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An Analysis of Teachers' Discourse and Their Perceptions Concerning the Use of Questioning and Feedback during Reading Instruction in Third-Grade Classrooms

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AN ANALYSIS OF TEACHERS' DISCOURSE AND THEIR PERCEPTIONS
CONCERNING THE USE OF QUESTIONING AND FEEDBACK
DURING READING INSTRUCTION IN
THIRD-GRADE CLASSROOMS

by

Jennifer C. Farist

A Dissertation

Presented in Partial Fulfillment of Requirements for the

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In

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DEDICATION

I would like to dedicate this dissertation to my children, Kristen and Leila. They have grown weary of this process, but I hope completion of this task will provide an example of the rewards of perseverance for them.

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I would like to express appreciation to my committee who guided me through this process. Dr. Holbein was a great encouragement along the way; she kept me organized, held me accountable, and always moved me in the right direction. Dr. Jiang was always available to answer questions about my methodology, and Dr. Snyder provided expert advice on elementary reading instruction. I would also like to thank my family, friends, and colleagues who encouraged and supported me when I needed it the most.

I am especially grateful to my early childhood doctoral cohort at KSU (Gail, Rebecca, Sally, and Scott) who traveled this journey with me. I would not have survived the doctoral program or successfully written this paper without this special group of friends.

ABSTRACT

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The purpose of this study was to investigate teacher talk during elementary reading instruction. The study was designed to gain insight into existing discourse patterns and to attempt to understand how change in these patterns might be facilitated. The design of the study evolved after a review of existing literature on the topic of teacher talk indicated a lack of widespread, intentional focus on classroom discourse and its potential impact on student learning.

Qualitative methods were used to capture the language used by third-grade teachers during read aloud instruction. Data sources included audio recordings of lessons and teacher interviews. These methods were used to identify common communication patterns in the participating classrooms. After the initial analysis of discourse, the two most commonly used types of teacher talk, questioning and feedback, were investigated with more depth. The goal was to determine not only the types of questioning and feedback used by teachers but also the purpose of these two types of discourse.

Data were analyzed using a sociocultural lens based on the work of Vygotsky. The study was built upon theoretical and empirical evidence that effective teacher talk promotes student learning. The participating teachers were involved in data analysis as

they reviewed transcripts of the read aloud instruction and responded to questions related to their use of discourse in the lessons. Results from the study highlight the need for an intentional focus on the discourse used by classroom teachers and provide insight into social and cultural factors that inhibit productive discourse.

Keywords: teacher talk, classroom discourse, sociocultural learning theory, teacher questioning, teacher feedback

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CHAPTER 1: INTRODUCTION

Background of the study

Student learning is the primary purpose of schooling, and the teacher's role is to create an environment that maximizes student learning. A piece of that critical learning environment is the verbal interaction, or discourse, that occurs within the social and cultural context of the classroom. Vygotsky (1986) recognized the importance of social and cultural contexts to learning, and his theory of cognitive development, now known as sociocultural theory, emphasized the interdependence of social and individual processes. One of these processes, internalization, occurs as social activities evolve into internal mental activities (Vygotsky, 1986). Vygotsky used the term "meaning-making" to describe the process of linking new learning with what is already known. He theorized that meaning-making is dependent upon utterances. The purpose of these utterances is joint meaning-making as one makes meaning for oneself and extends one's own understanding while producing meaning for others (Wells, 1999).

Vygotsky's theory provided a firm theoretical basis for learning and development that is of central importance to education. Though Piaget's theory of child development was popular at the time, Vygotsky agreed with other controversial thinkers of his time period that individual developmental change was not simply biological but also rooted in society and culture. He expanded on writings of his contemporary psychologists who were beginning to recognize the importance of the interaction of humans with their environment. He recognized the important distinction between animals and humans:

animals react to their environment while humans have the capacity to alter the environment for their own purposes (Schunk, 2008).

Vygotsky suggested that the use of sign systems (language, writing, number systems) was unique to humans, evolved as a culture developed, and led to behavioral changes and cognitive development (Vygotsky, 1978). Despite his interest in language as one of these sign systems, Vygotsky's writings lacked specific guidance on the types of language that would best facilitate the learning process in the classroom (Wells, 1999). Apparent gaps in the practical application of Vygotsky's theory to educational settings are likely due to his death at an early age from tuberculosis. Researchers have continued his work and used their interpretation of the sociocultural theory to develop practical teaching models. Educators who support social learning theories believe that knowledge and practical application of Vygotsky's theory will allow teachers to maximize student learning.

Researchers in England developed a teaching approach, called Thinking Together, with the goal of putting "a sociocultural theory of education into practice" (Mercer & Littleton, 2007, p. 69). Their approach places a special emphasis on the teacher as a guide and model for language use. Teachers encourage students to give reasons, seek clarification, ask questions, and listen to each other's ideas. The results of a multiyear study indicate that the Thinking Together program had a positive impact on children's collective problem-solving as well as their individual reasoning capabilities. This provides evidence to support Vygotsky's claim that social interactions (intermental activity) influence individual thinking (intramental activity). The researchers concluded

that the quality of dialogue between teachers and learners and among learners has a potentially powerful impact on learning (Mercer & Littleton, 2007).

Other teaching models, developed specifically for use during reading instruction and based on sociocultural theory, were also examined. Two popular teaching models that fit this description are collaborative reasoning and reciprocal teaching.

Collaborative reasoning promotes critical thinking through classroom discourse. Building on Vygostkian theory, collaborative reasoning analyzes different points of view to form arguments and counterarguments in groups. A study conducted by Chinn, Anderson, and Waggoner (2001) investigated teachers who were trained to use the collaborative reasoning model as part of literature discussions. The teachers were observed to investigate differences in discussions before and after the training. The researchers found dramatic differences in the amount of elaborations and predictions surrounding text made by students after teachers implemented the collaborative reasoning strategies. They also determined that students' ability to provide evidence from text to support statements was ten times higher than before the teacher training.

Reciprocal teaching infuses dialogue, or conversation with a purpose, into reading instruction. This model allows students and teachers to take turns leading dialogue as they discuss the meaning of text. The model also incorporates four strategies into instruction: generating questions about text, summarizing the content, clarifying points, and predicting upcoming content. Researchers examined the effect of reciprocal teaching during reading instruction with different student populations. The authors concluded that implementation of the model produced long-term improvements in student comprehension with small and then larger groups of students (Palincsar, Ransom, &

Derber, 1989). The gains on reading assessment measures were supported by teacher comments concerning the increase in student involvement and sharing of different points of view during text discussion.

Each of these promising models emphasizes the importance of teacher talk during reading instruction. Teacher talk can be defined as anything the teacher says spontaneously, without a script (Frey, 1988). Other studies have supported the value of productive teacher talk in classrooms.

Rojas-Drummond and Mercer (2003) investigated the types of teacher talk that occurred in classrooms that performed well on achievement tests. They found that teachers whose pupils had better outcomes used question-and-answer sequences not only to test knowledge but also to guide development of understanding. These teachers taught more than content; they taught procedures for problem solving and meaning-making. They also treated learning as a social and communicative process with purposeful, active verbal exchanges between students, teachers, and peers.

Additional research examined how specific components of read alouds, when a teacher purposefully incorporates instruction into reading aloud, affected comprehension. This study, conducted by Santoro, Chard, and Baker (2008), evaluated the success of a read aloud program designed to include purposeful discussions about texts, which allowed students to become active participants in learning. Students in the experimental group who participated in the read aloud curriculum produced longer, more elaborate, text-based retellings than those students in the control group. The researchers concluded that the “program appeared to be a promising way to boost comprehension” (Santoro, Chard, & Baker, 2008, p. 407). They also decided it was the explicit comprehension

instruction and active, engaging text-based discussions that promoted comprehension in young readers.

Researchers who have studied the topic of teacher talk have concluded that productive teacher talk has the potential to improve student learning. One researcher described teacher talk as one of the most “powerful tools available to teachers” (Denton, 2007, p. 1). However, research has also identified a needed shift in the purpose of teacher talk and a balance between student and teacher talk.

A review of current research on classroom discourse suggests that patterns in classrooms can be described as teacher dominated: teachers control the topic, the types of questions asked, and the types of responses allowed. Monologue is more prevalent in classrooms than dialogue. Monologue, when the teacher is the only speaker, is frequently used as an instructional tool, while dialogue between teachers and pupils is commonly used for evaluation rather than instruction. One researcher described classrooms in which the focus of discourse seemed to be more on curriculum content and finding the one “right” answer than on the cognitive development of students (Myhill, 2006).

A study by Skidmore, Perez-Parent, and Arnfield (2003) investigated dialogue and its potential effect on student comprehension of text. The study revealed that teachers rarely asked authentic questions during reading instruction. Authentic questions are those for which the asker has not prespecified an answer (Nystrand, Wu, Gamoran, Zeiser, & Long, 2003). Teachers also controlled turn-taking and topics and did most of the talking. During a guided reading lesson, “space for pupils to articulate and develop their own ideas about what they had read was limited” (Nystrand et al., 2003, p. 52).

Wells (1999) noted an abundance of monologic instruction in the multiple classrooms he studied over several years. Monological teaching occurs when the teacher's voice is prevalent in the classroom. In fact, it is the teacher's voice and the teacher's goals that matter most (Christoph & Nystrand, 2001). Wells (1999) discovered that children rarely asked real questions, and teachers seldom asked them to explain their beliefs and opinions.

Researchers have proposed changes that could lead to more effective discourse in classrooms. Though the problems with discourse have been identified by looking at existing discourse practices, the ways to change existing practices are not so easily uncovered. Topping and Ferguson (2005) described a need for teachers to develop automaticity with highly effective teaching behaviors. They believe that this automaticity will come when teachers have access to opportunities to monitor and reflect upon teaching behaviors they use and do not use.

The following conclusions can be drawn from a review of research on teacher talk: effective discourse is a critical component of student learning, classrooms today are dominated by mostly ineffective teacher talk, and researchers have been unable to develop a practical solution to bridge the gap between what should be happening and what is actually happening in classrooms. This study was designed to gain greater insight into existing discourse patterns and to attempt to understand how change in these patterns can be facilitated.

Definition of terms

Classroom discourse is often classified as either *traditional* or *nontraditional*. Traditional lessons, as defined by Cazden (2001), include a sequence of teacher initiation,

student response, and teacher evaluation or follow-up (IRE or IRF). A nontraditional lesson does not follow this sequence and allows for more student responses and topic expansion based on students' interests. Researchers determined that the IRE structure dominates classroom interaction in many classrooms (Wells, 1999; Nystrand, 1997).

Teacher language is described specifically in educational research as *monological* or *dialogical*. Monological teaching occurs when the teacher's voice is prevalent in the classroom. More specifically, it is the teacher's voice and the teacher's goals that matter most. In contrast, a teacher who instructs dialogically fosters learning by including the students' voices abundantly throughout instruction (Christoph & Nystrand, 2001).

The term *read aloud* is sometimes used to describe when a teacher reads aloud to students for enjoyment or entertainment. However, for the purposes of this study, the term *read aloud* is used to describe when a teacher purposefully incorporates instruction into reading aloud (Santoro et al., 2008). This is also referred to as an *instructional read aloud* in reading research. In the setting chosen for this study, teachers read aloud daily to students using questions they had planned in advance to improve and assess student comprehension of text. The literacy coach provided guidelines for teachers to follow when developing questions to be used during read alouds.

Teacher talk can be defined as anything the teacher says spontaneously, without a script (Frey, 1988). Though the questions that were used in the read alouds for this study were not completely spontaneous as they were prepared in advance by individual teachers, they were not scripted for use by all teachers.

The terms *higher-order* or *higher-level* are used frequently in educational books, articles, and professional development training, often with different interpretations of

their meaning. These terms are normally credited to the work of Benjamin Bloom who introduced the concept in the *Cognitive Taxonomy of Educational Objectives* (1956). In his opinion, higher level mental processes include problem solving, application of principles, analytical skills, and creativity. Bloom's later writing expressed disappointment with the lack of application of the higher levels of the taxonomy in classrooms when he stated that "our instructional material, our classroom teaching methods, and our testing methods rarely rise above the lowest category of the taxonomy-knowledge" (Bloom, 1978, p. 573). So higher-order or *higher-level* thinking could be defined as what it is not: remembered knowledge.

Problem statement

A review of literature highlights the impact of language and social interaction on student learning. Despite this evidence, studies have revealed that classroom discourse is still dominated by monologic instruction. The evidence from studies on classroom dialogue reviewed for this study suggests that there is a gap between sociocultural theory as it relates to learning and teaching practice. This gap between concept and practice was described as puzzling by researchers who found that teachers in their study valued dialogic discussions and wanted to see them happen in their classrooms, yet they admitted that such powerful and energizing discussions occurred infrequently (Adler, Rogle, Kaiser, & Caughlan, 2003).

Though classroom discourse has been studied extensively, much of the available data on classroom discourse uses only the outside observer's perspective to draw conclusions about teaching behaviors, such as teacher talk, and the beliefs or attitudes that cause those behaviors. Research that relies completely on observational data can

potentially lead researchers to draw inaccurate conclusions about observed behaviors.

One study found practices that were incompatible with the teacher's stated beliefs about how to approach literacy instruction. The researchers recognized a gap between believing in an instructional approach and successful implementation of the approach (Theriot & Tice, 2009). This critical gap between beliefs and practices was identified only because the teacher was included in the research process. To better understand the reasons for nonproductive teacher talk that seem to dictate classroom interaction, the teachers' voices must be included in the analysis of discourse data. This study is designed to analyze classroom discourse using both the outside observer and the participating teachers' perspectives.

Research questions

- 1) In what ways do elementary reading teachers use teacher talk during read alouds?
- 2a) What is the purpose of teacher questioning during read alouds?
 - 2b) What is the nature of questions that teachers use during read alouds?
- 3a) What is the purpose of teacher feedback to student responses?
 - 3b) What is the nature of feedback that teachers give to student responses during read alouds?
- 4) To what extent do teachers' perceptions concerning the use of questioning and feedback during reading instruction align with actual practice?

Purpose of the study

The purpose of this study was to examine discourse, primarily in the form of teacher talk, as an instructional practice in elementary classrooms. The teacher talk that occurred during reading instruction in separate classrooms was examined generally and then more specifically. Closer examination focused on the types of questions asked by teachers during read alouds and the feedback that teachers gave to students' responses. Finally, the study gave teachers an opportunity to critically examine and reflect upon their existing discourse practices as they reviewed transcripts of their teacher talk.

Significance of the study

Patterns of classroom talk have evolved historically, have become interwoven into the identities of teachers and students, and are habitual or even intuitive (Cullican, 2007). To disrupt these comfortable habits, classroom discourse must become a deliberate object of study. Without this deliberate focus, "patterns of classroom discourse will remain invisible to teachers and unrecognized as a determinant of academic success" (Cullican, 2007, p. 11). However, when teachers become intentional about shifting from a teacher-centered, monologic approach to classroom interactions to one which invites other voices to be heard, changes in discourse patterns are possible (Wells & Arauz, 2006).

