illustrate this characterization of their interactions.
Table 17. Sample of Nathaniel and Adrienne's Moves, Week 3

This pattern of interaction between Nathaniel and Adrienne was quite similar to that between Adrienne and John at the same time in the study. Like John, Nathaniel needed support at nearly every step in order to problem solve this difficult word. Adrienne supported him in noticing that his attempt (camel for lamb) neglected the first letter of the word, identifying the first letter of lamb and then articulating the sound that the letter makes.

However, unlike John, by the end of the study Nathaniel still shares the number of moves within a cycle just about evenly with his teacher. In other words, his teacher is doing as much talking when Nathaniel comes to difficulty at the end of the study as she was doing in the beginning. This is demonstrated by the data displayed in Figure 11 which shows that in week 12 of the study Nathaniel made just 58 percent of the moves while his teacher made 42 percent. By comparison, in week three of the study, Nathaniel made 56
percent of the moves while Adrienne made 44 percent. A sample of a cycle from week 12 in Nathaniel’s program will illustrate that Nathaniel and his teacher are still sharing the moves almost evenly and that Nathaniel still requires much teacher support to problem solve at difficulty.

<table>
<thead>
<tr>
<th># of Moves</th>
<th>Moves</th>
<th>Text: Things I Like To Do (L3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Move 1</td>
<td>I like to play computer, computer (running finger under both words: computer games) computer. I am good at it.</td>
<td>I like to play computer games. I am good at it.</td>
</tr>
<tr>
<td>Teacher Move 1</td>
<td>Show me the tricky part, show me the part you weren’t sure of.</td>
<td></td>
</tr>
<tr>
<td>Student Move 2</td>
<td>(Student points to “computer”).</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 2</td>
<td>Right, this is what you said, “I like to play computer” (Teacher runs her finger under “computer games” while saying “computer”). Do you think this whole thing says computer?</td>
<td></td>
</tr>
<tr>
<td>Student Move 3</td>
<td>(Student shakes his head).</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 3</td>
<td>Where’s computer, can you show me computer?</td>
<td></td>
</tr>
<tr>
<td>Student Move 4</td>
<td>(Student runs his finger under the word “computer”).</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 4</td>
<td>Yeah, computer. That says computer and then there’s another word there. Computer what? Computer…</td>
<td></td>
</tr>
<tr>
<td>Student Move 5</td>
<td>Games</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 5</td>
<td>And could guh - games start with that letter?</td>
<td></td>
</tr>
<tr>
<td>Student Move 6</td>
<td>(Nods)</td>
<td></td>
</tr>
<tr>
<td>Teacher Move 6</td>
<td>Read that page again for me.</td>
<td></td>
</tr>
<tr>
<td>Student Move 7</td>
<td>I like to, I like to play computer games. I am good at it. (Continues to read). I like to play the piano. I am good at it.</td>
<td>I like to play the piano. I am good at it.</td>
</tr>
</tbody>
</table>

Elapsed Time: 77 seconds

Table 18. Sample of Nathaniel and Adrienne’s Moves, Week 12

This example demonstrates what the data in Figure 11 suggests, that Nathaniel and Adrienne are still sharing the moves within cycles at the end of the study, much as they did in the beginning.
Summary: Nature Of The Interactions

I began chapter four by describing how John had made more significant gains in text reading level than Nathaniel over the course of the study. I proposed to account for this difference by describing the nature of the student-teacher interactions, the pattern of their interactions and by relating these patterns of interactions to the student’s changing reading behaviors.

I planned to characterize the nature of the interactions between Adrienne and each of her students by examining the patterns of their talk when the student came to a point of difficulty while reading the new book. To do this I examined two things: the ratio of cycles to words read and the division of moves between teacher and student within the cycles.

I found that over the course of the study John was able to read more and more text with fewer cycles of interaction with his teacher. In addition, he was able to do this on increasingly more difficult text. I also found that, over time, John contributed a greater percentage of the moves to the cycles than did his teacher.

By contrast, although Nathaniel too read more and more text with fewer cycles of interaction, there was always a higher ratio of cycles per words read in Nathaniel’s lessons than in John’s lessons. In other words, Nathaniel required teacher support more frequently than John. I noted also that this pattern existed even though Nathaniel was not reading increasingly more difficult text. In addition, the division of shared moves between teacher and Nathaniel changed very little over time. At the beginning of Nathaniel’s program he and Adrienne both contributed about 50 percent of the moves to the cycles. This division remained relatively unchanged over the 12 week study.

I can conclude from these two pieces of evidence that over the course of the study, John was able to read more and more difficult text with a growing independence. By contrast, Nathaniel seemed to require just as much support from his teacher at the end of the study to problem solve as he needed in the beginning and this occurred even though the level of the text remained quite easy.
In the following section I will describe the patterns of interaction between the student and teacher and relate them to the child’s changing reading behaviors.

Patterns Of Interaction And Changing Reading Behaviors

In order to describe how patterns of interaction changed between each student and Adrienne I examined their interactions in greater detail than I had for question one. I applied the categories of teacher moves that had emerged from my pilot study, to the teacher’s moves in this study.

In chapter three I described in detail the kinds of teacher moves that had emerged from my pilot study. I found that these categories were present in this study as well. There were six categories of teacher moves: questioning (Q), directing (D), telling (T), demonstrating (De), praising (P) and confirming (C). As I described in chapter three, a questioning move means that the teacher asked the student a question. In a directing move, the teacher directed the student to take a specific action. A telling move is one in which the teacher reveals something to the student or tells him something that will help. A demonstrating move is one in which the teacher herself takes the student’s role and demonstrates a problem solving action. In other words, the teacher does something that she wants the student to try for himself. Praising moves are moves that involve praising the student and in a confirming move the teacher confirms the student’s attempt.

However, as I coded the teacher’s moves for this study, a seventh category - that of “linked moves” emerged. A linked move is made up of at least two or more of the six moves that I have just described. For example, one teacher move can involve directing and questioning in a linked move, as in this example from one of Nathaniel’s lessons:
In this example the teacher has linked three moves together: directing (Don’t keep reading if you know it’s wrong) -directing (Start the sentence over again) and questioning (What’s it say?). A characteristic of a linked move is that the teacher does not pause between the moves, she continues to talk as though she doesn’t expect a response.

In this study, linked moves formed an important part of my analysis as I shall explain in the next section.

I also used a typology, or classification system to represent each teacher-student move within the cycles. As I outlined in chapter three, this system involved representing the student and teacher moves within a cycle as vertical or horizontal lines. By diagramming the teacher-student moves within cycles in this manner, I was able to construct a visual display of the scaffolds that the teacher and student co-constructed when the student came to difficulty when reading the new book.

Once I diagrammed every cycle using the typology of vertical and horizontal lines, I then classified the kinds of scaffolds that emerged as a result of this analysis. This fuller description of the interactions between student and teacher allowed me to consider how the patterns of interactions were related to each child’s reading behavior. I will describe the kinds of scaffolds that emerged from this study as I discuss my findings in this section.
I gathered information about each student's changing reading behaviors from two sources of data: the students' daily running records and also the audio tapes made in the classroom of each student during read aloud time.

In the following sections I will characterize the patterns of interaction between John and his teacher at weeks three, six, nine and twelve by describing the teacher's moves and analyzing the kinds of scaffolds that were co-constructed within their interactions. Then I will relate this description to John's changing reading behaviors. Following that discussion, I will do the same for Nathaniel. Finally, I will offer some findings about how the patterns of interaction are related to the students' changing reading behaviors.

Types Of Teacher Moves: Adrienne And John

Figure 13 below displays the types and frequency of teacher moves that Adrienne made during the focus lessons in weeks three, six, nine and twelve of the study, while working with John.

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Figure 13. Frequency and Types of Teacher Moves in John's Lessons, Wks. 3, 6, 9, & 12
During the two focus consecutive lessons in week three, Adrienne made a total of nineteen moves across the cycles of interaction with John. The percentage of questioning moves that she made gradually decreased over time, from 28 percent in week 3 to 18 percent in week 12. By contrast, the percentage of directing moves rose over the course of the study, from 5 percent in week three to 18 percent in the last week of the study. The percentage of telling moves did not vary a great deal, except for week nine when it dropped to a low of 9 percent.

It is interesting to note that praising and confirming moves did not take up a large proportion of Adrienne’s moves. In fact, she did not praise John at all during the focus lessons in weeks nine and twelve.

It is especially interesting to note that Adrienne does not appear to have demonstrated moves very often for John. In week three there were apparently no instances of demonstrating during the focus lessons, and while this climbed to a high of 11 percent in nine, it was as low as 4 percent in week six and 7 percent in week 12.

However, the category of linked moves tells a different story. Looking across the study, it seems that linked moves usually made up about one third or a quarter of Adrienne’s moves. I decided to examine the nature of these moves more closely because they appeared to be an integral part of the way Adrienne was interacting with John.

“Linked Moves”: Adrienne And John

Linked moves are made up of at least two moves joined together. I initially considered these moves as “paired moves” until I found that there were also occasions, notably in Nathaniel’s lessons, when more than two moves were joined together.

There are two things that I feel are important to know about these linked moves in John’s lessons which point up some startling differences between Adrienne’s interactions with Nathaniel and her interactions with John. Of all the linked moves in John’s
lessons across the four focus weeks, 97 percent of them (32 out of 33 moves) were just two moves joined together. For example, often Adrienne used a questioning-demonstrating move, or a telling-demonstrating move with John. As I will show later, this was very different from the linked moves in Nathaniel’s lessons.

The second thing that is important to note about the linked moves in John’s lessons is that many of them included demonstrating moves. In fact, 70 percent of the linked moves (23 of the 33 moves) included a demonstrating move and one other move.

When I added these linked moves to their own particular categories, the profile of Adrienne’s moves changed significantly. These are displayed in Figure 14 below.

Figure 14. Frequency and Type of Teacher Moves in John’s Lessons in Weeks 3, 6, 9 and 12 When Linked Moves are Incorporated

It seems that by dividing the linked moves into their individual categories, I have obtained a richer, fuller description of the types and frequency of the teacher moves across this study. Whereas initially it appeared that there were no demonstrating moves in week three, now, with the linked moves incorporated into their own individual categories, it can
be seen that 24 percent of the moves were demonstrating moves. This rate of demonstrating moves remains just about constant across the four focus weeks, with the exception of week six when it dropped drastically to just 9 percent. I will address this matter later when I describe the student’s changing reading behaviors.

In addition, half of the moves during week three of the study were questioning moves. This rate decreased for the remainder of the study but continued to make up about one quarter to a third of all the teacher moves.

It is particularly interesting to note that Adrienne increased the use of directing moves in John’s lessons across the four focus weeks, from 4 percent to 9 percent, then 21 percent and finally 19 percent in the last week of the study.

To summarize this section, upon closely examining the frequency and types of teacher moves within John’s lessons, I found that Adrienne used linked moves (most often questioning and demonstrating), about one third of the time in her interactions with John. The majority of these linked moves were simply two moves joined together. Almost one quarter of her moves involved demonstrating for the child and this pattern remained intact over time with the exception of week six. As well, Adrienne’s use of directing moves increased dramatically in the last two focus weeks of the study by comparison to the first two focus weeks.

I began this section by saying I would relate the patterns of interactions between the student and teacher to John’s changing reading behaviors by first describing the frequency and kinds of teacher moves within the interactions and then discussing the types of scaffolds that emerged from their interactions. In the following section I will elaborate on the latter by discussing the patterns of interactions which represent John and Adrienne’s moves. Finally, I will relate this information about their pattern of interacting to John’s changing reading behaviors.
Scaffolds: Adrienne And John

In the previous section I explained in detail the nature of Adrienne’s moves within the cycles of John’s lessons. In this section, I will use diagrams to illustrate how these moves actually functioned within the lessons. These diagrams will bring the moves to life and display the kinds of scaffolds that emerged as a result of this study. They will demonstrate how the teacher and student interacted during the reading of the new books throughout the four focus weeks of the study.

I diagrammed each cycle of interaction in the two consecutive lessons during the focus weeks of my study. These diagrams displayed the scaffolds that were constructed through the teacher-student interactions. Types of scaffolds that emerged as a result of this diagramming are: continuous scaffolds, mended scaffolds and misleading scaffolds. I will define each of these as I discuss the character of John and Adrienne’s interactions.

Most all of the diagrams that I created to represent the cycles in John’s lessons can be referred to as “continuous scaffolds” in that every teacher move took John further along in his problem solving at difficulty. For example, the following diagrams in Table 20 are from week three of John’s lessons and represent co-constructed continuous scaffolds with Adrienne. Accompanying each teacher move is a code for the type of move made. The code is as follows: D-Directing, Q-Questioning, T-Telling, P-Praising, C-Confirming and De-Demonstrating. In all of these cycles that I will present, teacher moves are represented as dashed lines and student moves are solid lines.
<table>
<thead>
<tr>
<th>Cycle</th>
<th>Transcription</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>S: James said, (pause)</td>
<td><em>James said, “Wake up Dad.</em></td>
<td></td>
</tr>
<tr>
<td>T: What do you suppose he said to Dad? S: Wake up Dad</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Move:</td>
<td>(Elapsed Time: 5 seconds)</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Transcription</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>S: Kate is, Kate said (pauses)</td>
<td><em>Kate said, Wake up Dad.</em></td>
<td></td>
</tr>
<tr>
<td>T: Are you right? Could it say said? S: said, Wake up Dad.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Move:</td>
<td>(Elapsed Time: 16 seconds)</td>
<td></td>
</tr>
<tr>
<td>Q &amp; De</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 20. Examples of Continuous Scaffolds from John’s Lessons - Week 3

In fact, of the 10 cycles between Adrienne and John in week three, 7 cycles can be referred to as “continuous scaffolds” because every move by the teacher took the student a step higher in his problem solving. Adrienne’s ability to move the student further ahead in his problem solving remained a pattern throughout the study. In week six, 12 of the 19 cycles could be represented as continuous scaffolds; in week nine, 8 of the 18 cycles were continuous scaffolds, and in week twelve, half of the cycles (10 of the 20 cycles), were continuous scaffolds. This means that 60 percent of all the cycles in the focus lessons were continuous scaffolds.

It is quite remarkable that so many of these cycles can be represented as continuous scaffolds because it means that every teacher move within the cycle had to be a helpful one that the student could use to support his problem solving. This was the case even when the cycles contained more than one teacher move. The following example of a continuous scaffold from week nine contains four teacher moves.
Even when the cycles were not continuous scaffolds, in other words not every move served as a helpful rung, Adrienne usually made her very next move a helpful one. I termed this kind of scaffold as a "mended scaffold". Mended scaffolds are scaffolds in which the teacher makes a move that the student cannot build upon - however the very next move by the teacher is a mended one and the student can use it to further his problem solving. 30 percent of the cycles (20 of the 67 cycles) can be classified as mended scaffolds. Those scaffolds resembled this one from week 12 of the study, portrayed in Table 22.
S: My tooth is gone he said and here is some money in my little box. Mom came and see

T: Would you tell your mom “came and see Mom”. Is that what you would say?

Q: Came...

Q: What would you say, came or come?

S: Come and see he called.

Elapsed time: 16 seconds

Table 22. Example of a Mended Scaffold from John’s Lessons - Week 12

To summarize this discussion thus far, diagrams of the cycles within John’s focus lessons in weeks three, six, nine and twelve revealed that 60 percent (N=40) of the cycles could be represented as “continuous scaffolds”. This meant that every move within the cycle served as a helpful rung to bring John a step up in his problem solving at difficulty. The other dominant type of scaffold that Adrienne and John co-constructed was a “mended scaffold” in which a non-helpful move was immediately followed by a helpful one. Mended scaffolds accounted for 30 percent of the cycles (N=20) between John and Adrienne in the focus weeks of this study.

The rest of the cycles - 10 percent of them (N=7) - I have called “misleading scaffolds” because there were at least two moves made consecutively that were not helpful to the student. These moves had the effect of leading the student away from efficient problem solving. Table 23 provides an example of a misleading scaffold.
Table 23. Example of a Misleading Scaffold from John’s Lessons - Week 9

I should provide a brief explanation here as to why I classified Adrienne’s questions as directing moves rather than questioning moves. Even though Adrienne has phrased two questions, the effect of her questions are to direct the student to take an action, in this case, to think of some word that he knows that can help him. An everyday example might be a parent asking a child, “Have you washed your hands before dinner?”, the intent being to direct the child to take that action.

I have provided an example of a misleading scaffold in table 23. I have defined misleading scaffolds as scaffolds containing at least two consecutive moves that the student can not use to help himself at difficulty.

For example, the teacher might have realized by John’s response to her first move that asking him a second time if there was something about the word that looked like another word he knew, was not a particularly helpful move. Rather than mending this
move, her next move continued to lead him away from effective problem solving because again she directed him to use the same information that did not help him a moment ago. Instead of directing John to use the same information that was not helpful in the previous move, Adrienne might have mended her second move by demonstrating for that he knew the word "day" and that could help him with "stay".

It is important to note that these misleading scaffolds made up just 10 percent of all the cycles in John's lessons. It seems that 90% of all scaffolds were helpful to John in that they were either continuous or mended scaffolds. Figure 15 summarizes the types of scaffolds that Adrienne and John co-constructed throughout the study.

---

Figure 15. Types of Scaffolds Present in John's Lesson

Previously in this chapter I characterized the nature of Adrienne's interactions with Nathaniel and John by the ratio of cycles to words read and by the division of moves between teacher and student within the cycles. I concluded that John was reading increasingly difficult text with more and more independence unlike Nathaniel who read the same level of text over time with only slightly more independence.
In this section I planned to describe the patterns of interacting between Adrienne and her students in terms of the types of moves made by the teacher and the resulting scaffolds. I described John's interactions as being made up of three kinds of scaffolds: continuous, mended and misleading scaffolds. In the following sections I will describe John's changing reading behaviors over time and I will link this to the patterns of interacting that I have described. In the second half of this section, I will describe Nathaniel's pattern of interacting with Adrienne and link this to reading behaviors. My goal, as I stated at the outset of this chapter, is to account for the differences in John and Nathaniel's text reading levels at the conclusion of this study.

**Changing Reading Behaviors: John's Lessons**

In order to describe John's changing reading behaviors over the twelve weeks of this study, I decided to examine those occasions when John read independently. I felt that in this way, I would have a better sense of John's plan of action when he came difficulty while reading.

I analyzed running records of John reading aloud during the four focus weeks of my study. These daily running records were recorded by the teacher in keeping with the routine of the Reading Recovery lesson as I described in chapter three. When taking a running record the teacher, who is a neutral observer, records all of the student's reading behaviors while he reads the new book from the previous day's lessons. In addition to analyzing the running records I also analyzed John's reading behaviors when he read aloud in his classroom during periods when the whole class had "free reading time". I described in detail in chapter three how these data were collected.

In my analysis, I examined John's plan of action when he came to difficulty. In addition, I also noted what kinds of information he used and neglected at difficulty; whether it was meaning, structural or visual cues.
I found that early in the study, John relied on meaning and structure cues to read. He usually did not notice when there was a visual mismatch between his attempt and the word on the page, as the following example from a classroom read aloud reveals. I have provided the entire text of the story up to page 13, including the pages that John read accurately.
<table>
<thead>
<tr>
<th>John's Reading</th>
<th>Text: The Foot Book by Dr. Suess</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left foot, Left Foot, Left, no, Right foot, right foot</td>
<td>Left foot Left Foot Right Foot Right Foot</td>
<td>1</td>
</tr>
<tr>
<td>In the, no, In, Foot in the morning Feet, feet a-</td>
<td>Feet in the morning Feet at night</td>
<td>2</td>
</tr>
<tr>
<td>(Read accurately)</td>
<td>Left foot Left foot Left foot Right</td>
<td>3</td>
</tr>
<tr>
<td>(Read accurately)</td>
<td>Wet foot Dry foot</td>
<td>4</td>
</tr>
<tr>
<td>(Read accurately)</td>
<td>High foot Low foot</td>
<td>5</td>
</tr>
<tr>
<td>(Read accurately)</td>
<td>Front feet Back feet Red feet Black feet</td>
<td>6</td>
</tr>
<tr>
<td>Left foot Left foot Foot, foot, foot, Left foot Left foot Feet, Feet, Feet,</td>
<td>Left foot Right foot Feet, feet, feet</td>
<td>8</td>
</tr>
<tr>
<td>How many feet do you meet</td>
<td>How many, many feet you meet</td>
<td>9</td>
</tr>
<tr>
<td>Slow feet Fast feet</td>
<td>Slow feet Quick feet</td>
<td>10</td>
</tr>
<tr>
<td>Clown feet Sick feet</td>
<td>Trick feet Sick feet</td>
<td>11</td>
</tr>
<tr>
<td>Up feet Down feet Here come, here come clown feet.</td>
<td>Up feet Down feet Here come clown feet</td>
<td>12</td>
</tr>
<tr>
<td>Pig, little feet Big feet</td>
<td>Small feet Big feet</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 24. Example of John's Independent Reading Behaviors - Week 3

Pages eight, nine, ten, eleven and thirteen provide good examples of John's plan of action when reading. He appears to be relying heavily on meaning and structural cues but
neglecting visual information. On page nine he read “How many feet do you meet” instead of “How many, many feet you meet.” John used meaning cues in that his attempt fits the meaning of the story. He also used structural cues - in fact he even improved on Dr. Seuss’ structure because the way he read it would better fit the structure of the English language. He also used visual cues to the extent that his utterances achieved a one to one match with the print on the page. In fact, I observed him pointing to each word as he read this page. John neglected to notice that his attempts did not look like the words on the page when he said “feet” for “many” and “do” for “feet”.