Numerous researchers have called attention to the value of talk and social learning within the classroom setting (Cazden, 2001; Skidmore, Perez-Parent, & Arnfield, 2003; Wells & Arauz, 2006). When evaluating characteristics of effective teachers, Flynn (2007) concluded that teacher behavior, teacher-subject knowledge, and teacher-pupil interaction had more to do with successes than nationally prescribed objectives. In

addition, she asserted that teacher-pupil interaction appeared to be a key feature of the success of teachers' lessons.

Theoretical and empirical evidence concerning the potential impact of effective teacher talk on student learning does not appear to impact teaching practice. In fact, recent studies have determined that classroom discourse is teacher centered, interactions follow traditional initiate-response-evaluate (IRE) patterns, and questions are recall based, or have one right answer (Myhill, 2006; Skidmore, Perez-Parent, & Arnfield, 2003).

This study was designed to allow participating teachers to evaluate their own discourse practices using self-assessment tools. Researchers who have used self-assessment to evaluate teacher talk noticed an increased awareness (among the teachers) of their discourse throughout the study (Roskos, Boehlen, & Walker, 2000). At the conclusion of their study the researchers determined that the teachers had become more critical and reflective so they believed that the self-assessment activity showed promise as a means of professional development. Despite promising results, the authors concluded through this study that "there is much to be learned about the design and delivery of effective professional education for practicing teachers" (Roskos, Boehlen, & Walker, 2000, p. 250).

Data collected from this study identified existing patterns of classroom communication and added to the body of research on the promise of self-assessment tools. This effort, as described by Cullican (2007), will require "intensive labor on the part of the teachers and sustained professional support but the impact on student

outcomes is worthwhile” (Cullican, 2007, p. 23). Results from this study will inform administrators and literacy coaches who plan professional development programs.

Limitations of the study

This study was conducted in a single grade level in one elementary school in a rural part of north Georgia. The participants were selected based on convenience with no attempt at randomization. The number of participating teachers was also a small number. Therefore, the results of this study thoroughly describe the language that occurs during reading instruction in the targeted classrooms, but the results are not able to be generalized in other subject areas or different settings. The decision to use audio rather than videotaping for this study was intentional. This decision was made because of the desire to focus specifically on spoken language and exclude nonverbal aspects of classroom communication. This strict focus on spoken language is a limitation as important aspects of communication, such as body language and facial expressions, are not available to deepen the understanding of spoken words during data analysis. Also, because the focus of this study is teacher talk, communication between peers was not closely examined. This could be another missed opportunity to explore social learning as it occurs in classrooms.

Another limitation emerged during the data analysis process. Because the teachers were allowed to choose the text for read aloud instruction and the recordings were scheduled on a rotating basis, there was not a consistent amount of fiction and nonfiction texts read by each teacher. Therefore, differences in teacher talk that could have been the result of the type of text being read were not clearly identified. Despite these limitations,

the results of the study should inform professional development designers and administrators.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

This chapter provides the rationale for investigating teacher talk in elementary classrooms. It begins with a historical account of important researchers who recognized the potential impact of productive teacher talk. Then, using a framework of the impact of teacher talk on student learning, a review of more current research related to teacher talk begins with an exploration of studies completed outside the United States. International studies are more abundant, but some pertinent research conducted in American schools will also be included. Though studies have identified potential problems with existing discourse practices, solutions to those problems have not been so easily determined. The next section will examine successes and challenges that have resulted from attempts to improve discourse practices in classrooms. The review of literature concludes with a synopsis of literature related to two important categories of teacher talk: teacher questioning and the feedback teachers give to pupil responses.

Historical perspective

Vygotsky was one of the first to recognize the importance of language to learning. Through his work with mentally and physically handicapped children, he sought explanations for how learning occurred and could be maximized. He hoped that his work would be carried out in a society that “sought the elimination of illiteracy and the founding of educational programs to maximize the potential of individual children” (Vygotsky, 1978, p. 9). His theory was in contrast to the accepted psychology theories of

his time because it denied the strict separation of the individual and its social environment (Werstch, 1985). He believed that maturation was not simply a biological but also a social process.

Vygotsky asserted that thought “is not merely expressed in words; it comes into existence through them” (Vygotsky, 1986, p. 218). His theory described the progression to reflection and logical reasoning at the intramental level as a result of discussion, interaction, and arguments at the intermental level. In his words, “social relations or relations among people genetically underlie all higher functions and their relationships” (Vygotsky, 1981, p. 163).

Vygotsky’s theory included a new approach to learning and development which he called the zone of proximal development. He contrasted a child’s actual developmental level which is characterized retrospectively with the zone of proximal development which is characterized prospectively (1978). He described “good learning” as that which is in advance of development and stated that “what a child can do with assistance today she will be able to do by herself tomorrow” (Vygotsky, 1978, p. 87). Vygotsky believed that learning awakens a variety of internal processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers (1978). These processes become internalized and are then part of the child’s independent developmental achievement. His work laid a theoretical foundation which others would build upon as they investigated how the power of language could be utilized in classrooms to maximize student learning.

Before Vygotsky’s theory gained popularity with educators outside his native Russia, investigations were underway to identify patterns of existing classroom discourse.

This type of descriptive research was needed to identify existing practices and necessary changes in classroom discourse. Flanders (1970) developed an interaction analysis with the goal of understanding what actually takes place in classrooms. He believed that teaching behavior is the “most potent, single, controllable factor that can alter learning opportunities in the classroom” (Flanders, 1970, p. 13). His coding system recorded the types of questions asked by the teacher, the response to ideas expressed by students, and the level at which students were encouraged to express their own initiative. Results from his work led to concerns over the quality, not just the quantity, of teacher talk in classrooms. His thorough, yet complicated, quantitative system for recording classroom interactions resulted in conclusions concerning the “high degree of teacher domination in setting learning tasks and in thinking through problems so that pupils’ ideas and initiative are underdeveloped” (Flanders, 1970, p.16). He went on to state that it is “not far out of line to suggest that teachers usually tell pupils what to do, how to do it, when to start, when to stop, and how well they did whatever they did” (Flanders, 1970, p.14).

Another seminal work on teacher talk was conducted by Cazden (2001) and Mehan (1979). The researchers formed a partnership with the goal of closely examining classroom interactions. Cazden left her role as a college professor to return to an elementary classroom in 1974 for one year of investigation overseen by Mehan. Mehan’s desire to examine schools from within stemmed from his assumption that those who debate the influence of schools, or the end product, have not examined the everyday internal processes and interactions (1979). He described the pair’s study as a “constitutive ethnography, the description of the social organization of routine, everyday events” (Mehan, 1979, p. 8). Events such as lessons, reading groups, and task sessions were the

focus of their study. Mehan was one of the first to use the term “triadic dialogue,” to describe the common, predictable interaction pattern that was evident in their transcripts. This pattern, often labeled IRE, consisted of the teacher initiating a conversation (often with a question), the student responding, and the teacher evaluating the student’s response. He described predictability in the observed lessons: speakers took turns, overlapping utterances were not highly valued, and access to the floor was obtained in systematic ways. Mehan offered a possible explanation for the frequent use of evaluation by the teacher, the special function of education—it is the teacher’s responsibility to evaluate a child’s performance. Mehan also used the term “teacher’s agenda” to describe this communication pattern. It is a stance adopted by teachers for the purpose of achieving educational objectives while maintaining social control (Mehan, 1979).

Other authors have used the term “ground rules” to describe the need for this type of social control in classrooms. Mercer and Dawes (2008) asserted that:

Ground rules for talk are important: they reflect the need for social order of a certain kind to be maintained in classrooms, and the teacher’s responsibility for ensuring that any talk and other activity follow an appropriate, curriculum-relevant agenda and trajectory. (p. 58)

Further explanation of the popularity of this type of IRE exchange is rooted in how the predictable communication pattern is ideally suited for an educational climate (commonly found in today’s schools), which emphasizes improving test scores as evidence of effective instructional practices. It also results in students equating “success” with discovering and providing the teacher with the correct answer (Wells & Ball, 2008).

More recent investigations of teacher talk have been undertaken by Gordon Wells (1986). He conducted multiple studies of children as they were learning language and using language to learn (1986). His interpretations were critical of traditional “transmission of knowledge” models used by teachers. He concluded that knowledge cannot be transmitted from teachers to students; instead, knowledge is constructed by individuals when they combine what they already know with new information. Wells used these findings, along with Vygotsky’s sociocultural theory, to develop a teaching model, the social constructivist model of learning and teaching, and later, a more specific teaching strategy called dialogic inquiry (Wells, 1999, 2006). In a dialogically organized classroom, multiple voices representing differing values, beliefs, and perspectives are welcome. Wells believes that learning is maximized when teachers create a classroom community which values collaboration and a dialogic mode of making meaning. This environment should also encourage “a willingness to wonder, to ask questions, and to collaborate with others in building knowledge” (Wells, 1999, p. 335).

Current research on teacher talk

In the twenty-first century, the absence of effective teacher talk in classrooms continues to be the focus of analysis for many researchers. This review describes a number of studies that have been conducted outside the United States, especially in the United Kingdom.

A group of British researchers conducted research for more than a decade to test some of Vygotsky’s theories related to the importance of language to learning. After studying how student performance improved on tests of reasoning, they discovered that through the “mediation of the cultural tool of language, social interaction shapes

intellectual development” (Mercer & Littleton, 2007, p. 133). In addition, the researchers noted that the development of understanding requires a careful combination of peer group interaction and expert (teacher) guidance. They also concluded that “language is without a doubt the most ubiquitous, flexible and creative of the meaning-making tools available, and it is the one most intimately connected to the creation and pursuit of reasoned argument” (Mercer & Littleton, 2007, p. 2). They continued by describing language as “a teacher’s main pedagogic tool” and asserted that spoken dialogue deserves special attention by researchers.

A national literacy reform initiative prompted researchers in England to thoroughly investigate the use and impact of teacher talk during reading instruction. One researcher investigated the impact of the National Literacy Strategies with an emphasis on teacher talk (Myhill, 2006). The findings suggested that teacher discourse provided limited opportunities for pupil learning. The discourse patterns identified were conventional as well as teacher centered and included mainly factual or closed-response questions. The author noted contradictions in the goals and reality of the national strategy which was designed to ensure that pupils’ contributions are “encouraged, expected, and extended” (Myhill, 2006, p. 38). Her research suggests that student responses may have been encouraged but were rarely extended. Myhill concluded through her investigation of whole-class teaching during the literacy hour that teachers felt a need to be in control of the discourse and were very focused on teaching objectives and curriculum requirements. In addition, she found that the focus of verbal interactions between students and teachers was on finding correct answers rather than on thinking.

In contrast to the previous study, Flynn (2007) observed effective reading teachers who were not so bound by England's literacy objectives and curriculum requirements. The researcher concluded that effectiveness had less to do with planning (based on national objectives) and more to do with what each teacher said while they were teaching. The researcher pointed out similarities and differences in the teaching practice of the three participants. She noted that literacy instruction is a complex process, and this complexity presents challenges for drawing conclusions about what aspects of instruction led to student success. However, she suggested that teacher behavior, teacher-subject knowledge, and teacher-pupil interaction had more to do with successes than nationally prescribed objectives. In addition, she asserted that teacher-pupil interaction appeared to be a key feature of the success of all three teachers' lessons.

Additional researchers from England attempted to identify behaviors of effective reading teachers (Topping & Ferguson, 2005). Teachers were classified as effective based on pupil achievement scores and expert nominations. Interview and observation data were analyzed to draw conclusions related to effective balanced literacy instruction. They described expert teachers as those who maximized time on task, balanced individual with small-group and whole-class instruction, and engaged in modeling, questioning, and scaffolding. These teachers also built upon pupil responses, balanced open and closed questions, and engaged in coaching (2005).

In the United States, studies have examined existing discourse practices and strategies that might affect student learning. Teachers in the United States exhibit many of the same monologic behaviors as those in England, but attempts to improve discourse practices have shown some promising results.

A study which was conducted during mathematics lessons in an inclusion classroom compared the types of discourse used by different teachers (Berry & Kim, 2008). The results showed more similarities than differences in the types of teacher talk exhibited by four different teachers. All of the participants used questioning more than any other form of utterance during the lessons. The majority of language was considered recitational, or monological. When dialogue is recitational, the teacher's voice is dominant. The students responded to recall-based questions with little opportunity for them to explain answers, share ideas, or assist peers. Overall, the teachers relied heavily on memorization rather than exploratory talk during mathematics lessons.

Research conducted in a variety of middle school classrooms determined that monologic instruction was prevalent in all classrooms (Nystrand et al., 2003). When the classrooms were analyzed more closely, as grouped by ability, dialogic instruction was virtually absent in the low-ability track classes. Student questions, an important component of dialogic episodes, also occurred infrequently in the low-ability track classes. Instruction in those classes typically consisted of teacher-led skill development and test questions about prior reading. When compared with the other classes, the students in higher ability track classes answered fewer skill-based questions, and discourse focused less on skills and more on specific literature.

A researcher in the southeastern United States (Scharlach, 2008) made an intentional attempt to improve reading comprehension by training teachers to actively involve students in discussions about text. Students learned to discuss specific comprehension strategies as they were being implemented through teacher modeling and scaffolding of the process. Students who participated in the intervention made

significantly higher gains on a nationally normed reading comprehension test than those in the control group. In addition, students indicated on surveys that their confidence and positive feelings about reading increased during the study.

In general, classroom discourse practices, in both the United States and England, can be described as monological. Teachers control the discourse and limit the goals and outcomes of instruction. Those who have attempted to change discourse practices have experienced some successes but also faced some challenges.

Successes and challenges

Myhill (2006) speculated on the reasons for a lack of change in discourse practices: teachers needing to be in control, teaching objectives, and curriculum requirements. Other possible challenges include teacher motivation, sustainability, and practicality of change.

The first challenge noted throughout research on discourse was the struggle to change the teacher's established role in the classroom. That special role or responsibility to evaluate a child's performance often causes conflict for teachers who want to instruct and evaluate in one way but feel they need to instruct or evaluate in another (Mehan, 1979). Teachers receive a salary for their role in delivering the state-approved curriculum to students. Teachers must be aware of the time involved in mastering all of the standards and balance instructional practices so they fulfill that obligation.

Changes in patterns of discourse require teachers to sacrifice some control of conversations. Teachers must then realize that they will not always know where the conversation might lead. Teacher researchers noted wrestling with decisions about when to enter conversations to explicitly teach reading strategies or interject accepted

interpretations of text (Aukerman, Belfatti, & Santori, 2008). The teachers recognized that in the end (on standardized tests), students will be expected to know the one correct answer, and that answer may or may not emerge during a student-led discussion.

The importance of motivation to change was noted in a study designed to examine changes in discourse practices by teachers who were described by their principal as those who “needed professional support to improve their teaching performances” (Song & Catapano, 2008, p.82). The participating teachers were asked to identify possible problem areas while reviewing videotapes of their instruction. Some of the teachers had difficulty identifying areas of weakness. Those teachers who did identify a problem were asked to propose a possible solution. This process was based on a five-step reflective thinking model. The cycle included five stages: context setting, identification, frame and reframe of the problem, possible solution, experimentation, evaluation. In the first result, the researchers reported that only four of the eight participants decided to fully participate and follow the cycle of reflective thinking. Those four teachers started showing resilience in their teaching though they had a long way to go. The second result reported that there were some areas identified as problems on the teaching assessment which improved throughout the study. However, the researchers noted that the short time frame and the low level of teacher competence and motivation at the beginning of the study affected the results (Song & Catapano, 2008).

Although Cullican (2007) noted progress in implementing a new communication sequence which allowed more student elaboration during discussion, she wondered about the sustainability of the teachers’ changes in practice. Sustainability, a current hot topic in education, is a goal of authentic improvement and achievement for all children that

matters, spreads, and lasts (Hargreaves & Fink, 2006). Cullican recognized that permanent changes in comfortable discourse patterns would require intensive labor on the part of the teachers and sustained professional development. Even with the challenges of sustainability, the author believes that the effort is worth it if classrooms can become more inclusive and democratic.

Though Roskos, Boehlen, and Walker (2000) were optimistic about the results of their implementation of a classroom discourse self-assessment tool, they realized that a typical classroom teacher would have difficulty implementing self-assessment activities without technical and management support from others. Support, which was available in the form of university researchers for their study, is not available to the majority of classroom teachers. Lack of support could lead to frustration for teachers who have to interrupt lessons to correct issues such as technical problems with recording devices. Transcription or review of taped lessons would also be very burdensome and time consuming for most teachers.

Questioning and feedback

To manage an investigation of the broad topic of teacher talk, limits are often placed on what aspects of discourse will be the focus of the study. Two important categories of teacher talk are questioning and the feedback that teachers give to student responses. Both of these types of discourse have the potential to impact student learning.

A prior study conducted by this researcher compared the types of teacher talk used by veteran (supervising) teachers and their assigned student teachers during reading instruction (Farist, 2008). Questioning was the most commonly used type of teacher talk by both supervising and student teachers in the study. Though the ratio varied slightly

among teachers, the vast majority of the questions posed by all the participating teachers were closed or single-response questions.

Researchers have concluded that questioning is a commonly used approach to discuss text and promote comprehension of text. However, the practice of using questions to expand thinking beyond literal facts about text seems to be neglected by many teachers. Students form habits about understanding text based on the questions they have grown accustomed to answering about text. Therefore, if students are commonly asked recall-based or detail-oriented questions, they tend to focus on factual details during future encounters with text (Duke & Pearson, 2002). If teachers want students to focus on deeper understanding of text, their questioning must guide students toward forming habits of higher level thinking (about text). Teachers may be unaware of habits they may be promoting with their questioning techniques.

When teachers in England were asked by researchers about strategies used to improve reading comprehension, questioning was the most commonly named strategy (Parker & Hurry, 2007). Classroom observations supported this finding from interviews that oral questioning was the preferred method of teaching. The researchers identified three types of questions: literal, which includes recall of facts and details of the text; inferential, which includes inferencing and prediction; and evaluative, which seeks the children's opinions about the text. Teachers predicted in their interviews that literal and inferential questions would be used most frequently during instruction, and data from classroom observations supported those claims. The researchers concluded, based on the teacher interviews and classroom observations, that teachers were content with students

playing a passive role in the classroom and demonstrated no desire to incorporate changes that could allow students to assume a more active role in reading comprehension.

Though questioning appears to be prevalent in reading classes, the use of thought-provoking questions to maximize student learning seems to be rare (Skidmore et al., 2003; Berry & Kim, 2008). Researchers have begun to examine ways to improve the types of questions used during instruction. Rickford (2001) determined through her research that the most benefit to student learning comes when teachers find a balance between lower-order literal questions and higher-order interpretive and analytical questions. To achieve this balance, teachers must first recognize that evaluation of students is not the only purpose of questioning.

Fordham (2006) calls attention to the significant difference between asking questions that assess students' comprehension of text and questions that address the foundation of good comprehension: strategic reading. Strategic reading aligns with the social learning theory as one of those processes that will be learned in a social context and then transferred to an independent, or internal, level. Through her work with pre-service and in-service teachers, Fordham encourages the use of questions that not only assess comprehension but also promote the process of comprehension. This is accomplished as teachers are trained to model their own meaning-making processes for students and then are given the opportunity to create questions which address specific comprehension strategies. She believes that a shift in pedagogical thinking concerning the purpose of reading comprehension instruction is required to facilitate positive changes in the types of questioning used in classrooms.

In addition to effective questioning, teachers' feedback to student responses is another important component of classroom discourse. Researchers have investigated the ways that teachers respond to students.

Parker and Hurry included an analysis of teacher responses to children's answers in their study of comprehension skills in primary classrooms (2007). They found that teachers' responses were primarily evaluative and designed to ensure that the students knew all the correct, factually based answers, instead of providing any cognitive challenge. Most of the teachers' questions received a correct answer, so a positive or affirming response followed. Occasionally, about 29% of the time, teachers would elaborate after affirming a correct answer. When an incorrect answer was given by a student, the teacher usually just explained why the answer was wrong and moved on.

A similar study examined how teachers responded to pupil responses during whole-class teaching (Myhill & Warren, 2005). The researchers looked at how teachers managed "critical moments," which they defined as a discourse unit which is significant in either supporting or hindering the development of a child's understanding. When teachers had an opportunity to reflect on discourse practices, they were surprised by how teaching objectives often took precedence over extending children's responses and student learning. One teacher described the transcript as a "listening marathon" [for students], while other teachers expressed concerns over the lack of opportunities for students to develop their understanding. Evidence from classroom observations supported these findings as teachers often ignored or dismissed pupils' responses because of the apparent focus on a specific outcome. When critical moments occurred, the teachers managed talk so that it served their teaching purposes rather than pupils' learning needs.

Usually, the teacher would choose to stick to the planned lesson instead of allowing students to lead discourse in a different direction.

A study from Singapore explored how questioning and feedback led to specific cognitive processes in students (Chin, 2006). The researcher chose two teachers from a larger group of six based on their extensive use of interactive questioning in their science classrooms. The researcher analyzed questioning, students' responses, and feedback to those responses to determine which cognitive processes could be inferred. The researcher determined that the participating teachers used questioning not only to evaluate but also to support deeper thinking. Follow-up questions were often used to invoke prediction, brainstorming, inferencing, and drawing conclusions. These episodes were used to scaffold students' thinking and nudge them toward concept development. The researcher concluded, based on evidence from this study, that if teachers can change the purpose of questioning from explicit evaluation to "responsive questioning," teachers can promote more thought-provoking discourse and stimulate more elaborate and productive student responses (Chin, 2006, p. 1340).

The existing research on teachers' responses to students' contributions suggests that current practices are often missed opportunities for student learning. It appears that teachers typically limit instead of elaborating or expanding on student responses. In addition, when faced with a choice, teachers usually favor discourse that aligns with a predetermined topic rather than student interest.

A review of literature related to teacher talk led to conclusions about a topic that has been investigated for many years. Theoretical assertions and empirical evidence support a shift from monologic to dialogic instruction as a way to promote student

learning. However, further empirical evidence reveals that productive teacher talk is rarely found in classrooms. Instead, classroom discourse is teacher-dominated both in purpose and application. This often limits the effectiveness of classroom interactions. Studies have identified a gap between the discourse teachers would like to use and the types of discourse they actually use. Two specific types of teacher talk, questioning and feedback to student responses, have great potential for improving student learning. These two areas warrant further study in regard to the impact on student learning. Conclusions, based on existing research, led to the design of this study.

CHAPTER 3: METHODOLOGY

Qualitative methodology

This study employed qualitative methodology to examine teacher talk in a natural setting. Other characteristics of qualitative research that are critical to this study are the intentional focus on the participants' beliefs on the subject being studied and the flexible design that emerged as the study progressed (Creswell, 2007).

A multiple-case study approach was used to investigate language in independent classrooms and to compare those classrooms with one another. This type of case study targets multiple individuals and the same phenomena (Lunenburg & Irby, 2008). The phenomenon targeted for this study was the discourse or teacher talk that occurred in each classroom.

Each case was examined using discourse analysis methods. This type of analysis was chosen to examine the quality or meaning of words rather than the quantity or number of words that are spoken in the classroom. The microanalysis (discourse analysis) method was used to allow focus on the content of talk (Schwandt, 2007). The term *discourse analysis* has multiple meanings for researchers and linguists. For this study, defining the terms discourse and analysis separately leads to greater clarity (Johnstone, 2002). *Discourse* refers to any actual talk, writing, or signing. An *analysis* involves systematically taking things apart or looking at them from multiple perspectives. To achieve the benefits of multiple perspectives, the teachers' perspective and the outside observer perspective were included in this study.

Procedures

The researcher in this study is a colleague of the participating teachers. Though not on the same grade level, all participants are on the same faculty. Therefore, the researcher is an outside observer in the classrooms but not totally detached from the school setting.

The participants in this study were selected based on convenience. All five of the third-grade teachers in the targeted elementary school were initially asked to participate in the study. However, because two of the teachers were serving as supervising teachers for student teachers during the time of data collection, they were excluded from the study. Therefore, three third-grade teachers participated in the study.

The participating teachers are homeroom teachers at a K-5 elementary school in rural north Georgia. The school has a population of approximately 550 students. The school is classified as a Title 1 school based on a lower socioeconomic background of more than 50% of the students. The student population is mostly Caucasian, with about 15% of the students classified as Hispanic.

Each of the participating teachers was assigned a pseudonym to protect their anonymity throughout the study. The pseudonyms used for the study were Beth, Susie, and Ginger. Beth has been teaching for eight years. She has completed a bachelor's degree in early childhood education. Another participating teacher, Susie, has been teaching for five years. Her education includes a bachelor's and master's degree in early childhood education. Ginger has been teaching for four years. She has completed both a bachelor's and master's degree in early childhood education. Each of the participating teachers had teaching experience in other grade levels, but they were all new to the third

grade for the 2009–2010 school year. These teachers were intentionally moved to third grade by the principal at the beginning of the school year, which suggests that she is confident in their teaching ability and competence because of the importance of success for students in third grade. Third grade is a year of *high-stakes* testing because third graders who do not pass the reading portion of the state-mandated test are not supposed to be promoted to fourth grade.

Data collection methods

An interview was conducted with each teacher prior to audiotaping in each classroom (see Appendix A). Teachers were asked general questions related to the use of questioning and feedback during read alouds. They were also asked to explain how teacher talk during read alouds affects student comprehension and what variables impact the effectiveness of teacher talk. Questions for this interview were based on the research questions for this study and were designed with the goal of identifying teachers' beliefs about these topics (see Appendix A). The questions were somewhat predictive in nature as they allowed teachers to make statements about the topics before being recorded or reviewing any transcript data. Each interview was audiotaped for transcription and analysis.

Each of the participating teachers was audiotaped using a voice recorder during read aloud instruction. For three consecutive weeks, each teacher was audiotaped once each week. The third-grade teachers were all required to do read alouds with their homeroom class daily from 10:30 a.m.–11:15 a.m. Homeroom classes were heterogeneously grouped, so during the read aloud time, each class contained students with a variety of reading abilities. Reading teachers chose a book to read aloud to

students, often related to grade level science or social studies standards, and they prepared comprehension questions in advance to ask students before, during, and after the reading of text. The literacy coach provided reading teachers with guidelines to follow when developing comprehension questions. These guidelines included a list of comprehension strategies and a schedule for teaching specific strategies.

A rotating schedule was established so that each teacher was recorded on Tuesday, Wednesday, and Thursday (see Appendix B). The goal of varying days of the week for recording was to capture a sample of authentic teacher talk that occurs throughout the week.

After the three weeks of audiotaping, transcripts were created from each read aloud session. Teachers were given a copy of the transcripts and allowed some time to read and reflect upon the content of the transcripts. The teachers were then interviewed using questions that were related specifically to the transcripts and based on the research questions (see Appendix A). The questions for this interview focused on the actual use of questioning and feedback during the read aloud time. These interviews were recorded for transcription and analysis.

About two weeks later, the researcher interviewed each teacher again using culminating questions based on the research questions (see Appendix A). Questions for this interview were created with the goal of allowing teachers to reflect on their actual practice. The questions were also designed to address differences between beliefs and practices that emerged when prior interview responses were compared to the read aloud transcripts. The qualitative nature of this research permitted the adjustment of the interview questions as the study progressed. The questions were refined slightly based on

patterns and questions that emerged during data collection (see Appendix A). These final interviews were also recorded for transcription and analysis.

Data collection for this study was conducted in the early spring of the 2009–2010 school year. This time of year was selected in an attempt to avoid the abnormal climate that sometimes develops in the weeks immediately preceding state-mandated testing in late spring. An abnormal climate would be more likely in third-grade classrooms, as it is considered a high-stakes year for students.

Audiotaping was used to record discourse before, during, and after oral reading. Because the focus of this study was on spoken words, the teacher language was recorded using audiotapes instead of videotapes. This method was intentional because of the desire of the researcher to exclude any distraction by visual elements of discourse such as body language, gestures, and eye contact. In addition, the unobtrusive method of audiotaping was selected to avoid “interfering with the ongoing flow of everyday events” (Marshall & Rossman, 2006, p. 124).

Data analysis

Data analysis began as the transcripts were created by the researcher. Analysis was completed using sociocultural theory as the theoretical framework. Language that was recorded in the classrooms and during the teacher interviews was analyzed within the social and cultural context that it occurred. Categories were developed based on communication patterns evident in the data and existing research related to the specific research questions. The transcripts were coded using Atlas.ti software (version 6.1). After coding was complete, tables were created to provide a visual representation of the data from the read aloud transcripts. The tables provided a foundation for the presentation and

analysis of the data. Interview data was then systematically compared to the transcript data presented in each table using the research questions as a continual point of reference. These results will be discussed in the following chapter.

CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA

Introduction

The purpose of this study was to investigate the use of teacher talk as an instructional practice during literacy instruction in third-grade classrooms. The research questions which guided the study were as follows: 1) In what ways do elementary reading teachers use teacher talk during read alouds? 2a) What is the purpose of teacher questioning during read alouds? 2b) What is the nature of questions that teachers use during read alouds? 3a) What is the purpose of teacher feedback to student responses? 3b) What is the nature of feedback that teachers give to student responses during read alouds? 4) To what extent do teachers' perceptions concerning the use of questioning and feedback during reading instruction align with actual practice?