Other examples are provided on page 10 when John said “fast” for “quick”, on page 11 when he reads “clown” for “trick” and on page 13 when he changes his initial attempt “pig” for “little” instead of “small”. In all these cases, John used meaning and structure cues but he neglected to use visual information, beyond ensuring a one to one match between his attempts and the words on the page.

It should also be noted however that John did correct several substitutions on pages one, two, and eight. However, it seems to me that on those occasions John may have used his memory of the story to correct himself, (especially on pages one and eight), rather than noticing the visual mismatch of the words themselves.

By week six of the study, John’s reading behaviors had changed significantly. By this time he noticed when there was a visual mismatch between his attempt and the word on the page and he almost always took some problem solving action. It was serendipitous for me that during this focus week, one of the books that John chose to read again in the classroom was The Foot Book by Dr. Seuss. On this occasion he again used meaning and structure cues when he read page 11 by reading: Trick feet, Sick feet. This time however he said “No” and he reread the page, correcting “trick” for clown”. Another example of this changing reading behavior comes from page nine of the text which reads: How many, many feet you meet. When John read it several weeks prior he neglected the visual
information to some extent when he read: “How many feet do you meet?” This time however, John seemed to be able to combine the visual information with what he knew about the meaning of the story and the structure of the language. This is a significant shift in John’s reading behavior. It demonstrates that John is beginning to be able to attend to more than the meaning and structure cues; he can also now incorporate visual cues into his reading attempts.

By week nine of the study John worked longer at difficulty when he read aloud in his classroom. This usually meant working to make a better visual match than just the first letter. For example, one of the books that he read during this session was Goodbye Lucy, about a text reading level six. Here are some excerpts from John’s reading that demonstrate he is searching beyond the first letter for more visual information. Note in particular how he reads the cover and pages two, three, five, nine and ten.
<table>
<thead>
<tr>
<th>John's Reading</th>
<th>Text: Goodbye Lucy</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Go, Good, Good bye Lucy</td>
<td>Goodbye Lucy</td>
<td>Cover</td>
</tr>
<tr>
<td>Oh, Oops,</td>
<td>Oops,</td>
<td>2</td>
</tr>
<tr>
<td>I forgot something</td>
<td>I forgot something.</td>
<td></td>
</tr>
<tr>
<td>Mom, I forgot my books, book,</td>
<td>Mom, I forgot my book.</td>
<td>3</td>
</tr>
<tr>
<td>J: Here is, it is.</td>
<td>Here it is.</td>
<td>4</td>
</tr>
<tr>
<td>Friend: Goodbye Lucky.</td>
<td>Goodbye Lucy.</td>
<td></td>
</tr>
<tr>
<td>Together: Goodbye Mom.</td>
<td>Goodbye Mom.</td>
<td></td>
</tr>
<tr>
<td>Oh, I, Oops, I forgot something.</td>
<td>Oops,</td>
<td>5</td>
</tr>
<tr>
<td>I forgot something.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read accurately</td>
<td>Mom, mom,</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>I forgot my lunch.</td>
<td></td>
</tr>
<tr>
<td>Read accurately</td>
<td>Good bye Lucy.</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Good bye Mom</td>
<td></td>
</tr>
<tr>
<td>Oops!</td>
<td>Oops!</td>
<td>8</td>
</tr>
<tr>
<td>I, Oops, Mom! I forgot something.</td>
<td>Mom! I forgot something.</td>
<td>9</td>
</tr>
<tr>
<td>Your hat? What?</td>
<td>What?</td>
<td></td>
</tr>
<tr>
<td>You have your book, back, bookbag, bag.</td>
<td>You have your bag.</td>
<td>10</td>
</tr>
<tr>
<td>You have your book.</td>
<td>You have your book.</td>
<td></td>
</tr>
<tr>
<td>Read accurately</td>
<td>You have your lunch.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What is it?</td>
<td>11</td>
</tr>
<tr>
<td>I k-</td>
<td>I know!</td>
<td>12</td>
</tr>
<tr>
<td>Read accurately</td>
<td>I forgot my goodbye hug.</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 25. Example of John's Independent Reading Behaviors - Week 9
I should explain first of all that John’s friend who had been sitting nearby, joined in
to read the book on page four. I noted his contribution and the line that he and John read
together.

This transcript is typical of John’s reading behavior during week nine of the study.
When he read the title on the cover he made a visual match by saying “Go” for “Good” but
it seems he took a closer look at the word and corrected himself. On page two he said
“Oh” for “Oops”, an attempt that matched meaning and some visual cues but he went on to
use more visual information (apparently) and corrected himself. He does much the same
thing on pages three, five, nine and ten.

During the final week of the study John’s reading behaviors had changed
dramatically. It was no longer possible to predict what he would try at difficulty because he
used the sources of cues flexibly and interchangeably. At this time his rereading had
become localized to the difficult word; he no longer reread to the beginning of a line or page
for help. John carried out his problem solving efforts “on-the-spot”, trying things like
“head, hood” for “horn”, or “w-ing, wing” for “wing”. John’s ability to use a flexible plan
of action at difficulty is an important hallmark of self-regulated learning that I will discuss
in the last section of this chapter.

Further evidence that John’s plan of action evolved through the changes I have
described comes from the teacher’s running records. I analyzed these documents as well to
determine what kinds of information John was using and neglecting at difficulty while
reading independently. I analyzed each substitution that he made during the focus weeks of
the study and found the same behaviors occurring during the running records as I had
found during the classroom read alouds.

Now that I have described John’s changing reading behaviors over the course of
the study, I will relate them to the changing patterns of interaction between him and his
teacher. These relationships are discussed in the next section.
Relating Patterns Of Interaction To Changing Reading Behaviors In John’s Lessons

Table 26 provides a summary of the patterns of interacting in John’s lessons and his changing reading behaviors over time.

<table>
<thead>
<tr>
<th>Week</th>
<th>Patterns of Interactions</th>
<th>Reading Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Kinds of scaffolds:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continuous: 70 percent</td>
<td>Uses meaning and structure cues. Use of visual cues at difficulty is usually limited to one-to-one matching.</td>
</tr>
<tr>
<td></td>
<td>Mended: 20 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Misleading: 10 percent</td>
<td>Abandons problem solving attempts quickly.</td>
</tr>
<tr>
<td></td>
<td>John made 61 percent of the moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was a cycle every 12 words.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrienne mostly used demonstrating and questioning moves linked together.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 Types of scaffolds:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continuous: 79 percent</td>
<td>Still uses meaning and structure cues initially but now notices visual mismatches at the word level.</td>
</tr>
<tr>
<td></td>
<td>Mended: 21 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Misleading: Nil</td>
<td>Usually takes action to problem solve.</td>
</tr>
<tr>
<td></td>
<td>John made 67 percent of the moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was a cycle every 9 moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrienne mostly questioned, and told.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9 Types of scaffolds:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continuous: 44 percent</td>
<td>Works longer at difficulty. Using meaning, structure and visual cues at difficulty but now seeks to make better visual match beyond first letter.</td>
</tr>
<tr>
<td></td>
<td>Mended: 33 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Misleading: 22 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>John made 57 percent of the moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was a cycle every 15 moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrienne mostly questioned, demonstrated and directed.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 Types of scaffolds:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Continuous: 50 percent</td>
<td>Uses cues flexibly at difficulty. For example, sometimes he uses visual first then meaning and structure to self correct, sometimes he combines all three cues at difficulty and searches for further visual information, sometimes he uses structure and visual cues initially then incorporates meaning to self correct.</td>
</tr>
<tr>
<td></td>
<td>Mended: 40 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Misleading: 10 percent</td>
<td></td>
</tr>
<tr>
<td></td>
<td>John made 70 percent of the moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>There was a cycle every 17 moves.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrienne mostly demonstrated, directed, and told.</td>
<td></td>
</tr>
</tbody>
</table>

Table 26. Patterns of Interacting and John’s Changing Reading Behaviors
In the following section I will describe the patterns of interacting with Nathaniel's lessons in terms of the types of teacher moves (including her linked moves) and the kinds of scaffolds that they co-constructed. Then I will describe Nathaniel's changing reading behaviors and relate that to the patterns of interacting in his lessons with Adrienne. Following that I will compare my findings for Nathaniel and John and discuss how, in this case study, patterns of interacting may be related to changing reading behavior.

I have already discussed in previous sections how Nathaniel made few gains in reading over the course of the study as demonstrated by the record of text reading levels and the results of the post OS. I also characterized the nature of his interactions with Adrienne by stating that Nathaniel did not read with more independence; that Adrienne seemed to take as large a role in their cycles of interacting at the end of the study as she did in the beginning. This finding was supported by the division of moves within cycles and the ratio of cycles to words read.

In this section I will describe their interactions in greater detail, as I did with John, by discussing the types of teacher moves within the cycles and the kinds of scaffolds that were present in their lessons. I will draw comparisons to John’s lessons as I characterize the patterns of interactions between Adrienne and Nathaniel.