These research questions, along with the data collection and analysis procedures were developed using sociocultural theory as the theoretical framework. Sociocultural theory recognizes the important relationship between three levels of human activity: the cultural, the psychological, and the social. In this study, these levels are represented by the following: cultural—the participating school, psychological—individual learning or cognitive development of students, and social—the interactions between teachers and students or the interactions among all students (Mercer & Littleton, 2007). Using the sociocultural model, the social level forms a bridge between the cultural and psychological level. As Vygotsky explained, all higher mental functions were external or social at some point, before becoming an internal mental function (1981).

Data collection

To answer the research questions, qualitative methods were used to collect data for analysis. A multiple-case study approach was used to understand language used by teachers in independent classrooms and to compare those classrooms with one another. This type of case study targets multiple individuals and the same phenomena (Lunenburg & Irby, 2008). The phenomenon for this study was the discourse or teacher talk that occurred in each classroom. Sociocultural theorists emphasize the importance of understanding interactions within the social context that they occur. Therefore, audio recordings were used to avoid disrupting the natural interactions that took place in the participating classrooms.

Two major data sources were analyzed to answer each research question: transcripts created from audiotapes of instructional read alouds and transcripts from teacher interviews. The three participating teachers selected three books to be used for instructional read alouds. These read alouds were recorded and transcribed, resulting in a total of nine read aloud transcripts. Teachers were recorded once a week for three weeks on a rotating schedule with the goal of capturing a natural classroom environment. Teachers were interviewed before the read alouds were recorded, soon after the transcripts were created from read alouds, and two weeks after the transcripts were reviewed, resulting in a total of nine teacher interview transcripts. Questions for the interviews were aligned with the research questions and were developed based on evidence from literature concerning common communication patterns in classrooms (see Appendix A).

The participating teachers in this study were third-grade teachers. They were assigned the pseudonyms Beth, Susie, and Ginger. At the time of recording, Beth had 16 students in her class, Susie had 20 students in her class, and Ginger had 19 students in her class. Read aloud instruction occurred at the same time each day for all third-grade students in this rural elementary school. The literacy coach had provided the teachers with curriculum maps and a planned sequence of reading comprehension skills to incorporate into read aloud instruction.

Transcription and coding

Following data collection, the researcher created transcripts of each read aloud. A review of the transcripts served two purposes: to determine the questions for the final teacher interviews and to develop categories that would be used to code the transcripts and organize the data for further analysis. The transcripts were then coded using Atlas.ti software (version 6.1). The initial analysis produced five broad categories of teacher talk that were used to code transcripts: questioning/eliciting, responding to students' contributions, organizing/giving instructions, presenting/explaining, and sociating (Berry & Kim, 2008). Two of those categories, questioning/eliciting and responding to students' contributions, were further analyzed using new, more specific categories. The categories were based on the purpose of questioning: assessment, challenge, genuine information, open-ended, and procedural (Chinn et al., 2001) and the nature of questions used: remembering, understanding, applying, analyzing, evaluating, and creating (Anderson, Krathwohl, Airasian, Cruikshank, Mayer, Pintrich, Raths, & Wittrock, 2001). Feedback given to students was also coded and categorized based on the purpose of the feedback used: acknowledging and accepting efforts, clarifying or correcting, encouraging,

praising, and accepting (Holbein & Harkins, 2010). Feedback, or the responses to students, was also coded as either evaluative or not evaluative (Chin, 2006). Patterns noted in transcripts and a review of literature determined the categories that would be used for coding. Using the categories from the coded transcripts, tables were designed to provide a visual illustration of the types and frequency of teacher talk recorded.

The design of this study allowed for data triangulation to ensure a comprehensive investigation of teacher talk in the participating classrooms. Data were triangulated based on person and time as each of the three participating teachers was recorded on multiple occasions during read aloud instruction. Further triangulation was accomplished within-method as two different qualitative methods (audio recordings and interviews) were used to collect data (Jiang, 2009). The participating teachers were included in the data analysis process during the member checking phase as they reviewed and responded to their transcripts. This allowed data analysis from the insider's perspective (participating teachers) as well as the outsider's perspective (researcher).

Aligning data with research questions

The first research question was designed to obtain an overall picture of the types of teacher talk being used in classrooms. This goal was accomplished by analyzing transcripts from read alouds using broad categories and analyzing teachers' responses to general questions related to the use of teacher talk during read aloud instruction. Data were analyzed using a sociocultural framework, taking into consideration the social, cultural, and cognitive aspects of all interactions.

The second and third research questions focused on the use of questioning and feedback during read alouds. These questions were addressed by analyzing transcript data

using specific criteria related to questioning and feedback. In addition to transcript data, teachers were asked questions during the interviews which related specifically to the use of questioning and feedback during read alouds. Analysis of the transcripts and the interview questions were designed to uncover the purpose and nature of questioning and feedback during read alouds.

The fourth research question was designed to compare teachers' perceptions regarding teacher talk during read aloud instruction with actual practice. A comparison was done using transcript data and interview data. Teachers were asked during each of the three interviews to reflect upon their existing and future practices as they identified areas for improvement. Though this study was not designed to facilitate change among the participating teachers, this type of reflection upon effectiveness is critical to improved teaching behaviors (Topping & Ferguson, 2005). Allowing teachers to compare their thoughts about the subject of teacher talk with their actual practice promotes awareness of effective and less than effective teaching practices.

The results presented in this chapter are organized in terms of the four research questions for the study. Research questions one, two, and three were analyzed independently using specific datum that was collected to answer each question. Analysis for research question four required a synthesis of the results reported for the first three research questions.

Question #1

During the transcription process, categories related to the first research question began to emerge. The question was as follows: "In what ways do elementary reading teachers use teacher talk during read alouds?" Five categories were used to label teacher

talk used during read alouds: questioning/eliciting, responding to students, organizing/giving instructions, presenting/explaining, and sociating. These five categories were based on those used in another study of teacher talk (Berry & Kim, 2008) and were defined as follows: questioning/eliciting—questions used to elicit and manage student involvement, responding to students’ contributions—responses (including evaluating) to students contributions, organizing/giving instructions—starting the lesson, explaining procedural aspects, directing students’ attention, and regulating students’ behavior, presenting/explaining—interchanges dealing with lesson content, and sociating—drawing students into lesson dialogue as well as managing and maintaining social relations.

The types of teacher talk, in order by frequency of occurrence, were as follows: questioning/eliciting, responding to students, organizing/giving instructions, presenting/explaining, and sociating (see Table 1).

Table 1

Types of Teacher Talk during Read Alouds

Category	Beth	Susie	Ginger	Totals by category
Questioning/Eliciting	141	133	92	366
Responding to students	78	109	60	247
Organizing/Giving Instructions	37	69	51	157
Presenting/Explaining	51	39	27	117
Sociating	1	1	0	2
Totals by teacher	308	351	230	889

Questioning and eliciting was the most frequently used type of teacher talk by all teachers. During this study, the participating teachers posed a total of 366 questions to students. In the recorded read alouds, 41% of all utterances by teachers were in the form of a question. This finding is consistent with results from other studies which determined questioning to be the predominant form of teacher talk in observed classrooms (Berry & Kim, 2008; Myhill, 2006; Parker & Hurry, 2007).

The ubiquitous use of questioning by teachers was predicted, based on a review of existing literature on the topic of teacher talk. Therefore, a decision was made to carefully analyze questions based on the purpose of the question (assessment, genuine information, open-ended, challenging, or procedural) and the nature of the question (higher or lower level). Specific analysis of the types and purposes of questions, along with an exploration of the questioning patterns of individual teachers, will be included in the data analysis for the second research question.

After posing frequent questions to students, the teachers provided feedback when the students responded to questions. There were 247 examples of feedback given to students evident in the transcripts; this accounted for 28% of all teacher talk. More specific analysis of feedback given to students will be conducted as the third research question is explored. Responses to students were classified according to the purpose of the feedback (encouraging, acknowledging, praising, or clarifying) and if the feedback was evaluative or not.

The next category of teacher talk, organizing or giving instructions, included several types of talk and accounted for 18% of all teacher talk. Examples that fit into this category included introducing the lesson and directing the procedural aspects of the

lesson. This category also included talk that was intended to regulate student behavior such as when Beth said, “Stop yelling.” Ginger’s explicit lesson opener included an example of both an introduction of the lesson and direction of procedural aspects:

Okay, I’m going to be giving each group some cards. These four cards have the different QAR questions on them. When I ask a question from the book, I would like for your group to discuss what kind of question you think it is and then you’re going to raise your card. We’ll talk about it, and then we’ll discuss the answer as well, okay? If you’ll turn with me to page 2 we’re going to start talking about Cesar Chavez, his early years, chapter 1.

Presenting and explaining was the next most common category of teacher talk evident during read alouds. Presenting and explaining included talk that dealt with lesson content and was used 13% of the time. Examples included repeating information or procedures, such as when Susie stated, “I want you to listen while we read for these three vocabulary words that we will talk about after we finish reading,” or stating basic information, such as when Susie said “wealthy, remember that means rich.”

The final category, sociating, occurred rarely, less than 1% of the time, during the read aloud lessons. Verbal exchanges that fit into this category included dialogue designed to maintain and manage the social relationship between teacher and students. Susie provided an example of this type of teacher talk when she was discussing the theme of the story and she interjected her idea for the theme of the story:

Susie: Do you think that the author might be trying to tell you to be happy with who you are?

Student: Yes, that’s what I was going to say.

Susie: Oh, Sabrina, I'm sorry.

Each teacher was interviewed on three separate occasions in an attempt to incorporate the teacher's voice into the data analysis process. The responses to interview questions expressed the thoughts and opinions of the participating teachers in regard to the use of different types of teacher talk during reading comprehension instruction. This information from the teachers makes the numbers representing the types of teacher talk used during read aloud instruction more meaningful.

Data analysis for this study began with the assumption that each of the three teachers held reading comprehension as the goal for the read aloud lesson. For sociocultural theorists, reading comprehension goes beyond reading and understanding words on a page to include the "construction of meaning" from text (Hammerberg, 2004). Comprehension is based not only on reading skills but also on the social context and the background or cultural experiences of the children. For sociocultural theorists, comprehension includes construction of meaning which involves negotiating many possible meanings, such as your own meanings and those shared by others.

The recordings for this study were made during read aloud time which had been established, according to the daily schedule prepared by the literacy coach, as instructional time to focus on reading comprehension and vocabulary development. Based on this assumption, each teacher was asked the following question: "How does your teacher talk during read alouds affect reading comprehension?" This question was posed before recording, as the teachers reviewed transcripts, and after the recordings were complete.

During the initial interview, Beth stated that she tries to use teacher talk to “guide students to the correct answer.” While reviewing the transcript, she noted that she used “games to give students a map to the story which helped build understanding.” She also mentioned “helping students make connections, text-to-text, text-to-self, and text-to-world” because it “built understanding of vocabulary and material being read.” Beth described how she “used teacher talk to build background knowledge before and during reading to improve comprehension.” Beth was the only teacher who referred to the students’ background knowledge (or lack thereof) as an important consideration when choosing her teacher talk. Sociocultural theory recognizes this as an important component of student learning, for students bring their own understandings to social interactions and construct meaning by incorporating their understandings and experiences into the context or setting (Schunk, 2008).

In the final interview, Beth explained how she carefully chooses words to use in her teacher talk:

I try to use the words that I know they will understand, and if I’m going to throw in another vocabulary word that they’re not going to understand like classify or summarize, I throw the word’s meaning in with it. For example, classify—put in categories, put in groups, etc.

She explained that she “repeats words and meanings over and over.” Additional questioning of teachers was designed to identify obstacles or challenges that could limit the ability of teachers to improve comprehension by using effective teacher talk. During the initial and concluding interviews, teachers were asked the following question: “What are some factors that impact your teacher talk during read alouds?” Some reasons given

by Beth were “student behavior and interruptions by students to use the restroom or sharpen pencils.” The inability to do “many things independently” was another reason Beth’s students were sometimes unable to accomplish intended goals, so “she used a lot of scaffolding to support them until they reach the independent level.” In the final interview, Beth added concerns about the students’ reading level not matching the reading level of text. She also expressed concerns about the time involved because “some books require you to talk a lot to build background knowledge.”

The next teacher, Susie, was asked the same questions concerning her teacher talk and the effect on reading comprehension of students. In the initial interview, Susie expressed a desire to help students with reading comprehension and felt that preparing questions in advance helped her accomplish that goal. She believed that advance planning “gave me time to think about what students need to know while I am planning questions.” When reviewing her transcripts, Susie expressed a “hope that my teacher talk aided in comprehension because I tried to incorporate all types of questions, especially higher-order questions.” When asked again, during the final interview, about how her teacher talk affected comprehension Susie expressed concerns about teaching only one comprehension strategy at a time. She stated:

There are things I don’t like about doing only one strategy at a time but ... I feel like students really do grasp an understanding of inferencing or visualization [at the time the strategy is being taught], and the things I have told them about that strategy.

However, she noticed that some students were later unable to apply the different strategies in an independent (less teacher-directed) situation when “multiple strategies were required.”

When Susie was asked about factors that impacted her teacher talk, she stated, “Student behavior affects teacher talk.” She also indicated that “student responses which took discussion in different [unplanned] directions could have an impact on teacher talk.” Susie also stated the “narrow focus on one comprehension strategy limits teacher talk, and lack of time also limits use of teacher talk.” In her final interview, Susie again mentioned the narrow focus on a single comprehension strategy as a factor that affected teacher talk. She stated that “the strategy that we are required to teach is basically the key or the focus; the strategy drives the lesson.”

Ginger stated that she tries “to use teacher talk to model the comprehension process and use the language of comprehension.” She “provides personal examples and does lots of modeling during read alouds.” Teacher modeling of the comprehension process is a strategy consistent with what Fordham described as necessary for building strategic readers (2006). While reviewing the transcripts, Ginger noted that her teacher talk was used to instruct students in a comprehension strategy nicknamed (QAR), which stands for question, answer, relationship (Raphael, 1982). She said, “my teacher talk facilitated their comprehension and guided them through the (QAR) strategy”. She tried to be specific in “what I wanted them to think about and discuss.” In the final interview, Ginger was again asked how her teacher talk affected comprehension. She described her teacher talk as “guiding them toward deeper understanding.” She elaborated by saying

that often student responses “just touch the surface,” and she uses teacher talk to “expand on it a little bit more.”

Ginger was also asked about factors that affect teacher talk in her classroom. Along with the other teachers, Ginger mentioned student behavior as a factor that affects teacher talk. She also included student absences as a factor, because she has to “catch students up on things they have missed if we are continuing the same book or topic throughout the week.” Ginger agreed with Susie that the comprehension strategy that is the focus of the week also affects teacher talk. In the final interview, Ginger mentioned the “particular strategy we are using” as a factor that affected teacher talk. She also noted that “time, the [heterogeneous] grouping of students, and Reading First guidelines” could affect teacher talk.