Types Of Teacher Moves: Adrienne And Nathaniel

Figure 16 displays the kinds and frequency of teacher moves that were present in the two consecutive lessons during the four focus weeks of the study.
In week three of the study, most of Adrienne's moves were either questioning or telling. However, by week six this pattern changed dramatically with the majority of Adrienne's moves being linked moves. By week nine, most of Adrienne's moves were praising or confirming moves as she either questioned Nathaniel at difficulty or told him what he needed to know. Linked moves were used nearly half of the time in week twelve along with questioning moves.

As with John's lessons, because linked moves took on such prominence in Nathaniel's lessons, I distributed each move to its particular category. With the category of linked moves now redistributed, the frequency and type of Adrienne's moves look like this:

Figure 16. Frequency and Types of Teacher Moves in Nathaniel's Lessons
When the linked moves are incorporated the categories of questioning, directing and telling increase even more in intensity because the majority of the linked moves were comprised of either questioning and directing, telling and directing or questioning and telling. This is in contrast to Adrienne's moves in John's lessons in which demonstrating and questioning made up the majority of the moves. Only later in John's lessons, in weeks nine and twelve, did she increase her use of directing moves. I will discuss the significance of this difference later when I compare John and Nathaniel's lessons.

One final contrast that I would like to make between Adrienne's linked moves in John and Nathaniel's lessons has to do with the number of moves that were linked together. In John's lessons, Adrienne rarely linked more than two moves together (32 of 33 linked moves were paired moves) while in Nathaniel's lessons 7 of the 33 moves contained more than two moves together. In those cases, Adrienne linked the following moves together in this manner:
• Praising - Directing - Questioning
• Directing - Demonstrating - Questioning
• Questioning - Directing - Directing - Directing
• Directing - Telling - Questioning - Directing - Directing - Directing - Directing
• Telling - Directing - Telling - Directing
• Directing - Telling - Questioning
• Confirming - Demonstrating - Praising

It is significant that 21 percent of Adrienne’s linked moves in Nathaniel’s lessons involved more than two moves paired together. I observed these lessons and can say that these were times when both the student and teacher seemed to be very frustrated. It is difficult to say how much Nathaniel heard in all this teacher talk but I question how much was helpful to him. The teacher was usually speaking quickly and saying quite a lot at these times. Often Nathaniel did not appear to be listening.

Now that I have characterized the interactions between Nathaniel and Adrienne I will examine the pattern of their interactions. I will do this in the same manner as I did for John; by describing the scaffolds that were co-constructed in his lessons.

Scaffolds: Adrienne And Nathaniel

I diagrammed every cycle of interaction between Nathaniel and Adrienne in two consecutive lessons during the focus weeks of my study using the typologies that I previously outlined. These diagrams provided a visual display of the types of scaffolds that teacher and student co-constructed.

In week three of Nathaniel’s lessons, 70 percent of the scaffolds (N=7) could be characterized as “continuous scaffolds” in that every move by the teacher brought the student a step further in his problem solving. 10 percent of the scaffolds (N=1) were mended, meaning that there were occasions within the scaffold when the student was not
able to build on the teacher's move but the teacher's very next move was a helpful one. Finally, 20 percent (N=2) of the scaffolds were misleading in that there were at least two consecutive moves that were not helpful to the student. This pattern of scaffolding compares favorably to those present in John's lessons in week three.

In week six, there were no misleading scaffolds at all. In fact 84 percent of the scaffolds (N=16) were of the continuous type while the rest (N=3) could be characterized as mended scaffolds. Again, this pattern is similar to the scaffolding present in John's lessons at this time of the study.

The frequency of misleading scaffolds in Nathaniel's lessons increased in week nine to 22 percent (N=4) and the number of continuous cycles decreased to 78 percent (N=14). There were no mended cycles in these focus lessons. This pattern contrasts somewhat with John's scaffolds in week nine in that 90 percent of his were either continuous or mended scaffolds. Just 10 percent (N=2) of John's scaffolds were misleading in this week.

In the final week of the study the pattern of scaffolding in both students' lessons were again similar to each other. 75 percent of Nathaniel's scaffolds (N=15) were of the continuous type, 10 percent (N=2) were mended and 15 % were misleading.

Figure 18 provides a comparison of the type and frequency of scaffolds present in both Nathaniel and John's lessons during the four focus weeks of the study.
As this figure displays, Adrienne makes essentially the same percentage of misleading scaffolds for both students in every week except the first one. More scaffolds in Nathaniel’s lessons are continuous, in John’s the majority of the scaffolds are either continuous or mended. On this basis, I can conclude that the frequency and type of scaffolds used are similar in both lessons. Therefore, this feature of the teacher-student interaction cannot be a decisive factor in explaining the difference between John and Nathaniel’s progress in the tutoring program.

However, it may be that the content of the scaffolds - what questions the teacher asked, what action she directed the student to take - may account for the difference in their literacy learning. I will address this matter in the summary of this section. First I will describe Nathaniel’s changing reading behaviors and relate them to the pattern of teacher-student interactions throughout the study.
Changing Reading Behaviors: Nathaniel’s Lessons

As one might expect, given the fact that Nathaniel’s text reading level changed very little over the course of the study, his reading behaviors changed very little when he was reading independently. As I did with John, I examined Nathaniel’s reading during read aloud time in the classroom and compared these behaviors to the running record component of the lessons at weeks three, six, nine and twelve.

I have to rely on the teacher’s running records for data about Nathaniel’s reading independently during the third week of the study. He had 30 minutes to read aloud in his classroom during read aloud time but spent almost all that time doing things other than reading. For example, Nathaniel spent the majority of his time writing the titles of the books he planned to read (though he never did) in his journal. He spent five minutes watching the person next to him read. He then spent nearly five minutes talking to the man who had come to repair the classroom computer. Nathaniel did read one book but I believe he had memorized the pattern of that story because I noticed him turning the pages while he was still reading.

Interestingly, I overheard Nathaniel ask another student “Can I read this book?” The student’s reply was “Look at the pages, if you know most of the words then you can read it”. Nathaniel appeared not to know how to choose a book that he felt he could read.

When I examined Nathaniel’s reading behaviors at difficulty during the running record portion of his lessons in the third week, I noted similar behavior. However, during the running record he often noticed when his one-to-one matching was off and would reread to attempt to correct it. Nathaniel used meaning and structure cues but as his teacher noted, he wasn’t using the first letter of a word to help him problem solve.

During the second occasion that I observed Nathaniel read aloud in the classroom, approximately week six of the study, he read several books to himself. He read three books all at a text reading level of one, two or three. These were very easy books. Like John,
Nathaniel used meaning and structure cues to read. However, unlike John, Nathaniel sometimes did not achieve a one-to-one match with the text on the page and his utterances, as in this example in Table 27. Note his reading on pages five, seven and eight in particular.

<table>
<thead>
<tr>
<th>Nathaniel’s Reading</th>
<th>Text: <em>Buffy</em> by Lucy Lawrence (L1)</th>
<th>Page #</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Accurate reading)</td>
<td>Buffy chased a bone.</td>
<td>2</td>
</tr>
<tr>
<td>(Accurate reading)</td>
<td>Buffy chased a stick.</td>
<td>3</td>
</tr>
<tr>
<td>(Accurate reading)</td>
<td>Buffy chased a stone.</td>
<td>4</td>
</tr>
<tr>
<td>Buffy chased a ladybug.</td>
<td>Buffy chased a bug.</td>
<td>5</td>
</tr>
<tr>
<td>(Accurate reading)</td>
<td>Buffy chased a bee.</td>
<td>6</td>
</tr>
<tr>
<td>Buffy chased rats.</td>
<td>Buffy chased a mouse.</td>
<td>7</td>
</tr>
<tr>
<td>Buffy chased me.</td>
<td>But Buffy caught me!</td>
<td>8</td>
</tr>
</tbody>
</table>

Table 27. Example of Nathaniel’s Independent Reading Behaviors - Week 6

Up to page five Nathaniel read accurately. On page five he made a very good substitution saying “ladybug” for “bug”; he makes meaning and structure cues match and even some visual at the word level (“ladybug” for “bug”, for example). However, Nathaniel’s reading on pages seven and eight suggests that he may not be attending closely to the print after all. On those pages, though he used meaning and structure, he neglected one-to-one matching - a gross visual cue.

Nathaniel read *Kites* and completely abandoned one-to-one matching. See the following table for examples.
Table 28. Example of Nathaniel’s Independent Reading Behaviors - Week 6

I cannot be sure of Nathaniel’s motivation for inventing the story of this text. I do not think he had read it before therefore, he had not memorized the pattern. Instead he was on his own. Nathaniel used the pictures beautifully to support his reading. In fact, in many ways I prefer his rendition over the text in the book. His language structures are complex and similar to book talk. His introduction to the story on pages two and three was far more engaging than the one the publisher used. However, for the most part Nathaniel has abandoned the print in this text and has invented his own story. This was week six of the study.

When I examined the teacher’s running record for the corresponding time period in week six, I found that at difficulty Nathaniel seemed to notice when his attempts did not match the words on the page. He would usually take some problem solving action such as rereading up to the point of difficulty but then was unable to help himself. There were some lapses in one-to-one matching even at this stage of the study.
During the taping in week nine, Nathaniel again invented the text of the stories he was reading. Like his reading of *Kites*, Nathaniel used the pictures of the story to invent the text. In his running records, Nathaniel continued to substitute words that fit meaning and structure but often not visual information. His behavior had become an issue now.

Nathaniel rebelled in week 12 and refused to wear the tape recorder during read aloud time. By this time I think all pretense that he was reading during this read aloud time was abandoned. In fact, in 30 minutes Nathaniel read one book and that was to the teacher when she asked him to read to her. At that time I observed him “smacking” the words on the pages of the book with his index finger while he read. He read one page while holding the book upside down. The rest of the time he spent either playing behind a chart stand using the globe like a basketball or hiding behind the teacher’s desk with stuffed animals over his face.

I asked the teacher how much of Nathaniel’s behavior might be attributed to my presence and she said very little. Nathaniel had been misbehaving for the past several weeks and this was typical of his behavior. He was often off task and, as she said, disrupting other students while they worked.

Nathaniel’s reading behaviors on the running records were unchanged. His substitutions always fit meaning and structure but not often visual information. Sometimes he noticed the mismatch, often he did not.

**Relating Patterns Of Interaction To Changing Reading Behaviors In Nathaniel’s Lessons**

Table 29 displays Nathaniel’s changing reading behaviors and the corresponding patterns of interactions between him and Adrienne. As I have said, Nathaniel’s reading behavior changed very little over the course of the study. This finding is supported by the running records, the observations of Nathaniel reading aloud in his classroom, the record of text reading levels and the post OS scores.
### Week Patterns of Interactions Reading Behaviors

<table>
<thead>
<tr>
<th>Week</th>
<th>Types of scaffolds:</th>
<th>Reading Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Continuous: 70 percent Mended: 10 percent Misleading: 20 percent Nathaniel made 56 percent of the moves. There was a cycle every 6 moves. Adrienne mostly questioned, directed, and told.</td>
<td>Uses meaning and structure cues. Does not always match one-to-one. Teacher notes that he has difficulty using the first sounds of words to help himself at difficulty.</td>
</tr>
<tr>
<td>6</td>
<td>Continuous: 84 percent Mended: 16 percent Misleading: nil Nathaniel made 57 percent of the moves. There was a cycle every 8 moves. Adrienne mostly directed, questioned and told.</td>
<td>Still uses meaning and structure cues initially and now usually notices mismatch in one-to-one matching. Usually takes action to problem solve one-to-one matching. Teacher notes that he has difficulty using the first sounds of words to help himself at difficulty.</td>
</tr>
<tr>
<td>9</td>
<td>Continuous: 78 percent Mended: nil Misleading: 15 percent Nathaniel made 22 percent of the moves. There was a cycle every 20 moves. Adrienne mostly directed, questioned and told.</td>
<td>In his running records, Nathaniel continued to substitute words that fit meaning and structure but often not visual information. Teacher notes that he has difficulty using the first sounds of words to help himself at difficulty.</td>
</tr>
<tr>
<td>12</td>
<td>Continuous: 75 percent Mended: 10 percent Misleading: 15 percent Nathaniel made 58 percent of the moves. There was a cycle every 10 moves. Adrienne mostly directed, questioned and told.</td>
<td>His reading behaviors on the running records were unchanged. His substitutions always fit meaning and structure but not often visual information. Sometimes he noticed the mismatch, often he did not. Teacher notes that he has difficulty using the first sounds of words to help himself at difficulty.</td>
</tr>
</tbody>
</table>

Table 29. Patterns of Interacting and Nathaniel's Changing Reading Behaviors
In the following sections I will compare Nathaniel and John’s patterns of interactions and their changing reading behaviors and then summarize my findings. Finally I will discuss how these patterns of interactions further a child’s literacy acquisition.

**Comparison Of Nathaniel And John’s Patterns Of Interactions And Changing Reading Behaviors**

It is interesting to note that the frequency and types of scaffolds present in Nathaniel’s lessons were very similar to those in John’s lessons. I had expected that the type of scaffolding co-constructed by teacher and student would be markedly different in John and Nathaniel’s lessons. I hypothesized that this would be a likely explanation to account for the dramatic difference in John’s progress as compared to Nathaniel’s.

However, it seems that Adrienne was just as responsive to Nathaniel’s moves as she was to John’s. In other words, Adrienne was able to respond to both students’ moves, most often with a helpful move that brought the student further along. This assertion is supported by the low frequency of misleading scaffolds in Nathaniel’s lessons.

I also demonstrated that John made better progress in reading than Nathaniel. John read texts at an increasingly difficult level with more and more independence. Over the course of the study there were fewer and fewer cycles of interaction between John and Adrienne because John was able to read longer stretches of text with less support from his teacher.

If the frequency and type of scaffold used by the teacher cannot account for the difference between Nathaniel and John’s progress, perhaps the nature of the talk within the scaffolds can. The result of my analysis of the types and frequency of teacher moves showed that Adrienne’s moves with John were quantitatively and qualitatively different from John. In other words, what Adrienne was questioning the student about, what she was directing the student to do, if and when she demonstrated an action to the student - this
is the critical feature of scaffolded instruction that emerged in this case study. This finding should not be surprising given the fact that the instruction in this literacy tutorial program is meant to be individualized.

In the next section I will discuss how the talk differed in the lessons and suggest why this may have been a critical factor to John and Nathaniel’s literacy learning.

**Content Of Scaffolds In John And Nathaniel’s Lessons**

The most notable difference between the content of the scaffolds in John and Nathaniel’s lessons is the type of teacher moves that were present. Nearly one quarter of all Adrienne’s moves were demonstrating moves, with the exception of week six. Early on in the program she did not direct John to take a specific action - but she increasingly used this move by weeks nine and twelve. It can be inferred from the frequency and types of moves in the scaffolds in John’s lessons that Adrienne demonstrated actions before she directed him to try them himself.

From the outset the moves in Nathaniel’s scaffolds were mostly directing and questioning moves. Although Adrienne used demonstrating moves in week three of the program - they only made up 14 percent of her moves, compared to 24 percent in John’s program at that time. Thereafter, Adrienne rarely demonstrated for Nathaniel. Instead she seemed to make more directing and questioning moves. As a result, because she had not first demonstrated for Nathaniel, she was directing him to take actions that she had not taught him or she was questioning him about things he did not know.

For example, often Adrienne directed Nathaniel to try the first sound to help himself at difficulty, however she rarely demonstrated for him how to reread and articulate the sound of the first letter of the word. This was a common move in John’s lessons. In fact, nearly every demonstrating move recorded for John represents this kind of action early on: the teacher reread and articulated the first sound of the word. I suspect that without these
demonstrations of what it meant to "try the first sound" then Nathaniel did not know how to do what he was being directed to try.

In summary, my analyses of the talk within John and Nathaniel's lessons leads me to conclude that while the presence of scaffolds within their lessons was critical to their learning, the actual content of the talk was as critical. It became apparent in this study that while a teacher's moves may be helpful in bringing a student further along, these moves may be helpful only for the moment, perhaps helping the child to read a particular word or even a book. This might explain why Nathaniel made such limited progress in comparison to John even though the scaffolds in Nathaniel's lessons were usually continuous or mended scaffolds, with no more misleading scaffolds than John.

I will conclude this chapter by suggesting how the patterns of interactions that I have described are linked to self-controlled and self-regulated behavior.

Patterns Of Interactions Which Further Literacy Acquisition

Throughout this chapter I characterized the patterns of interactions that I found in my study of Adrienne's lessons with two of her students. In the last section of this chapter I will use this evidence to support my final finding: that John's reading behaviors had become self-regulated and Nathaniel's had not.

I stated in chapter two that self-regulated behavior can be defined as having a flexible plan of action at difficulty and that being able to guide and monitor one's actions from within was an important hallmark of self-regulated learning (Diaz, Neal & Amaya-Williams, 1990). I gave several examples of what self-regulated learning looks like, including the example of my learning how to ski. Within this case study I found an abundance of evidence that John's reading behavior has become self-regulated.

An important piece of evidence is the finding that John took on a larger role in problem solving when he came to difficulty while reading his new book. The percentage of
moves that he made increased steadily over the course of the study, while the teacher's role diminished somewhat. This behavior indicates a growing independence on John's part, as though he was developing his own plan of action.

Also, as I concluded earlier, it became apparent when I examined John's changing reading behaviors that toward the end of the study he was able to use meaning, structure and visual cues flexibly at difficulty. For example, during one lesson in week twelve of the study John used several different plans of action as displayed here in the following example:

<table>
<thead>
<tr>
<th>Cycle</th>
<th>Transcription</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S: So he huffed and he puffed and he blow</td>
<td>The Three Little Pigs (L13)</td>
</tr>
<tr>
<td></td>
<td>S: (noticing move)</td>
<td>So he huffed and he puffed and he blew</td>
</tr>
<tr>
<td></td>
<td>S: and he blowed the house in</td>
<td>the house down.</td>
</tr>
<tr>
<td></td>
<td>T: Did that look like it could say “blowed”?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>S: he blew the house in.</td>
<td></td>
</tr>
</tbody>
</table>

Table 30. John's Problem Solving, Week 12

In this example John appeared to use meaning and visual cues when he substituted "blow" for "blew". It is possible that he noticed this attempt did not fit the structure of the sentence so he amended his attempt to "blowed". At this point his teacher intervened and questioned him to think about what the word look like. John changed his substitution and said "blew".

In another example from the same lesson, John initially made all three cues match when he said "slipped" for "slid" and then appeared to search the visual cue more carefully when he said: "sl, sl, sli, slid."
In yet another example from this lesson, John initially made meaning and structure cues match but ignored the visual information when he substituted “top” for “cover” when he read about the pigs putting the cover on the pot once the big bad wolf slipped down the chimney. He appeared to notice the gross visual mismatch because he immediately said, “No, cov-, covered.” The teacher then questioned him, asking if that (pointing to the picture) could be called a cover.

I concluded earlier in this chapter that John had a flexible plan for problem solving by the end of the study and these observations lend weight to that finding. I also presented findings about Nathaniel’s reading behavior during read aloud times and the running record component that suggested Nathaniel’s reading behavior was self-controlled. Nathaniel did not seem to have a flexible plan of action at difficulty. Instead he usually relied on meaning and structure cues, often ignoring the visual information beyond making a one-to-one match. Adrienne usually had to support him to use the first letter of a difficult word. As well, Nathaniel’s role in problem solving did not increase over time - instead, he and Adrienne shared the moves within the cycles nearly evenly over the 12 weeks.

Summary
The purpose of this study was take a closer look at the nature of the talk to reveal how the adult is able to scaffold the child’s literacy learning. In order to do that I related the students’ changing literacy behaviors to their interactions with Adrienne. I found that Adrienne was better able to scaffold John’s learning than Nathaniel’s. I concluded that since the frequency and type of scaffolds were similar in both lessons, the talk within the scaffolds must have been critical to each student’s learning. This talk was critical to John’s reading behaviors moving from being self-controlled to self-regulated and Nathaniel’s reading behaviors remaining self-controlled by the end of the study.
CHAPTER 5

Discussion

Introduction

My study is situated in a sociocultural perspective that acknowledges the essential role of others in a child’s learning. These “others” in a child’s life have a critical tool to scaffold a child’s learning through zones of proximal development: language. Within the teaching context, language shifts from social speech to a child’s private speech until it is transformed into inner speech. This internalization of language occurs as a child’s behavior moves from being self-controlled to self-regulated. A goal of my study was to relate a child’s growing literacy understandings to his language interactions with his tutor, while the student read a new book with the teacher’s support.