Teachers expressed concerns during the interviews about the narrow focus on a single comprehension strategy during instruction. This focus is a school-wide mandate and was established because of evidence presented by literacy researchers that explicit instruction in the use of comprehension strategies improves comprehension (Duke & Pearson, 2002; Santoro, et al., 2008). Despite these claims, other researchers (and the participating teachers in this study) recognize that “proficient reading involves much more than using individual strategies; it involves a constant, ongoing adaptation of many cognitive processes” (Williams, 2002, p. 244).

In conclusion, data from transcripts indicate that the teachers in this study used varied, purposeful teacher talk during read alouds. When interviewed, each teacher expressed opinions concerning the goals and challenges related to the use of teacher talk during reading comprehension lessons. The challenges identified by teachers, such as

student behavior and lack of time, were often related to the cultural context of the classroom or school, an important consideration for social learning theory. To understand the learning that occurs at the psychological level, one must attempt to understand the social and cultural level of human activity (Mercer & Littleton, 2007).

Transcripts from the read aloud lessons indicated that questioning was the most prevalent type of teacher talk. Researchers have determined that the questioning of students is a commonly used strategy in many classrooms (Berry & Kim, 2008; Myhill, 2006; Parker & Hurry, 2007). Rojas-Drummond and Mercer (2003) studied teachers who used frequent questioning of students but maintained high levels of student involvement and promoted learning. They discovered that the quality of questions was more important than the quantity when determining effective use in classrooms. In their study, teachers used a variety of questions, not only those that require a brief answer. The next research question examined the quality of questions used during read alouds.

Question #2a: Purpose of questioning

Teachers were asked during the initial interview about the kinds of questions and the purpose of questions used during read alouds. Transcripts were also analyzed to determine the types and purposes of questions.

The second research question had two parts and began with the following: “What is the purpose of teacher questioning during read alouds?” To answer this question, the 366 questions used by teachers during this study were coded based on categories for the purpose of questioning used by Chinn, Anderson, and Waggoner (2001). Categories for coding were determined after segregating the questions found in the transcripts and identifying the purpose of individual questions.

The categories for the purpose of questions are as follows: assessment—single correct answer which teacher knows; genuine information—requests for information, answer not known by teacher, often based on students’ personal experiences; open-ended—no single correct answer or single correct answer not apparent based on text or prior shared experiences, teacher is not evaluating; challenge—questioner implies favored answer though there is no clear single answer, (i.e. “Isn’t this person...?” or “Don’t you think...?”); and procedural—not related to content, (i.e. “Does everyone have a book?”)

Transcript data indicated that assessment was the most common purpose for questioning of students by all teachers (see Table 2). A total of 227 assessment-type questions were posed to students in the participating classrooms.

Table 2

Purpose of Questioning

Category	Beth	Susie	Ginger	Total by category
Assessment	106	74	47	227
Open-Ended	18	42	35	95
Genuine Information	3	14	7	24
Challenge	12	1	1	14
Procedural	3	1	2	6
Totals by teacher	142	132	92	366

Assessment questions were typically closely related to the text the teacher was reading and were designed to assess whether or not the students were listening and remembering facts from the text. This pattern of questioning is similar to what a researcher found when investigating teacher talk in England. In that study, teachers used questions heavily directed toward factual and closed responses (Myhill, 2006).

An example of a series of questions used for assessment purposes came from Beth's transcript:

Beth: It has some dates. We start with what year?

Student: 1944

Beth: 1944, then we go to what year?

Student: 1948

Beth: How much time, what number pattern is between those years? How many years between 44 and 48?

Student: 4

Beth: Yes, 4, good thinking. Do we have a four year pattern to the next year?

Student: No.

Beth: No, it doesn't continue that pattern.

This transcript illustrates how answers to assessment-type questions were typically in a yes/no or short answer format, often communicated as incomplete sentences. This communication pattern that was common among the participating teachers contradicts what researchers discovered when researching effective teachers in Mexico and Great Britain (Rojas-Drummond & Mercer, 2003). In that study, effective teachers used questioning not only to test knowledge but to guide the development of understanding in

students. Instead of overusing assessment-type questions, the researchers discovered that teachers used interaction to encourage thought processes and employed “Why?” questions to get pupils to reason and reflect during questioning.

The second most commonly used purpose of questioning among all teachers was classified as open ended. This type of question did not have an obvious correct answer based on the text. An example of the use of open-ended questions is evident in this dialogue when Beth followed up on an assessment type question with an open-ended question.

Beth: Look at this picture. Do you think this is a picture that is right now? A recent, just taken picture or do you think it was taken a long time ago?

Student: Long time ago

Beth: Why do you think that?

Student: Because it is all brown.

Beth: Because it [the picture] is in black and white, that’s one, but what’s another?

Student: Because the cars are different.

Beth: The cars are very different. Look at the cars; they look like those old gangster cars from old movies. What else do you think is different?

Susie also used this type of question when probing, “What is the theme of this story?” She asked for and acknowledged multiple answers to this question, but in the end, she told the students what she thought the correct answer should be.

Susie: Okay, listen, it’s my turn, Makayla, what do you think the theme of the story is?

Student: That you should always listen and do what you're supposed to do.

Susie: Okay, maybe you should always do what you're told, and he didn't always do what Strega Nona told him to do. Colbie?

Student: Don't ever use something that you're not used to.

Susie: Okay, maybe you shouldn't use something new that you're not used to unless your parents are there. Kristen?

Student: If it doesn't belong to you, don't use it.

Susie: Okay, that's kind of the same thing; if it doesn't belong to you, don't use it.

Susie: Do you think that the author might be trying to tell you to be happy with who you are?

This type of question allowed students to express their ideas and hear others' ideas.

Explaining thoughts verbally (that could be different from peers) allowed students to construct new conceptions and acquire new ways of thinking (Chinn, Anderson, & Waggoner, 2001).

Susie used more genuine information questions than the other two teachers. In fact, Susie posed 14 of the 24 total genuine information questions recorded in the transcripts. These questions were designed to incorporate students' personal experiences into the discussion, making those text-to-self connections that were mentioned in the interviews. Susie posed genuine information questions such as, "Have you ever been somewhere and been homesick and wished you were at home?" or "Would you want to go back to war?" Genuine information questions which require students to think about their own experiences and relate those experiences to situations in the text promote a social learning environment. Students who may lack background experiences can learn

from the shared experiences of others and internalize that new learning for future use. According to sociocultural theory, internalization is a fundamental part of the lifelong process of the co-construction of knowledge which leads to the creation of new knowledge. Internalization occurs simultaneously as an individual and a social process (John-Steiner & Mahn, 1996).

Beth used more challenge questions than the other teachers. These questions had an implied correct answer by the wording of the question. Examples of Beth's challenge questions included, "Women's right to vote, who does that remind you of?" or "So what did she do to help people in that area; did she give them jobs?" Frequent use of this type of question can inhibit students' responses as students are unsure whether they are supposed to respond (Cruickshank, Bainer, & Metcalf, 1999).

Teachers were asked to describe their purpose for questioning while reviewing transcripts of read alouds. The teacher interview responses indicated that the participating teachers were using questioning to teach specific strategies, such as the question-answer relationship strategy (QAR), and to help students find correct answers.

Beth said that her purpose for questioning was to teach students a new QAR strategy that "helps students find the answers to questions during our read alouds which will enable students to be successful with different or more complicated passages [they encounter in the future]." Susie also stated that her purpose for questioning was to teach students the QAR strategy which would help students "identify the relationship between my questions and their answers." When asked about her purpose for questioning, Ginger agreed with the other teachers, mastery of the QAR strategy was the focus. She also mentioned "gaining knowledge about a specific topic (for example, a specific historical

figure)” as her purpose for questioning. As noted earlier, teachers receive specific guidelines regarding when and how to teach comprehension strategies. This strategy focus is research-based with the intended outcome of improved reading comprehension (Duke & Pearson, 2002; Santoro, et al., 2008)

The teachers referred to the QAR strategy regularly during their interviews. The question-answer relationship (QAR) strategy has been implemented during reading comprehension instruction for the past two years at the participating school (Raphael, 1982). It is a strategy designed to “provide a common way of thinking about and talking about sources of information for answering questions” (Raphael, Highfield, & Au, 2006, p. 18). The language used with this strategy teaches students that answers can be found in the text or in background knowledge and experiences. By using the QAR strategy, students are taught to make decisions about where the answer to a question would be found. Questions that are in the book are labeled either “right there” or “think and search,” while those which require students to use background knowledge to answer are called “author and me” or “on my own” (Raphael, Highfield, & Au, 2006). These terms were used repeatedly by teachers and students in the recorded read alouds.

In the final interview, all teachers were asked if they had a correct answer in mind when they posed a question to students. They all agreed that they did have an answer in mind when they asked a question. Beth believed that it was important for her to know the answers in advance “just in case something distracts me and I can’t remember what I’m supposed to say.” She continued, “So I have my answer there in front of me.” Susie stated that she usually has a correct answer in mind and she will try to “steer students in that direction if at all possible.” She added, “Unless, you know, open-ended questions

sometimes there are several things that will work, but pretty much I have an answer in mind.” Ginger described how she has a general answer as well. She stated, “I try to be positive and redirect them, but I usually do have somewhat of an answer in mind.” These statements by teachers indicate a lack of focus on authentic questions, or those questions which the asker does not have an answer in mind. Researchers uncovered a strong and statistically significant association between student achievement and use of authentic teacher questions, follow-up questions, and time devoted to discussion (Nystrand & Gamoran, 1991). Transcript data and interview data indicate that the teachers in this study may be neglecting these critical ingredients of effective questioning.

Question #2b: Nature of questioning

The second part of the second research question was as follows: “What is the nature of questions that teachers use during read alouds?” The transcripts were coded to determine the types of questions that were used during read alouds. The teachers used the terms higher-level and lower-level to describe the types of questions they used during the interviews. Therefore, questions were categorized using an updated taxonomy of learning and the Cognitive Process Dimension (Anderson et al., 2001, p. 67–68). This is an updated version of Bloom’s taxonomy which has informed educational practice for more than 50 years (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). The new version, cowritten by one of the original authors, incorporates new knowledge about how children develop and learn and how teachers plan for, teach, and assess their students (Anderson et al., 2001).

Questions were classified based on what the students were being asked to do. The categories were as follows: remember—retrieve relevant knowledge from long-term

memory (define, list, recall), understand—construct meaning from instructional messages, including oral, written, and graphic communication (classify, describe, explain), apply—carry out or use procedure in a given situation (choose, interpret, solve), analyze—break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose (compare, contrast, distinguish), evaluate—make judgments based on criteria and standards (argue, defend, support), and create—put elements together to form a coherent or functional whole as well as reorganize elements into a new pattern or structure (construct, develop, formulate).

Using this taxonomy, the first three categories—remember, understand, and apply—are considered lower-level questions because of the cognitive processes involved in answering. The remaining categories—analyze, evaluate, and create—are considered higher-level questions because they require students to use higher or more difficult cognitive processes to determine an answer. The authors expand on the higher and lower level cognitive processes highlighted in the taxonomy as they introduce the term *meaningful learning*. The authors describe how meaningful learning occurs when “students engage in active cognitive processing, such as paying attention to relevant incoming information, and mentally organizing incoming information with existing knowledge” (Anderson et al., 2001, p. 65). Meaningful learning is the result of tasks that promote not only retention but also transfer of knowledge. *Retention* involves remembering material at a later time in much the same way it was originally presented. This type of learning is also referred to as *rote learning*. In contrast, *transfer* is the ability to use what was learned in a new situation to solve new problems or answer new questions. This outcome is also referred to as meaningful learning. When students are

asked to remember, knowledge retention is promoted. However, transfer of knowledge to new situations is accomplished when cognitive activities that promote the other cognitive processes (understand, apply, analyze, evaluate, create) are included in instruction.

An analysis of the transcripts revealed that Beth most often used remembering questions (see Table 3) that required students to recall or repeat facts from text or previous instruction. This type of question was used when she was reviewing vocabulary words: “Okay, what’s knowledge?” or “What does text mean?” These questions required students to recall definitions they had previously learned, so they would be considered lower level based on the cognitive process involved in answering. These questions promote retention of facts but not transfer of knowledge.

On the other hand, Susie and Ginger used more understanding questions which required students to classify or explain answers (see Table 3). These questions were often used when students were asked to explain the type of question (based on QAR strategy), such as when Susie asked, “Why was this a ‘think and search’ [question]?” The teachers used a limited amount of applying and analyzing questions during the read alouds. Ginger asked her students to analyze a character’s feelings when she said, “How do you think he is feeling now, and how have his feelings changed?” This question is considered higher level and an example of a question that promotes meaningful learning. Susie was the only teacher who used a question that required students to evaluate. She did this by simply asking students to evaluate the story they had just completed, “Did you enjoy the book?” None of the teachers used any questions that required students to create by constructing, developing, or formulating. This is not surprising as the transcripts included only the oral portion of read aloud instruction. Written work (such as a graphic organizer) that could

have been used as a follow-up activity may have given students an opportunity to construct, develop, or formulate ideas.

Table 3

Nature of Questions

Category	Beth	Susie	Ginger	Totals by category
Remembering	90	37	21	148
Understanding	40	83	63	186
Applying	9	10	6	25
Analyzing	2	2	2	6
Evaluating	0	1	0	1
Creating	0	0	0	0
Totals by teacher	141	133	92	366

To further explore this topic, teachers were asked about the nature of their questioning. In the pre- and post-interviews, each of the teachers was asked how they decided what kinds of questions to ask students. All of the teachers responded that they do not have much choice about the kinds of questions to ask during read alouds. A comprehension strategy is assigned to the grade level by the literacy coach and all of the questions used during read alouds are supposed to focus on that strategy.

In her initial interview, Beth stated, “I plan my questions based on the strategy focus for the week. Basically, we just do what we’re told to do.” Then, in her final

interview, Beth reaffirmed those statements, “It usually goes by weeks, and we are assigned that by the literacy coach.” When asked how she chooses her questions, Susie replied, “The questions I use depend on the comprehension strategy we are focusing on for the week. I only ask questions that are related to the targeted comprehension strategy.” In her final interview, Susie added, “The questions depend on the comprehension strategy...if we’re working on prediction, then we do only prediction questions and so forth.”

Ginger agreed with the others when she said, “I usually plan questions that go along with the reading comprehension curriculum map.” She also said that she would “try to balance higher-order and recall-type questions.” In the final interview, Ginger also mentioned the assigned comprehension strategy and then added that it “depends on the students I have in the room at the time...and on the theme we are doing, maybe even how students are grouped [whole or small group].” Ginger was the only teacher who admitted that she deviates from the comprehension strategy focus in her questioning if she thinks of a question that is appropriate and that will aid in comprehension. There was one example in the transcript that seemed to be an instance of Ginger deviating from her planned questions to inquire and elaborate about a topic that emerged during reading.

Ginger: I wanted to go back and tell you when it said his mother and father jumped the broom in this very spot; does anybody know what it means?