I used a qualitative case study approach (Patton, 1990) in order to describe the language interactions between a teacher and two of her students as they worked together in a one-to-one literacy tutoring situation. Three research questions guided my inquiry:

1. What is the nature of the interaction, as characterized by the patterns of talk, between teacher and child when the child reads a new book with the teacher’s support?
2. How do the patterns of interaction between teacher and child change, in relation to the child’s changing reading behaviors?
3. How does the pattern of interaction during critical learning moments further the child’s literacy acquisition?
In the remainder of this chapter I plan to discuss my findings and position them in a broader theoretical framework.

**Discussion Of The Findings**

**Question One: Describing The Nature Of The Interaction**

Rogoff (1997) maintains that one of the things a researcher must do in order to understand development from a sociocultural perspective is to examine how a child’s participation in an activity changes over time. My response to question one accomplishes just that: I described the students’ changing participation in the tutoring activity by outlining the nature of the interactions between student and teacher across four points in time.

In order to characterize the nature of the interactions I calculated the ratio of cycles to the number of words read by the student and I also determined the division of moves between student and teacher at weeks three, six, nine and twelve of the study. This provided me with an understanding of the nature of the interaction in terms of how the talk was being shared and how often the student and teacher were interacting. These data provided important information over time about each student’s growing independence as a reader.

For example, I found that as John’s lessons progressed he read longer stretches of text with less support from his teacher. The ratio of cycles to words read increased over time indicating less need of teacher talk and therefore fewer interactions. In addition, the teacher’s share of moves, or turns within the cycles, decreased as time went on indicating that John was taking greater responsibility for his problem solving at difficulty.

By contrast, even though Nathaniel read more and more text with fewer cycles of interaction, he consistently needed support more frequently than John. This pattern occurred even though Nathaniel continued to read texts at about the same low level over the
course of the 12 weeks. Yet John was demonstrating a growing independence from his teacher all the while reading increasingly difficult text.

The patterns of interaction that I have described between both dyads (John and Adrienne, Nathaniel and Adrienne) exemplifies Tharp and Gallimore’s model of a zone of proximal development (ZPD). They characterized the ZPD as a series of stages through which a learner moves on his way to independence (Tharp & Gallimore, 1988). My study adds to Tharp and Gallimore’s work by bringing their concept of a ZPD to life.

In stage one of Tharp and Gallimore’s ZPD assistance is provided by more knowledgeable others. My study extends their work by describing kinds of assistance and how it may be offered. Adrienne, as the more knowledgeable other, intervened more often earlier in the study than later so that there were more cycles of interaction per words read early on in the study. In addition, a larger proportion of the moves within the cycles could be attributed to the teacher earlier in the study, declining as time went on.

Further evidence to support Tharp and Gallimore’s model of the ZPD comes from my data that shows John’s participation increased steadily throughout the study. This changing behavior illustrates what Tharp and Gallimore describe as a “...steadily declining plane of adult responsibility for task performance and a reciprocal increase in the learner’s proportion of responsibility” in stage one of the ZPD (Tharp & Gallimore, 1988, p.35).

Tharp and Gallimore go on to describe the hallmark of the second stage as “assistance is provided by self” (p.36). A common form of self-assistance reported by Tharp and Gallimore is “self-talk” in which an individual talks to himself in order to direct his behavior. Although I did not report evidence of self-talk from this study, the growing presence of John’s moves during the cycles of interactions provide support for Tharp and Gallimore’s theory that a transition to assistance being provided by oneself does occur.

Even the interactions that I described between Nathaniel and Adrienne can be understood from Tharp and Gallimore’s model of the ZPD. Just like John, Nathaniel read
more and more text independently however he consistently needed as much support from Adrienne, the more knowledgeable other, than John. In this respect it can be said that Nathaniel remained in stage one of Tharp and Gallimore’s ZPD in that he required assistance from his teacher and did not progress to being able to provide assistance for himself.

In stage three Tharp and Gallimore describe performance as being automatized and developed. My description of John’s reading behaviors near the end of the study seem to support this notion. He was able to flexibly and quickly use the cues available to him to support his plans of action at difficulty.

It is difficult however to see how the findings from my study support Tharp and Gallimore’s model of the ZPD beyond stage three. In stage four, de-automatization of performance leads the learner back through the ZPD in a recursive loop to begin again at either stages one or two. By this process, performance is enhanced, improved and maintained (p.39). Tharp and Gallimore note that de-automatization can occur because of environmental changes, individual stress, physical trauma or other major emotional upheavals in one’s life. It is possible that Nathaniel and John moved through this final stage and made recursive loops back through the ZPD but my data analyses were not directed at examining this phenomenon.

**Question Two: Relating Patterns Of Interaction To Changing Reading Behaviors**

In order to understand how the patterns of interaction shifted in relation to each student’s changing reading behaviors I did two things: I carried out a more detailed set of analyses on the moves and scaffolds present in the interactions and I examined each students’ changing reading behaviors while they read independently.
**Moves**

I examined the teacher’s moves more closely than I had in question one by coding her talk. My coding was similar to that described by Wong et al. (1994). They compared teacher support to a student in a one-to-one tutorial setting when the student read a familiar book then a new one. Wong et al. found that teachers increased their support to students when the students read a new book compared to their reading of a familiar book.

These researchers identified five distinct types of scaffolding comments. *Telling* comments were made to give a student a word or an explanation of structure or meaning. *Modeling* comments involved explicit demonstrations of an act the student was expected to do himself. *Prompting* comments were made to focus the student’s attention on visual, meaning and/or structure cues. *Coaching* comments took the student outside the reading act itself and focused on how the student was responding. These comments usually occurred after the student finished reading the book. Finally, *discussing* comments included talk about the text and focused on the meaning of the story.

My study adds to Wong et al.’s in several important ways. First, similar categories of teacher talk emerged from my study. I used the term “move” instead of “comment” but they appear to refer to the same thing: the teacher talk in the lesson. In both studies, the “telling” move was identified in a similar way and my demonstration move is the same as their modeling comment. In this way, my study lends support to their identification of these types of teacher comments.

However, unlike Wong et al., I more explicitly identified the teacher talk present in their categories of prompting and coaching. My moves included directing, confirming, praising and questioning. This finer analysis of the prompting and coaching comments allowed me to better discern levels of teacher support that were critical to the scaffolding process. For example, directing a student to take a specific action was always less supportive than demonstrating for the student.
This distinction led to an important finding in my study: that Adrienne used demonstrating moves early on in John’s lessons often in conjunction with a questioning move and that directing moves did not take on as large a role until about week nine of the program. By contrast, Adrienne rarely used demonstrating moves in her interactions with Nathaniel early on in his lessons - instead she frequently used directing or questioning moves. I concluded that since John made dramatically better progress than Nathaniel, perhaps the presence or absence of demonstrating moves had a critical impact on their reading behaviors.

This finding would support the theory expressed in Wood, Bruner and Ross’s (1976) early study of scaffolding that, as in language acquisition, comprehension must precede production of new learning. That is, by demonstrating to John certain behaviors such as rereading and articulating the first letter, Adrienne supported John in understanding the behavior. Her clear demonstrations preceded his production of the behavior. However, the absence of demonstrations in Nathaniel’s lessons may have resulted in his not understanding the task and therefore not being able to produce helpful reading behaviors when they were needed.

As a result, just as Wood and Middleton (1975) found in their seminal study of scaffolds, Adrienne’s repeatedly directing Nathaniel to take an action that he did not yet understand and could not yet do, only “increased his estimation of the task’s difficulty and lessened his enthusiasm for it” (p.189).

Scaffolds

When I examined the teacher and student interactions during the reading of the new book, I also found like Hobsbaum, Peters and Sylva (1996) that the talk could be viewed as cycles which were punctuated, in my study, by accurate reading and the student’s independent problem solving. I diagrammed these cycles and created typologies of
scaffolds. Within these scaffolds existed "critical learning moments" in that there were opportunities for the student to further his understanding at difficulty, by his teacher's support.

In this way I went beyond Wong et al.'s (1994) study in that I did more than identify the types of moves present in teacher talk. Wong et al. stated that they could not link the teacher comments to the students outcomes (p.22). By contrast, I diagrammed the teacher moves to show how they combined together to form scaffolds, and I linked these types of scaffolds to student outcomes in reading. In this way I was able to show that even though scaffolds might be present in a student's lesson (as they were in Nathaniel's) this did not ensure the student's growing literacy understandings.

I identified three types of scaffolds: continuous, mended and misleading. Continuous scaffolds were quite remarkable by their presence because they meant that every teacher move brought the student a step further in problem solving. Mended scaffolds were characterized by the teacher's repairing a non-helpful move immediately by following it with a helpful move. Even these were quite exciting to see because they indicated that the teacher was following the student's responses closely by reconstructing the scaffold on the run to fit the child's needs. The third type of scaffold was a misleading scaffold characterized so because the teacher made at least two consecutive moves that the student could not build upon to further his problem solving.

I found that the same scaffolds existed within John and Nathaniel's lessons with the same frequency at weeks three, six, nine and twelve. In other words, as an example, in week three Adrienne used continuous scaffolds as often for both students. This was true for each type of scaffold. I was surprised by this finding because it meant that there were no more misleading scaffolds in Nathaniel's lessons than John's yet Nathaniel's progress was so much poorer. It seemed incongruous that Adrienne could be as effective in scaffolding John's learning as she was Nathaniel.
A similar conclusion was also reached by Frasier in her study of talk in a literacy tutorial program (1991). She also found strong evidence of a teacher constructing a series of scaffolds in response to a child's learning despite the fact that one student made slow steady progress and the other made fast progress - just like Nathaniel and John in this study.

These similar findings raised a question for me: if the teachers in both studies were indeed creating responsive scaffolds then how was it one student made quick progress through the ZPD toward independent learning and the other remained in the initial phase, needing as much support from his teacher?

Frasier (1991) looked for answers within the students, citing factors such as differences in the students' oral language, concepts about print, willingness to take risks and their ability to link new concepts to those that were already familiar. My study extends Frasier's work in that I examined the language interactions between student and teacher as a possible factor for the students' differential progress.

As I stated earlier I found that the nature of the talk between teacher and student was qualitatively different between Adrienne and each of her students. Adrienne demonstrated more frequently and consistently for John than she did for Nathaniel. She combined these demonstrating moves with questioning moves. It may be that as a result of this kind of linked move, Adrienne helped John understand the task and then invited him through her questioning to take over the behavior himself.