Student: They probably died there.

Ginger: No, this is his mom; she’s still alive, and his father went off to war. In the African American culture, it’s a tradition when they get married, they jump the broom, and it’s a symbol of good luck and they’re going forward into their

married life. So he's saying they jumped the broom in this very spot, so they got married right here.

The teachers were asked to carefully review the completed transcripts and to describe the types of questions they used during the read alouds. Beth noted, "One read aloud which was fictional had more recall-type questions, but there was a good mix of recall and higher-level questions on the other two read aloud lessons which were based on nonfiction text." She also concluded that "the QAR connection questions helped to strengthen and maybe extend students' awareness of a topic." Susie stated that she "tried to incorporate all types of questions, especially higher-order thinking questions." She also described the types of questions that she used as "recall questions in which students had to think and search for the answers and inferential questions." Ginger also felt like she "had a good mix of questions, with (QAR) the 'right there' and 'think and search' are more recall where 'author and me' and 'on my own' are generally higher level."

Individual teacher questioning styles

To get a clearer picture of individual differences in the nature of questioning among teachers, the audiotapes and transcripts were reviewed again. Each teacher had a unique style of questioning which was noticeable when student-teacher interactions were closely reviewed on the audiotapes. For example, when Beth posed a question, she usually posed it to the entire group, and a child would typically "blurt" out the answer without being called upon. Examples of these questions directed to the entire group included "Who can tell me what it [civil rights] means?" and "Do we have any captions?" While listening to the audiotapes, a small number of students (usually the loudest) seemed to be involved in the discussion when this questioning style was used. Many

students were not actively involved in the discussion and may have missed an opportunity to progress to a level of reflection and logical reasoning by participating in discussion, interaction, and arguments with the teacher and peers. Vygotsky believed that social interactions such as these were necessary for all higher cognitive functions (1981).

In contrast to Beth's questioning style, Susie and Ginger normally posed the question to the entire group but instructed the students to discuss their answers with a partner or in a small group before they called on specific students to respond. Susie directed students to talk with their group before answering her question in this dialogue:

Susie: What was the custom for wealthy young girls to do when Eleanor was young? I want the type of question and the answer; talk with your group.

Students: (talking in groups)

Susie: Okay, Kain, what kind of question is that?

Student: Right there

Susie: It's a 'right there' question... and what's my answer?

Student: Okay, to propose that they wanted to get married and to go to parties.

This practice of "encouraging pupils to take a more active, vocal role in classroom events" is consistent with sociocultural theory (Mercer & Littleton, 2007, p. 40). Not only does this practice have theoretical support, but researchers in Mexico determined it was a distinguishing characteristic of teachers whose students had high achievement scores on reading comprehension and mathematics measures (Mercer & Littleton, 2007). Though Susie and Ginger encouraged social interaction during questioning sequences, the types of questions used (mainly assessment) were not designed to encourage pupils to give reasons for their views or organize interchanges of ideas. This type of interaction would

be necessary to promote learning as a social, communicative process as the teachers did in the study from Mexico.

Not only did Susie and Ginger use more open-ended or genuine information questions than Beth, but both Susie and Ginger were more likely to ask for responses from more than one student. This communication pattern is not surprising, as open-ended and genuine information questions lend themselves to multiple answers. Typically, Susie and Ginger would pose a question and then ask more than one student (by name) to respond. The following dialogue illustrates this type of interaction as well as the “turn and tell your partner” strategy described by Ginger:

Ginger: All right, I want you to turn and talk to your partner. I want you to make a prediction: what do you think these soldiers are going to do with Pink and Say?

Students: (talking to partners)

Ginger: 5-4-3-2-1. Okay, anyone want to share their prediction? Isaiah?

Student: They might kill them.

Ginger: Okay, you think they might kill them. Does anybody have a different prediction?

Student: Maybe let them go or put them in a dungeon.

Ginger: Okay, maybe they are going to take them captive and put them in a dungeon. Anybody have a different prediction? Chloe?

Student: I think they are going to make Say come be on their side and kill Pink.

Questioning was the most prevalent use of teacher talk in the participating classrooms. The questions posed by teachers were categorized based on purpose and type. The most common purpose of questioning by all teachers was assessment of

students. The types of questions were most often classified as lower level, according to the Cognitive Process Model, as they required students to remember or understand what the teacher had read or stated (Anderson et al., 2001). The next section will explore how teachers responded after students answered their many questions.

Question #3a: Purpose of responses to students

The focus of the third research question was the feedback that teachers gave to students. Feedback, or responding to students, was the second most commonly used type of teacher talk evident in the transcripts (see Table 1). The first part of the research question was as follows: “What is the purpose of teacher feedback to student responses?”

The transcripts were coded according to the different purposes of feedback. Categories used for coding emerged while reviewing transcripts and were based on those used by Holbein and Harkins (2010). The four categories were defined as follows: encouraging—positive language that attempted to get more information from students who might be reluctant such as “I think you said it” or “Okay so you think maybe,” acknowledging and accepting efforts—implied answer was correct but did not include words of praise, often included words such as “yes” or “okay,” praising or reinforcing outcomes—usually included words of praise such as “good,” “exactly right,” or “excellent,” and clarifying or correcting—used when a student gave an incorrect or incomplete answer. This also included elaboration or explanations offered by the teacher.

An analysis of the transcripts revealed that acknowledging and accepting efforts was the most frequent purpose for feedback given to students (see Table 4). Below are examples of this type of feedback from each teacher:

Beth: Yes, so that tells you that it is a nonfiction text feature.

Susie: Okay, maybe he thought he might die.

Ginger: Okay, possibly a really old house.

Another study of teacher talk revealed similar results related to the purpose of feedback given to students during literacy instruction. In their study, Parker and Hurry found that affirmative answers such as those labeled in this study as acknowledging and accepting efforts were the most frequent response by teachers (2007). They described this type of response as that which “does not interrupt the flow of the story but provides little opportunity for the exchange of ideas and opinions” (p. 309).

Table 4

Purpose of Feedback

Category	Beth	Susie	Ginger	Totals by category
Acknowledging and accepting efforts	41	65	39	145
Clarifying or correcting	26	23	9	58
Praising and accepting efforts	11	25	14	50
Encouraging comments	2	3	0	5
Totals by teacher	80	116	62	258

The other categories of feedback, in order of overall frequency of occurrence, were clarifying and correcting, praising and accepting efforts, and encouraging comments (see Table 4). Clarifying and correcting language was commonly used to explain something in more detail after students offered a correct but brief answer to the teacher's question. An example of this type of feedback from Susie follows:

Susie: What did he have to do, he had to take...?

Student: The last name

Susie: He had to take the last name of his master. So if you were a slave you didn't even know you didn't have your own last name.

The use of encouraging comments was noticeably minimal in comparison to the other purposes of feedback evident during the read alouds. Both Beth and Susie used encouraging feedback when a student gave an answer that wasn't exactly what they were looking for but instead of following up with the student who gave the answer, they posed the question to another student:

Beth: Okay, I can see where you see some of that, but someone else said it.

Susie: Okay, he's the one, he's the president, the leader of the northern army but I like what Evan said, he's the one who's trying to free the slaves and these people do not like slavery.

Some utterances were coded as having more than one purpose which makes the totals in Table 4 slightly higher than the number of responses to students represented in Table 1. For example, when Beth responded to a student, "Right, they have some ships there; those are steamboats; that tells you it is a long time ago," it was coded as both

acknowledging (because of the use of the word “right”) and as clarifying because she provided additional information after acknowledging the student’s answer.

When analyzing patterns among individual teachers, it was noted that Susie provided feedback more often to students than the other two teachers. When looking specifically at the purpose for feedback, Beth used feedback for clarifying and correcting more than for praising and accepting. Beth clarified for the students when reading about thunderstorms. After she asked “Why was it ten miles away? How far did she count?” and a student replied “Ten”, she responded by saying, “She counted ten so that meant it was ten miles away.” She corrected the students when a discussion of Eleanor Roosevelt led to some confusion about the current first lady, “Franklin D. Roosevelt, no it wasn’t when she was married to Obama.” In contrast, Ginger used praising and accepting more frequently than clarifying and correcting. Ginger responded to students with praise after receiving a correct response to a question about the QAR strategy. She said, “Okay, very good, I see that everyone raised up [the card that says] ‘on my own.’ And that is exactly right because you’re using only your own experience.” Susie used an almost equal amount of feedback intended for praising and accepting and that intended for clarifying and correcting. Sometimes Susie used teacher talk to clarify and praise at the same time. An example of feedback that was coded as both clarifying and praising was recorded as Susie responded when students answered a question, “Sure, you open the book when you are asking a question, and you’ll be able to find the answer right there, usually just in one sentence in one place, good.” Susie used this response to praise students for the correct answer while clarifying exactly how to identify a “right there” question.

Teachers were asked to describe their purpose for giving feedback to student responses while reviewing the transcripts. Beth said that she used feedback to “reinforce comprehension, to revisit the information that was presented. If they didn’t get it the first time, they have an opportunity to understand [by] being exposed [to the information] another time.” Susie described her purpose for giving feedback as “a way to encourage students but also steer them in the direction of the correct answer.” Ginger stated that her main purpose for feedback was to help students understand the QAR strategy, “so most of my feedback was geared toward this.” She stated, “I always give feedback to help students better understand text.”

Teachers expressed specific purposes for their feedback to students. Myhill and Warren (2005) investigated the use of feedback and “critical moments.” The authors defined “critical moments” as those points in a lesson when a student or teacher says something that creates a moment of choice or opportunity for the teacher to deviate from their own planned agenda to explore a topic of interest (2005). During this study and the previously mentioned study in England, teachers appeared unwilling to deviate from the planned agenda to follow up on comments or questions presented by students. Myhill and Warren described teachers as primarily having a teaching agenda rather than a learning agenda (2005).

Question #3b: Nature of responses to students

The second part of the third research question was as follows: “What is the nature of feedback that teachers give to student responses during read alouds?” A close examination of the transcripts revealed that the majority of feedback given to students could be described as evaluative. In other words, teachers were judging or assessing the

quality of the response with their feedback. Though the purpose of the evaluation varied, as previously mentioned, (encouraging, acknowledging, praising, or clarifying), the feedback usually fit into the category of evaluation. The teachers, for the most part, followed the IRE pattern described by Mehan (1979) and Cazden (2001). The teacher initiated the discourse (usually with a question), students responded, and the teacher evaluated the student's answer. Each transcript provided multiple examples of the use of the IRE pattern. One example was chosen from each teacher's dialogue to illustrate this common communication pattern.

Beth's example:

Beth: By looking at this book, who can tell me—is it going to be fiction or nonfiction? (Initiate)

Student: Nonfiction. (Respond)

Beth: Nonfiction is correct, how do you know? Look at the clues on the front of the book. (Evaluate/Initiate)

Student: A photo. (Respond)

Beth: A photo, exactly; it has real pictures. (Evaluate)

Susie's example:

Susie: Okay, Emily, What did Eleanor do to help Franklin win the presidency? Tell me the type of question that is. (Initiate)

Student: Think and search. (Respond)

Susie: Good, it's a 'think and search.' Now, let's answer that. What did she do? (Evaluate/Initiate)

Student: She walked through the crowds, and then that showed respect from her.

(Respond)

Susie: Okay, she roamed through the crowds to talk to people, because he couldn't. (Evaluate)

Ginger's example:

Ginger: What was this time called? (Initiate)

Student: The Great Depression. (Respond)

Ginger: Good, the Great Depression. (Evaluate)

Another researcher described this communication pattern as "highly conventional" with dominant interaction patterns that were rarely disrupted; the child's answer served to end an interaction sequence and rarely to begin or initiate it (Myhill, 2006). In her study, Myhill noted that discourse was structured upon a framework of teacher initiation and pupil responses (2006). Feedback that is strictly evaluative is authoritative or monologic, restricting student thinking (Chin, 2006).

An addition to this IRE verbal exchange, which would allow students to reflect or question, was rarely present in the dialogue recorded during this study. Such a change in the pattern of teacher questioning is necessary "to be successful in promoting interactive dialogue" (Parker & Hurry, 2007, p. 308). Researchers have recognized the value of student questioning to learning (Nystrand, et al., 2003; Wells, 1999). Despite the potential benefit of student questioning, there were only a few instances in the transcripts when students were permitted to ask a question. These occurrences seemed almost accidental and received little feedback as the teacher appeared to try to stay on topic.

Each teacher had some verbal interchanges that did not follow the IRE pattern. Beth and Susie both had students who interjected questions or comments during the discussion that disrupted the IRE pattern. Ginger issued a follow-up question to a previously asked question.

When Beth was reading a book about thunderstorms, one of the students asked, “Is that going to be like our storm we’re going to have?” and the teacher responded, “I don’t know if we’re going to have thunderstorms or not, maybe we’ll turn the weather channel on during the break. Everybody ready, finger tracking please.” Susie had a student who raised his hand to speak during her read aloud. She said somewhat impatiently, “Do you have a question? Your hand is up.” The student responded, “It’s not a question, but this book has a lot of slang in it.” Then Susie replied, “You’re right, we’ve been talking about slang in Language Arts, and this book has a lot of slang in it.” Both of these verbal exchanges were initiated by a student rather than the teacher. This was noticeably different from the ongoing communication patterns evident throughout the read alouds.

Ginger had a different example of breaking out of the IRE pattern. She asked a yes-or-no question, “Would it be cool to turn into someone else?” She followed up this question with another, “For those of you who said yes, tell me why it would be cool to turn into someone else.” Though the follow-up question was not initiated by a student, it allowed students to make connections between the text and their own lives and to explain their thinking. The use of follow-up questions, sometimes referred to as uptake, was a component of effective discourse evident in classrooms with improved student achievement (Nystrand, et al. 2003).

To further explore the third research question, teachers were asked during the pre- and post-interviews how they decide what kinds of feedback to give students. Teachers, once again, stated that they are not always able to choose how to use feedback when responding to students.

Beth said that her feedback “depends on the strategy focus for the week.” She explained that she tries to “stick to discussion about the strategy. If they bring up something completely off topic, I tell them we will talk about that later.” In her final interview, she added that her feedback “depends on how far-fetched it is... I try to keep pulling from them until they answer what I feel like they need to answer, until they get it.”

Susie said she tries “not to be too negative if a student responds with an answer that is different than what I have in mind.” She explained that she tries to “acknowledge parts of the answer that are correct or close to the correct answer.” She usually has “a correct answer in my mind so I might ask another student until someone says the answer I am looking for.” When asked the same question in the final interview, she added that she tries to “guide them in the direction that I want, and then if nobody can come up with anything, I’ll give some suggestions and hopefully that will help them come up with what I’m looking for.”

Ginger responded to questions about her use of feedback by stating, “I will try to redirect the student to the topic we are focusing on, or I will reword the question. Sometimes I will ask other students to help out.” She also uses a strategy called “turn and tell your partner,” which allows students to discuss answers with a partner before sharing with the group. She believes that this strategy “helps [students] more clearly express what

they are thinking.” This strategy is consistent with sociocultural theory, as students have an opportunity to verbalize their thoughts in a social setting before they are internalized. Vygotsky’s theory described this progression to reflection and logical reasoning at the intramental level as a result of discussion, interaction, and arguments at the intermental level (1981). Ginger also mentioned during her final interview that she uses teacher talk to “maybe even try to get a little more in depth. Sometimes they just want to give a very basic answer, so I’ll try to prod a little more out of them.”

To determine the purpose and nature of feedback given to students during read alouds, the teachers’ perspective from interviews was compared with the outsider’s perspective from the researcher’s analysis of instructional read aloud transcripts. Several themes emerged from those two data sources. Teachers in this study primarily used feedback to evaluate answers students had given, and the feedback was typically acknowledging and accepting of the answers given by students. Some inconsistencies between what the teachers described and what was apparent on transcripts were noted. These inconsistencies will be further explored in the next section.

Question #4: Perceptions versus practice

The final research question was designed to combine the answers from all the previous questions to determine the following: “To what extent do teachers’ perceptions concerning the use of questioning and feedback during reading instruction align with actual practice?” To answer this question, transcript data was compared to teachers’ interview responses.

Transcript data (see Table 2) revealed that assessment was the most commonly used purpose for questioning. An example of this frequent pattern of questioning

occurred when Susie was introducing a book about Eleanor Roosevelt to her students. She used questions and feedback to determine if students could name text features which are often found in nonfiction text. This was an assessment of prior learning:

Susie: What kind of things might we see in a nonfiction book?

Student: The headings.

Susie: Headings, good, what else?

Student: Captions.

Susie: Captions, good, what else?

Student: Subheadings.

Susie: Subheadings.

Student: Boldprint.

Susie: Boldprints.

Student: Graphs.

Susie: Yes, graphs.

(Students continue naming text features.)

Susie: Yes, all those things that we've talked about all year in nonfiction we might find in this book about Eleanor Roosevelt, okay?

The frequency of assessment-type questions in the transcripts supports what the teachers said in interviews about knowing correct answers in advance and guiding students toward those correct answers. The teachers planned questions that typically had a single correct answer, and they frequently assessed the students to be sure that they also knew the correct answer. This practice led to a predictable, teacher-dominated communication pattern which was especially noticeable when listening to the recorded

read alouds. The teachers in this study did not seem willing to sacrifice control of conversations; they had an apparent recognition that they wouldn't always know where the conversation might lead if controlled by students.

In another study, teacher and researchers who were intentionally attempting to infuse more student initiated dialogue into reading instruction described how they wrestled with decisions about when to enter conversations to explicitly teach reading strategies or interject accepted interpretations of text (Aukerman, Belfatti, & Santori, 2008). They worried not only about what would be said but also about what would be learned. This struggle was based, in part, on the recognition that in an educational system driven by assessment and accountability, students will at some point be expected to know the one correct answer and that answer may or may not emerge during a student-led discussion.

Further analysis of the teachers' perceptions about the purpose of questioning compared with actual practice suggests that teachers may be unaware of their multiple purposes for questioning. Each of the teachers described her purpose for questioning very specifically: to teach students the QAR strategy. As predicted, the transcripts did contain multiple references to the QAR strategy. Students in all three classes were regularly asked which strategy ("right there," "think and search," "author and me," or "on my own") would help them find the answer and then they were asked to explain why they chose that answer. However, the data in Table 2 suggests that the primary purpose of questioning for all teachers was assessment. This included assessing student knowledge of the QAR strategy but also the assessment of content knowledge, vocabulary, comprehension of text, and text features.

Another inconsistency related to the use of questions during read alouds was noted when the transcript data and interview data were compared based on the nature of questioning by teachers. Each of the teachers described her questioning as somewhat balanced. Beth noted, “One read aloud which was fictional had more recall-type questions, but there was a good mix of recall and higher level questions on the other two read aloud lessons which were based on nonfiction text.” Susie stated that she “tried to incorporate all types of questions, especially higher-order thinking questions,” and she also described the types of questions that she used as “recall questions in which students had to think and search for the answers and inferential questions.” Ginger also felt like she “had a good mix of questions, with QAR, the ‘right there’ and ‘think and search’ are more recall where ‘author and me’ and ‘on my own’ are generally higher level.” The teachers recognized that effective questioning is balanced (Cruickshank, Bainer, & Metcalf, 1999; Topping & Ferguson, 2005). Despite this recognition, according to Table 3, the majority of questions used by all teachers would be considered lower level based on the Cognitive Process Dimension (Anderson et al., 2001, p. 67–68). Most of the time, students were asked questions which required them to remember or understand, which are considered the lowest two levels of the cognitive model based on the cognitive processes required to answer those types of questions.

When asked about their purpose for giving feedback to student responses the teachers indicated that they normally used feedback to guide students to the correct answer. In fact, based on the feedback given by teachers in the transcripts, this was often unnecessary because students had already given a correct answer. This is apparent because teachers responded with acknowledging and accepting efforts or praising and

accepting efforts about 75% of the time (see Table 4). These types of responses indicate that the students gave a correct answer. In contrast, teachers clarified or corrected and encouraged much less often, about 25% of the time, which indicates that students gave incorrect, incomplete, or hesitant responses far less frequently.

The limited amount of correction and encouragement would suggest that students spent little time working in what Vygotsky called their Zone of Proximal Development (ZPD). According to Vygotsky, to promote cognitive development, students should be performing tasks, with the help of a teacher, which they could not perform independently because of the difficulty level (Schunk, 2008). In this study, teachers seem to be performing tasks with or for students that the students could perform independently without teacher assistance. This presents little challenge for students as they are not required to think about answers to questions. As Vygotsky explained it, “the only good learning” is that which is in advance of development (1978).

Teachers in this study used vague terms to describe the types of feedback they used. They described their feedback as “encouraging” or “not negative.” However, an analysis of the kinds of feedback used determined that the majority of feedback was evaluative in nature. Teachers used feedback to evaluate student responses, and they maintained strict control of the conversation, usually following the IRE pattern of communication. This pattern is consistent with what Mehan called the “teacher’s agenda” (1978). It is a stance adopted by teachers for the purpose of achieving educational objectives while maintaining social control (Mehan, 1979). Throughout this study, teachers fulfilled their responsibility of evaluating the performance of students. Teachers receive a salary for their role in delivering the state-approved curriculum to students.

Teachers in this study seemed to be aware of the time involved in mastering all of the standards and their obligation to evaluate student performance and then “move on” to new concepts.

The alignment between perceptions and actual practice was also explored during the interviews. These interviews allowed teachers to explain the social and cultural context which encompassed the verbal interactions. During the interview conducted while teachers reviewed transcripts and in the final interview, teachers were asked what changes (if any) they would make in the teacher talk that might improve comprehension. Teachers were also asked what factors might prevent those changes from being made.

Beth felt like she “should have given the students more opportunities to respond to what they had heard.” She said, “I should have used more open-ended questions related to why they chose a specific QAR strategy.” She noticed what was evident in the transcripts; she had used 106 assessment type questions and only 18 open-ended questions (see Table 2). Beth added that being “assigned a specific comprehension strategy... we must focus on that strategy” limited her ability to change her teacher talk.

Susie mentioned that she would like to be able to ask questions that “involved multiple strategies” when practicing reading comprehension. She agreed with Beth that being required to “stick to a certain comprehension strategy limits the type of questioning a teacher can do.” Though the participating school discourages *multiple strategy* reading comprehension instruction, a well-known national reading document published by the National Institute of Child Health and Human Development states that multiple strategy instruction seems to be the most effective way to teach cognitive strategies (2000). In addition, the report concluded that teaching a variety of strategies can result in increased

learning, increased memory and understanding of new text material, and better reading comprehension.

Susie also noted that time was a limiting factor in improving reading comprehension. She “was surprised at how often I mentioned that we were in a hurry, I believe that might have hindered comprehension.” Susie recognized an example of this hurried discussion in her transcript. She posed a genuine information question before reading that was intended to build background knowledge as students shared experiences from their own lives. Susie asked the question and allowed students to discuss their answers with their peers, but when it came time to share their thoughts with the whole group, the discussion was cut short by the teacher.

Susie: Okay, listen for this question. Have you ever been somewhere and been homesick and wished you were at home? Talk to your partners about what kind of question that is, and then answer that question with your group.

(Students talking in groups)

Susie: Okay, guys, my turn. Emily, what kind of question is that?

Student: On my own.

Susie: Okay, why is it ‘on my own’?

Student: Because it’s not about the book.

Susie: Excellent. I’m not asking you about the book; I’m asking about you. It’s not really about the book although this person is in the same predicament. I’m asking about you.

Susie: Cody, tell me about a time, real quick.

Student: Well, my maw-maw and paw-paw were taking me and my sister to this Christmas party, and I wanted to be at home with my parents.

Susie: Okay, you missed your parents; homesick is a bad feeling. Okay, hands down. We don't have time for everybody's story.

When asked about changes that she would like to make, Ginger expressed a desire to do more “hands-on and technology activities as follow-ups to my read alouds (especially for science and social studies themes).” This statement suggested that Ginger has a desire to create a more social, less teacher-directed climate during the read aloud time. She also believed that time was a limiting factor and “guidelines and expectations [as a result] of the Reading First grant” inhibited changes.

Each of the teachers mentioned challenges to effective teacher talk related to the school culture. It seemed that teachers control interactions in the classroom setting while administrators and the literacy coach exhibit control over instructional strategies (such as questioning and feedback) used by teachers. It is evident from teachers' responses that the culture of the school influences student learning.

Teachers were also asked during the culminating interview about their “general level of satisfaction” with the teacher talk used during read alouds. This question was added to the final interview after the transcripts were created because the researcher wanted to determine if teachers were satisfied with the lessons after reviewing the transcripts or if they had specific changes in mind when they had a chance to review the lessons. Despite statements by each of the teachers which indicated a sense of resistance to “being told what to do” during read alouds, each of the participating teachers expressed an overall satisfaction with the read aloud lessons.

When explaining her contentment with her read aloud lessons, Beth expressed satisfaction due to planning. She explained, “I plan my talk using my words and words that I think they will understand, and if I don’t think they’re going to understand, then I’m going to provide them with some background knowledge.” Beth did not name any specific changes that she would make if given the opportunity.

Though Susie expressed an overall satisfaction with the teacher talk used during her read alouds, she did mention two possible changes that she felt could improve her lessons. She was concerned that she “rushed the students...I was surprised at how often I would say ‘Okay, quickly’ or ‘I need an answer right now.’” Another area of concern was the focus on a single comprehension strategy. She said, “It would be wonderful to be able to plan a read aloud and then ask whatever we thought was appropriate for the particular book. I would like to be able to do that.”

When Ginger was asked the same question about her level of satisfaction and the changes that could improve her lessons, she also described herself as “overall pretty satisfied with it.” She did point out that she felt “somewhat scripted...with [questions] prepared [in advance for read alouds].” However, she admitted that she doesn’t “always stick to that.” She explained further:

I do if I think about a question when I’m reading; I do ask it or talk about it. If a student asks me something in the middle of reading I try not to ignore that even though that’s not something I originally planned to talk about.

Conclusion

In conclusion, the analysis of audiotape transcripts and interview transcripts uncovered much data related to the teacher talk used in the participating classrooms

during read aloud time. The main categories of teacher talk evident in the participating classrooms during read aloud were questioning and eliciting, responding to students, organizing and giving instructions, presenting and explaining, and sociating (Berry & Kim, 2008). The most commonly used categories of teacher talk in all classrooms were questioning and eliciting and responding to students. These two categories of teacher talk were further examined based on purpose and type. The primary purpose of questioning by the participating teachers was assessment of students. The types of questions were typically lower level, requiring students to remember or understand what the teacher had read. Feedback was given to students normally as part of an evaluation of answers given. The primary purpose of feedback given to students was to acknowledge and accept (correct) answers. Based on the results of this study, the challenge appears to be how teachers can break free from monologic or recitation script behaviors. A pair of researchers summarized the challenge this way:

Teachers must be released from the burden of having to ask all of the questions and know and evaluate all of the answers. At the same time, pupils must be freed to respond to each other as well as to the teacher, to ask as well as answer questions, and to direct the interaction as well as being directed. (Smith & Higgins, 2006, p.495)

In some instances, the transcript data supports what teachers stated in interviews, but there are some examples of misalignment between the teachers' perceptions and actual practice. In the next chapter, this data will be discussed and interpreted in terms of implications for educational practice.

CHAPTER 5: SUMMARY AND DISCUSSION OF RESULTS

Introduction

This chapter provides a summary of the investigation of teacher talk and includes important conclusions drawn from the data presented in the previous chapter. Results are linked to existing research on the topic of classroom discourse, implications for action in schools, and recommendations for further research on the topic.

Summary of the study

This qualitative study was conducted in third-grade classrooms during daily read-aloud instruction. A multiple-case study approach was used to examine the discourse in individual classrooms and then compare the discourse used in each classroom. Three teachers were recorded while they read and discussed books (both fiction and nonfiction) with students. These audio recordings of classroom instruction, along with teacher interviews were the two sources of data. Data were analyzed through a sociocultural lens with an emphasis on teacher talk and its potential effect on student learning.

Overview of the problem

Numerous studies have emphasized the value of productive discourse in classrooms. Researchers have identified specific discourse practices which positively impact student learning. These practices include a careful combination of peer group interaction and expert (teacher) guidance (Mercer & Littleton, 2007), active involvement of students in discussions about text (Scharlach, 2008), a balance between the teacher's use of open and closed questions (Topping & Ferguson, 2005), and a focus on building

upon pupil responses by the teacher (Topping & Ferguson, 2005). Despite this evidence, researchers have determined that these effective practices are not commonly found in classrooms. Instead, classrooms are filled with monologic, or teacher-dominated, instruction. Teachers in this study exhibited predictable communication patterns, following the traditional interaction sequence of teacher initiation, pupil response, and teacher evaluation, also referred to as IRE. This has been found to be the prevailing communication pattern in classrooms (Berry & Kim, 2008; Cazden, 2001; Nystrand et al., 2003). Analysis of data led to the conclusion that teachers in this study, either accidentally or intentionally, did not appear to fully avail themselves of opportunities to maximize student learning as a progression from social relations to higher mental functions (Vygotsky, 1981).

Research questions

Research questions for this investigation of teacher talk were developed using a sociocultural lens and derived based on communication patterns found in existing research on the topic. The research questions which guided the study were as follows:

- 1) In what ways do elementary reading teachers use teacher talk during read alouds?
- 2a) What is the purpose of teacher questioning during read alouds?
 - 2b) What is the nature of questions that teachers use during read alouds?
- 3a) What is the purpose of teacher feedback to student responses?
 - 3b) What is the nature of feedback that teachers give to student responses during read alouds?