In many ways, these findings support the six functions of a tutor identified by Wood, Bruner and Ross (1976, p.61) in their study of three, four, and five year olds being tutored to construct a toy pyramid. They found that tutors have these functions:

1. Recruitment of the student's attention to the task.
2. Reduction in degrees of freedom by simplifying the task for the student.
3. Direction maintenance; keeping the student in pursuit of the task.
4. Marking critical features or pointing up discrepancies between the student's attempts and the correct production of the task.

5. Frustration control.

6. Demonstration or modeling solutions to the task.

My study certainly supports Wood, Bruner and Ross's finding that a critical function of the tutor is to demonstrate the task. They defined demonstrating as imitating "in idealized form an attempted solution tried (or assumed to be tried)"...(p.61). My study supports their finding in my assertion that the critical element of demonstrating was missing from Nathaniel's lessons. Without the teacher's "imitation" or demonstration of the act to be tried, Nathaniel floundered in his reading attempts.

In addition, as in Wood, Bruner and Ross's study, it was the role of the tutor in my study to point up discrepancies to the student between his attempt and the actual word on the page. My study however, extends Wood, Bruner and Ross's by identifying how the teacher does just that: through her questioning, telling, directing, demonstrating, praising and confirming moves.

The tutor in my study also carried out the other roles identified by Wood, Bruner and Ross. Adrienne simplified the task of reading by choosing appropriate books which she thought were easy enough for the student to read while learning one or two new things. Adrienne also worked at keeping the students in pursuit of the objective: that of reading the new book. This was especially evident in Nathaniel's lessons toward the end of the study when she dramatically increased her use of praising moves.

However, my study also extends Wood, Bruner and Ross' (1976) notion of scaffolding. Their early studies of scaffolding were confined to building a toy yet the task of learning to read cannot really be compared to that activity. After all, the children in these early studies were not expected to build another more complicated toy with more independence than the previous one. Yet this is the nature of the task before any child
learning to read. As the concept of the ZPD implies, the child has to learn how to take over the task for himself so that he can do it on his own.

My study extends Wood, Bruner and Ross's concept of scaffolding by examining it as a process toward self-regulation of behavior, not simply as a process to master a particular task. I found that scaffolding can in fact be present without self-regulation of behavior occurring. This may be due to differences in the nature of the talk in lessons. This is not be surprising given the fact that the process of self-regulation involves the internalization of speech from a social role to that of inner speech.

In addition to analyzing the patterns of talk in more detail I also related these interactions to each student's changing reading behaviors. My description of John and Nathaniel's reading over time fits well with Diaz, Neal & Amaya-Williams (1990) differentiation between self-controlled and self-regulated behavior. By the end of the study, John had developed a flexible plan of action at difficulty. He used meaning, structure and visual cues in flexible ways in order to problem solve and he did so with increasing independence on more difficult text, as I discussed earlier. These behaviors fit Diaz, Neal & Amaya-Williams (1990) description of self-regulated behavior.

Nathaniel however had developed a rigid plan of action at difficulty: he used meaning and structure cues quite well and sometimes noticed when the visual information did not match. Most often his teacher prompted him—often by directing and questioning moves—to notice that the first letter of his attempt did not match the first letter of the word on the page. His reading behaviors truly were controlled by the teacher in the sense that Nathaniel noticed the visual information when he was directed to it by Adrienne. When he read independently in his classroom during read aloud time he often abandoned the visual information in favor of inventing the story through its pictures.
Question Three: Patterns Of Interaction And Literacy Acquisition

My response to question three took up the challenge posed by Cazden (1997) who said that our task as researchers is to examine whether or not assisted performance does in fact lead to later development. In responding to this challenge, I attempted to relate the patterns of interaction between student and teacher to the students' changing reading behaviors.

I have already alluded to my findings for question three in my discussion of question two. I concluded that while it is critical to have scaffolds present for learning, scaffolds are not always sufficient. It is just as critical to examine what is talked about in these scaffolds. As I have demonstrated, it is possible for scaffolds to be present in learning situations without the learner moving towards independence and self-regulated learning.

This finding gets to the heart of Cazden's (1997) concern when she questioned the kind of assistance we are offering children as we scaffold their learning. Is it the kind of assistance that helps children get the answers to the teacher's questions or the kind of assistance that will help children answer similar questions in the future? Even though Cazden was referring to a child's development of discourse, her questions are particularly relevant to the literacy tutoring context that I studied.

My findings demonstrate that it is indeed possible to scaffold a child's performance without improving their understandings of the process. This is evident from my conclusion that Nathaniel had not developed self-regulated behaviors for reading. He used the same cues (meaning and structure) in the same way at difficulty. He did not contribute more moves to his lessons as John did, instead Nathaniel continued to share moves with Adrienne at about the same rate. Even so, there were few misleading scaffolds present in Nathaniel’s lessons.
I believe that there was a difference in the quality of John’s and Nathaniel’s scaffolds in terms of the kind of talk used by the teacher. For example, an examination of the kinds of questioning moves made by Adrienne to Nathaniel revealed that she asked Nathaniel questions to get him to identify the next letter, or sound of a letter. By contrast, she asked John questions about the process of reading: asking him if he was right, how he knew he was right and how he could help himself at difficulty. As Cazden wondered, differential assistance can be provided by scaffolds: assistance that helps the student answer the teacher’s next question, and assistance that is generative to other learning situations.

In this sense, my findings are somewhat different from Cazden’s conclusion that, in school contexts, the structure of the scaffolds must change to support the growing competence of the child (Cazden, 1986). Cazden found that teachers simply varied the content of the “slots” (equivalent to “moves” in my study) making the content of the slots increasingly complex and this was not as critical as changing the structure of the scaffold. By contrast I am arguing that it is not the structure of the scaffolds, at least in this study, that warrant examination as it is the content of the slots. The difference is our findings likely lie in the fact that Cazden was referring to scaffolding in classrooms whereas I studied scaffolding within the context of one-to-one tutoring.

Implications

Cazden (1988) and Bliss, Askew & Macrae (1996) all concur that it may be more difficult to scaffold a child’s learning in a school setting where specialized knowledge is concerned than the kind of everyday learning that takes place in the home. I would disagree. It seems to me that it is easy to scaffold a child’s learning - after all Adrienne provided continuous and mended scaffolds to both Nathaniel and John. Rarely did she mislead either of them by her moves to support their learning.
The real challenge it seems to me on the basis of this study, is to scaffold a child’s learning so that behavior becomes self-regulated and does not remained self-controlled. Scaffolds can be provided, as they were to Nathaniel in this study, but they may not move a student beyond the early stages of the ZPD. Nathaniel still required as much teacher support to problem solve at the end of twelve weeks as he did in the beginning - and the level of the text remained about the same. Understanding this process will require a close examination of the content of the moves. What is the teacher questioning the student about? Is the teacher demonstrating helpful moves that the student can use to problem solve? Does she invite the student to take this behavior on for himself?

In addition, there is an important implication for one-to-one tutoring that emerges if one understands John and Nathaniel’s development from the perspective of Tharp and Gallimore’s model of the ZPD (1988). Instead of focusing on Nathaniel and conditions within him as being the cause of his slow progress, attention is focused more on the way in which the teacher provided support to him.

For example, the possibility that Nathaniel may have had a specific learning disability as the cause of his difficulty in learning to read now takes on less significance. Instead, focus shifts to the kind of support offered, or not offered to him by the teacher. If a student fails to make progress, one may ask for example, “What is the nature of the support that the teacher is giving the student?” “Has the teacher provided clear demonstrations of the tasks required of the student?” “Has the teacher continued to give clear demonstrations even as the task becomes increasingly more complex for the student?” “Is the teacher directing and questioning the student to take a move that he does not understand?”

It may be argued that such a perspective places too much responsibility on the teacher if the student does not succeed. It seems to me however, that rather than condemning the teacher, this perspective places tremendous power in her hands.
once it may have been assumed that a child could not learn because of difficulties beyond the teacher's control (for example an impoverished home life, learning disabilities) it can now be assumed that the teacher can have enormous influence in a child's learning.

**Directions For Further Research**

There are several areas for further research that arise as a result of this study. First, a critical component to the reading of a new book went unexamined in my study and that is the teacher's introduction of the new story to be read. Before a new book was read, the teacher always spent several minutes discussing the main idea of the story, some important events and any unusual language structures or words (only one or two) that the student might encounter. The nature of this book introduction seems critical to the student's subsequent reading because it set the scene for the student's problem solving to come.

I noticed that Adrienne's introductions to the new books for Nathaniel and John seemed qualitatively different. Often with Nathaniel she emphasized the words of the story - once even managing to tell him every word in a book before he began to read. At that time Adrienne had a good rationale for making the story so easy to read yet I wonder if this gave Nathaniel the idea that his job in reading was to memorize the story, word for word. He seemed to read books during read aloud time that he had memorized.

Perhaps making it easy to learn to read means choosing books that will support what a child presently knows while providing a few opportunities for learning something new. In this way there would be little need to tell the child everything he is about to read. The teacher would then be able to support the child in focusing more on the process of active problem solving rather than knowing every word before beginning to read.

Another direction for future research might be to examine in even greater detail the nature of the teacher talk in one-to-one tutoring. For example, what kinds of questions, directions, demonstrations were given by the teacher as part of her scaffolding? It seemed
to me that there were many levels of questions that were asked of each student. For example many of Adrienne’s questions of Nathaniel involved identifying a letter (What’s that letter?) or identifying the sound that a letter made. By contrast her questions of John seemed to be about processes of reading (Are you right?, How do you know?). No matter the level of the question, the resulting typology of the scaffold would likely be a continuous one, the implication being that the scaffold was a helpful one. As I have discussed however, not all scaffolds are helpful in supporting a child in becoming a self-regulated learner.

Another direction for future research might include a focus on describing the nature of the student and teacher interactions in greater detail. In characterizing the teacher and student interactions I relied on the verbal communication between them: the talk itself. People however, communicate using non-verbal language as well. It may be a useful line of inquiry to include non-verbal communication in a future analysis of teacher-student interactions in a one-to-one tutoring situation.

Finally, research that supplied evidence of the transformation of language from social speech to inner speech as a student moved toward self-regulation would be useful. My study turns on the understanding that this is the process by which language is a tool for scaffolded learning. However, I did not provide evidence of the changes in language use along the way to self-regulation.

Instead, I provided evidence of self-controlled and self-regulated reading behaviors on the basis of the students’ changing reading behaviors. I assumed that the process of internalization of language had occurred when John’s reading behaviors became self-regulated. A study that demonstrated these changes in language use would be helpful in supporting the notion that language is indeed a tool for learning.
Limitations Of The Study

There are limitations to every study and I plan to address these now. My findings cannot be generalized, nor are they meant to be. An experimental study had already been conducted by Pinnell, Lyons, DeFord, Bryk and Seltzer (1994) in which they found the success of the Reading Recovery program to be due to at least three important factors: the one-to-one tutoring, the nature of the tutor’s training and the program’s instructional approach. As part of their findings, Pinnell et al. also noted that there seemed to be something powerful about the interactions between the student and teacher that contributed to the student’s success.

A goal of my study was to characterize the interactions within this literacy tutoring context and relate them in a qualitative manner to a student’s changing reading behaviors. Therefore, even though the results of this present study are not generalizable, the findings are important because they lend support and extend findings from previous research as I discussed earlier in this chapter.

Another important limitation of my study is that I did not take into account the role of the text in the student’s literacy learning. Without analyzing the texts I cannot say whether or not the books Nathaniel read were more or less supportive of his attempts to read. For example, it may be that the illustrations in John’s books matched the text very well, providing good support to the beginning reader. It could be that Nathaniel was often given books with odd language structures and he could not check his attempts to read against what he knew about how the English language sounds. Perhaps John routinely read books that contained predictable, repetitive patterns that made it easy to read. Without conducting this analysis of the texts the students read I cannot say how large or small a role the nature of the texts played in John and Nathaniel’s reading progress.

It is important to note as well that my interpretations of the events of this study form just one perspective as to how the interactions related to John and Nathaniel’s literacy
understandings. There are other perspectives as well, just as meaningful and just as important as my perspective. For example, Adrienne’s perspective of the events, though not represented here in this study are just as worthy as mine. John and Nathaniel have their own perspectives as to why it was easy or hard for them to become literate - each perspective has merit. Their parents’, classroom teachers also have views about John and Nathaniel’s literacy acquisition. My perspective, represented here in this study, is my own view based on my present analyses of the data.

Conclusion

Many children will learn to read seemingly on their own. They have figured out the process just like one of John’s friends who told him in the classroom when John came to a difficult word, “Look at the pictures, they’ll tell ya what it says.” For these students there will not be a need to closely examine one’s talk because they are not vulnerable to instruction. However, students who are struggling to acquire literacy need that personal introduction to reading to help them puzzle out the process. They need clear demonstrations of the task and then opportunities to try out their problem solving on books that have been carefully selected to meet their needs.

This study has been about making it easy for students to learn to read through a careful examination of our language interactions with students in a one-to-one literacy tutoring context. This context has the potential to provide powerful occasions for learning especially if teachers combine their theories of the task at hand and what needs to be learned, with their theories of their students’ abilities. Wood, Bruner and Ross (1976) noted that it is in the interaction of these two theories that the requirements for the tutorial become apparent. They concluded that effective tutorial instruction is therefore task and tutee dependent.
I would add that effective instruction is also dependent on the nature of the student-teacher language interactions. This dynamic element is created when teacher, task and student come together. It can be molded to a large degree by the teacher insofar as she can examine and change her own talk and in this way, create a rich learning context for a student who is just emerging into literacy.
Sample Letter of Consent to be Mailed to Parents

Date

Dear

Your child’s Reading Recovery teacher has been selected to take part in a study about how young children learn to read in a one-to-one tutoring setting. As a result, because your child will be one of her students this fall, your child has also been selected to participate in this study. The title of my study is “Understanding Teacher and Student Talk During Literacy Instruction in a One-to-One Literacy Tutoring Setting”. This study is part of a dissertation that is being conducted under the supervision of Dr. Carol Lyons at the Ohio State University.

I would like your permission to observe your child’s Reading Recovery lessons so that I can study the teaching that goes on during the lessons. I would like to video tape eight of your child’s lessons over a 12 week period. I would also like to audio tape all your child’s lessons for 12 weeks. I will be present for eight of these lessons to observe as well as audio tape. Every two weeks I would like to observe your child during a Read Aloud time in the classroom. These would be short observations and done at a time when the first grade teacher normally would have the children reading aloud. Finally, I will have access to your child’s results on the Observation Survey; a literacy survey which is given to all first graders at the beginning of the school year.

The video and audio tapes will be used for research purposes only and will not be shared in any way with the school for evaluation purposes. They will be kept in my possession for five years and then be destroyed. Your child’s name will never be used on any information that I collect, nor will the teacher’s name be used. Your child will not be asked to do anything differently or to take part in any activities outside of the usual Reading Recovery lessons. In fact, your child’s Reading Recovery lessons will go on as would be expected for any child in the Reading Recovery program - there will be no disruption to your child’s lessons. Your child will take part in Reading Recovery even if you choose not to participate in this study. Participation in this study is strictly voluntary and will not affect your child’s standing in the Reading Recovery program.

If you have any questions please contact me at 688-0714, my supervisor Carol Lyons at The Ohio State University, at 292-2263 or your child’s Reading Recovery teacher. Please sign in the appropriate space below and return to your child’s Reading Recovery teacher. I will send you a photocopy. You may withdraw your consent to participate at any time.

Sincerely,

Emily Rodgers  Dated  Carol Lyons  Dated
Doctoral Student  Advisor  Principal Investigator
The Ohio State University  The Ohio State University

I CONSENT to my child’s taking part in the study.
Signature: __________________________ Date: __________________________

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Dear [Teacher's Name],

Your Reading Recovery Teacher-Leader recommended you as an effective Reading Recovery teacher. I am writing to invite you to take part in a dissertation study that I would like to conduct during the first 12 weeks of the 1997-98 school year. I would like to explain the purpose of my study and what your involvement would mean. Please note that you do not have to participate in this study, it is completely up to you whether or not you take part. There will be absolutely no prejudice to you if you do not wish to participate.

The title of my study is, "Understanding Teacher and Student Talk During Literacy Instruction in a One-To-One Literacy Tutoring Setting". The purpose of this study is to investigate the role of talk in a one-to-one tutoring setting. In order to do this, I will conduct an in-depth analysis of one expert Reading Recovery teacher in order to describe the pattern of interaction between the teacher and her four students.

I plan to collect the following data over the course of 12 weeks beginning at the start of the 1997-98 school year.

- For each of four students, videotape two consecutive lessons at four points in time, for a total of 32 lessons. The four points in time would be weeks 3, 6, 9 and 12 of the Reading Recovery program.
- Observe one Reading Recovery lesson with every child once a week, during the weeks that I am not videotaping.
- Audio tape each child’s lesson, over the 12 week study.
- Photocopy daily lesson plans. All identifying information will be removed.
- Every two weeks, observe each child in his or her classroom during read-aloud time.

Sincerely,

[Your Name]
These video and audio tapes will be used for research purposes only. Pseudonyms will be used at all times to protect the confidentiality of the material I collect. I expect that this study should not interfere in any way with the normal course of Reading Recovery lessons.

If you have any questions please contact me at 688-0714 or my advisor Carol Lyons (the principal investigator of this study) at The Ohio State University, at 292-2263. Your signature below indicates your willingness to take part but you may withdraw your consent at any time. I will give you a photocopy. Please see the attached protocol for more detailed information about my study.

Sincerely,

Carol Lyons
Professor Principal Investigator
The Ohio State University

Dated

Emily Rodgers
Doctoral Student
The Ohio State University

Dated

I agree to take part in this study.
Signature: _____________________________

Date: ________________________________

I do not agree to take part in this study.
Signature: _____________________________

Date: ________________________________
APPENDIX B

SAMPLE DAILY LESSON PLAN
# Lesson Record

**NAME:** John  
**WEEK/LESSON:** 9 - 26  
**RR TEACHER:**  
**DATE:** 11-5

## Reading

| NEW TEXT | RE-READING | STRATEGIES 1) USED 2) PROMPTED | TAKING WORDS APART | 1. Letter Identification  
2. Making and Breaking |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Splash Splash @ Mrs. Wisby's Oceans</td>
<td>Splash Splash</td>
<td>we look(s)</td>
<td>look on we day</td>
<td></td>
</tr>
</tbody>
</table>
| Running Record Book  
Title: Pat's New Puppy  
Level: 9F  
Acc: 1.5 | Pat's New Puppy | home be ed | |

## Writing

<table>
<thead>
<tr>
<th>SENTENCE</th>
<th>CONSTRUCTING WORDS AND FLUENCY PRACTICE</th>
<th>SPATIAL CONCEPTS</th>
<th>SEQUENCING</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>I took him for a ride</td>
<td>cancelled to took</td>
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<td></td>
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<td></td>
<td>for</td>
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</table>
APPENDIX C

SAMPLE RUNNING RECORD
**RUNNING RECORD**

**Name:** John  
**Date:** 11-22  
**Week:** 9  
**Lesson:** 26  
**Level:** 7

<table>
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<tr>
<th>Text Titles</th>
<th>Running Words</th>
<th>Error Rate</th>
<th>Accuracy Rate</th>
<th>Self-Correction Rate</th>
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<tr>
<td>Easy</td>
<td></td>
<td>8/5</td>
<td>1: 17</td>
<td>97%</td>
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<tr>
<td>Instructional</td>
<td>Pat's New Puppy</td>
<td>1: 1.5</td>
<td></td>
<td></td>
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<tr>
<td>Hard</td>
<td></td>
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<td></td>
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</table>

**ANALYSIS OF ERRORS AND SELF CORRECTION**  
Information used and neglected  
Meaning (M), Structure or Syntax (S)  
Visual (V)

**Easy**  
*Lots of good work. Uses MSV together, good visual checking.*

**Hard**  
*CROSS CHECKING ON CUES*  
Note that this behavior changes over time

<table>
<thead>
<tr>
<th>Page</th>
<th>CUES USED</th>
<th>E SC</th>
<th>MSV MSV</th>
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<tr>
<td>2</td>
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14/9  
Analysis of Errors/  
Self-Corrections
REFERENCES


Erikson, F. (1986). Qualitative methods in research in teaching. In M. C. Wittrock (Ed.), Handbook of research on teaching (pp. 119 - 161). NY: Longman.