- 4) To what extent do teachers' perceptions concerning the use of questioning and feedback during reading instruction align with actual practice?

Review of methodology

A multiple-case study approach using qualitative methods was used to capture the discourse in reading classrooms. Three third-grade teachers participated in this study. Each teacher was interviewed on three separate occasions and recorded during read aloud instruction on three occasions. The interviews and the read alouds were recorded and transcribed for analysis. Data analysis included coding of transcripts by the researcher. The participating teachers also assisted in data analysis as they reflected on transcript data by responding to questions about those transcripts posed by the researcher. The interview responses were also analyzed to identify patterns and check for alignment with transcript data.

Major findings as related to research questions

Each of the two data sources, transcript data and interview data, produced relevant findings. In some instances, transcript data supported what teachers reported in the interviews, but the two data sources also revealed some apparent contradictions.

The first research question was as follows: "In what ways do elementary reading teachers use teacher talk during read alouds?" To answer this question, oral language used by teachers during read alouds was analyzed using broad categories. Results revealed that teachers in this study spent a great deal of time questioning students. Feedback, or responding to students, was the next most commonly used type of teacher talk (see Table 1).

The second and third research questions looked at the two most commonly used types of teacher talk, questioning and feedback. The second research question was broken down into two parts as follows: “What is the purpose of teacher questioning during read alouds?” and “What is the nature of questions that teachers use during read alouds?” Based on transcript data, the questions used by teachers could be described as those designed to assess the students’ knowledge of a topic or a comprehension strategy. They were considered lower-level questions that required students to remember or understand basic facts from text (see Tables 2 and 3).

The third research question was broken down into two parts as follows: “What is the purpose of teacher feedback to student responses?” and “What is the nature of feedback that teachers give to student responses during read alouds?” Transcript data indicated that feedback was typically used to evaluate student responses. The IRE pattern was evident throughout the transcripts: the teacher initiated discussion (usually with a question), students responded to the question, and the teacher evaluated the response. The feedback provided by teachers was usually positive, affirming or acknowledging, indicating that students could successfully answer the questions being asked by the teacher (see Table 4).

Additional findings related to questioning and feedback were extracted from the interview data. Teachers expressed concerns to the interviewer about being required to focus on a single comprehension strategy during reading instruction. According to the teachers, this narrow focus affected the types of questioning and feedback they employed.

Interview data also indicated that teachers believed that they were using feedback to help steer students to correct answers and to maintain the strict focus on the highlighted comprehension strategy.

The fourth research question was as follows: “To what extent do teachers’ perceptions concerning the use of questioning and feedback during reading instruction align with actual practice?” This question was answered by comparing the recorded data from the transcripts to statements made by the participating teachers during the interviews. This comparison revealed that teachers may not recognize common patterns in their own discourse. Teachers were also unable to justify their communication patterns with either theoretical or empirical evidence. Instead of referring to research, theory, or best practices as the foundation for discourse practices they exhibited, they explained them with language which suggested personal preference was a factor. For example, when teachers were asked how they decided what kinds of questions or feedback to use during instruction, the common response began with “I try to” or “I like to.” When asked about their purpose for questioning and feedback, they typically referred to the mandated comprehension strategy focus for the week.

Two of the three teachers intentionally included time for students, either with a group or with a partner, to discuss questions posed by the teacher. This practice has the potential to increase meaning-making through peer discussions about text. However, the questions that the students were discussing were often recall-type questions. The answers were typically found in the text and little discussion was required to arrive at the answer. If these peer discussions were combined with more authentic questions, meaningful learning would be more likely to occur.

Findings related to literature

Teacher questioning was used throughout the discussion in the recorded lessons to promote and evaluate student comprehension of text. This finding was predicted based on prior research on the topic of teacher talk which determined that questioning is commonly used in classrooms (Berry & Kim, 2008; Parker & Hurry, 2007; Skidmore, et al., 2003). The use of questioning has potential to improve comprehension, but the types of questions used must include a balance of those which evaluate the comprehension of text and those which promote thought and maximize student learning (Topping & Ferguson, 2005).

The quality of the questions used by teachers and the follow-up to student responses are important in extending students' thinking (Chin, 2006). Higher-order questions were used infrequently by the teachers in this study. Instead, they relied on mostly text-based, single-response questions to assess comprehension of text. This type of questioning is dissimilar to the open-ended questioning style of expert or highly effective teachers in whole class reading instruction (Topping & Ferguson, 2005).

Teachers in this study used feedback mainly to evaluate student responses and to control the discourse in the classroom. Much of this evaluation and control was purposeful as each of the participating teachers mentioned having a correct answer in mind when questioning students. Susie admitted that she used feedback to "steer students in the direction of the correct answer." This finding is consistent with what researchers discovered when studying how other teachers handled "critical moments" or opportunities to either support or hinder development of a child's understanding through

choice of words. When given the option, teachers chose to carefully steer the discourse along a predetermined path (Myhill & Warren, 2005).

Results from this investigation of teacher talk indicate some inconsistencies between beliefs and practices of teachers. Teachers did not mention specific learning theories as a basis for their beliefs, but they did relate some of their instructional practices to their personal beliefs about learning. Two of the participating teachers stated that they believed a multiple strategy approach to comprehension instruction would be more effective. Susie said, “I believe that having to stick to a certain comprehension strategy limits the type of questioning a teacher can do.” She also stated, “Sometimes the narrow focus on one comprehension strategy limits teacher talk.” In spite of these statements, Susie was not the teacher who admitted that she deviated from the assigned single strategy during instruction. The teachers’ beliefs about the benefits of a multiple strategy approach to instruction were typically abandoned as they chose to follow guidelines which called for single comprehension strategy focus during this instructional time.

The inclusion of teachers in the data analysis process was crucial so that inconsistencies between beliefs and practices could be uncovered. A limited amount of research is available that includes a synthesis of the classroom teachers’ perspective with an outside observer’s perspective. Studies which were identified revealed outcomes similar to those uncovered in this study: a lack of awareness (by teachers) of actual discourse patterns (Topping & Ferguson, 2005) and discrepancies between beliefs of teachers and teaching practices (Theriot & Tice, 2009).

Throughout teacher interviews, none of the teachers mentioned educational theory or research as support or basis for their beliefs or actions. The teachers sometimes

explained their actions with language such as “I like to” or “I try to.” Educational theory was noticeably absent from their interview responses. Of the two teachers who intentionally included time for social interaction between peers during discussion of text, only one of those, Ginger, suggested that she recognized the value of social learning in the classroom. She stated, “I also use a strategy called ‘turn and tell your partner,’ which allows students to discuss answers with a partner before sharing with the whole group. This helps them more clearly express what they are thinking.”

Unexpected findings

Many of the results from this study were anticipated based on a review of literature on the topic of teacher talk. However, some of the findings were unexpected. These unanticipated outcomes along with evidence related to predictable communication patterns were used to draw conclusions and propose implications for action.

In each of the participating classrooms, there was very little student-initiated conversation. The lesson content and pace was tightly controlled by the teachers, and the students seemed to have accepted this communication pattern. The occasional initiation by a student was either ignored or quickly handled so the class could return to the planned agenda. This control was most apparent while listening to the audiotapes.

An additional result of this study which was unanticipated involved the instruction related to the QAR strategy. The teachers mentioned many times that they were trying to teach the students the QAR strategy. However, the students at the participating school had been learning this strategy for over a year and such explicit instruction seemed redundant. In their book, the developers of QAR explain how the method is based on sociocultural theory and is designed to lead students into meaningful

interactions with teachers and peers as they discuss text (Raphael, Highfield, & Au, 2006). The authors recommend a six-step approach to help students develop automaticity with the QAR method: explicit explanation, modeling, guided practice, coaching, independent application, self-assessment, and goal-setting. During the three weeks of recording for this study, participating teachers implemented only the first three steps of the recommended process: explicit explanation, modeling, and guided practice. They appeared to be focused on having students determine the type of question being asked (“right there,” “think and search,” “author and me,” or “on my own”). Throughout the recorded read alouds, each of the teachers repeated the same questions again and again, “What type of question is it?” Sometimes they would add, “How do you know?” and then “What’s the answer?” Some teachers allowed students to work with peers or a small group to answer these questions, but the level of question remained the same.

Another unexpected outcome was the actual or perceived sense of contentment among the participating teachers concerning instructional practices. Throughout the interviews, the teachers seemed dissatisfied with the literacy coach assigning a strict schedule for comprehension strategies to be taught. Beth stated, “Basically, we just do what we’re told to do.” She also said, “We are required to stick to the state posters which means a comprehension strategy is chosen for us and we must focus on that strategy for a week or more.” Susie agreed by saying, “The questions I use depend on the comprehension strategy we are focusing on for the week.” She also stated, “The narrow focus on one comprehension strategy limits teacher talk.” Ginger was the only teacher to admit that she deviates from the assigned strategy focus when she feels it is appropriate. She said, “A lot of times I do feel like we have to be somewhat scripted...but I don’t

always stick to that. I do if I think about a question when I'm reading, I do ask it or talk about it." Though the teachers expressed discontentment with current practice, when given the opportunity, they offered few ideas for ways that they would change or improve instructional practices. Teachers and students appear to have become comfortable with the "transmission model" of learning—the teachers hold the knowledge, and they attempt to transmit it to students who are basically passive during the process (Wells, 1986).

Conclusions

The results of this study support the findings of numerous other studies on the topic of teacher talk which identified common communication patterns in classrooms. Additionally, the results of this investigation built upon those from previous studies and allowed a glimpse into broader issues, those beyond the classroom walls, which could be affecting classroom discourse. The analysis of data also identified specific areas that should be targeted for improvement in classroom discourse.

The two most commonly used types of teacher talk (questioning and feedback) need to be examined closely by teachers, administrators, and policy makers. Teachers appear to not be taking advantage of language as a powerful teaching tool. The questions and feedback currently used by teachers rarely challenge students to think. Without an intentional focus on these topics, habitual but nonproductive teacher talk patterns will continue.

Implications for action

This investigation of teacher talk was designed to gain greater insight into existing discourse patterns and to attempt to understand how change in these patterns can be facilitated. The focus of this study was the discourse used by classroom teachers.

However, the results of the investigation identified another potential influence on teacher talk in classrooms: those outside the classroom such as administrators, professional development providers, and policy makers. More productive discourse will be the result of changes facilitated by both of these groups.

Implications for classroom teachers

Teacher talk is a potentially powerful instructional tool. To take advantage of this instructional tool, teachers must become aware of their current practices, intentionally use questions and feedback for multiple purposes, and strive to move students more quickly to a level of independent learning by actively involving them during instruction.

Though participation in this study was somewhat inconvenient for busy classroom teachers, they seemed to appreciate the opportunity to review the transcripts from their recorded instruction. Each teacher recognized areas for potential improvement. These areas of improvement would not have been uncovered without participation in this study. To disrupt comfortable habits, classroom discourse must become a deliberate object of study (Cullican, 2007).

Questioning of students should continue to be a common strategy used during reading comprehension instruction. Teacher's questioning as an ongoing evaluation tool fulfills a major part of the teacher's responsibility in the classroom. However, adjustments to the types and purposes of questions are necessary to maximize student learning. The results of this study highlight the need for a greater balance in the types and purposes of questioning used by teachers. Feedback should also be used for multiple purposes, such as building upon student responses or inquiring further, not simply to evaluate student responses.

Teachers need to move students more quickly to the independent stage during reading comprehension instruction. This need became apparent during the analysis of explicit language used during instruction involving the QAR strategy. Teachers focused, for at least three weeks, on teaching, modeling, and practicing a strategy that students had been using for over a year. Although the authors of this strategy endorse a “gradual release of responsibility” when using the strategy (Raphael, Highfield, & Au, 2006, p. 37), the teachers appeared to be reluctant to move toward more independent practice for students. This independent practice seemed appropriate and necessary based on the level of student success indicated by the teachers’ frequent use of affirming and praising feedback during the strategy instruction. Vygotsky (1978) recognized that children are capable of doing much more in “collective activity or under the guidance of adults” (p. 88) and warned that “learning which is oriented toward developmental levels that have already been reached is ineffective” (p. 89).

Implications for administrators, professional development providers, and policy makers

Some of the necessary changes to teacher talk are beyond the control of classroom teachers. Those who make decisions about time allocated for planning and instruction and those who develop timelines and curriculum maps must allow and support an intentional focus on teacher talk as a powerful instructional tool. Teachers need to be given time to focus on improving instructional practices related to teacher talk, and they must have professional development opportunities that link the latest strategy for reading instruction to educational theory. In addition, outside observers must recognize the benefits of social learning in classrooms.

The results of this investigation of teacher talk indicate a need for teachers to have time to record themselves and then reflect on their practice. A researcher who has studied classroom discourse around the world concluded that regular monitoring of classroom discourse and self-evaluation as part of in-service training was necessary for teachers (Wells & Arauz, 2006). Teachers also need to be given opportunities to reflect on their beliefs about teaching practice. This is the key to connecting theory and practice (Hardman, 2008).

As previously mentioned, references to educational theory as the basis for teaching practices were noticeably absent from teachers' interview responses. Professional development providers need to recognize that teacher training for new strategies, such as QAR, needs to be more detailed. This includes any learning theory the strategy is based upon. Teachers in this study appeared to be implementing strategies that they were not well informed about. Without a thorough explanation of the strategy, teachers may not be implementing it properly. If teachers are unfamiliar with why a specific strategy is beneficial, they may become resistant to implementation. This could explain teachers' statements regarding the timetable for teaching specific comprehension strategies at the participating school. Teachers explained unenthusiastically, "Basically, we just do what we're told to do." They reiterated, "A comprehension strategy is chosen for us and we must focus on that strategy."

Those who influence classrooms from the outside must recognize and discourage questioning and feedback practices which promote short-term memorization rather than meaningful learning. In addition, those who are observing classrooms need to look for and encourage a greater balance between teacher and student directed activity during

reading instruction. Vygotsky's theory described the progression to reflection and logical reasoning at the intramental level as a result of discussion, interaction, and arguments at the intermental level. The apparent absence of social interaction at the intermental level could be affecting learning at the intramental level. Vygotsky described social interactions as the foundation of learning, "social relations or relations among people genetically underlie all higher functions and their relationships" (Vygotsky, 1981, p. 163). Those who influence classrooms from the outside need to encourage social interaction during reading instruction; this can strengthen the foundation for meaningful learning.

Recommendations for further research

The results of this study have added to available research on the topic of teacher talk. A broader focus for future investigations could deepen understanding of the topic.

Though not the focus of this analysis of classroom discourse, transcripts indicated some differences in the teacher talk used during read alouds of fiction and nonfiction text. However, as previously noted, the amount of fiction and nonfiction text used by teachers was not controlled in this study so conclusions based on the type of text are not possible. Further exploration of this topic is warranted.

Inclusion of an administrator or literacy coach in this study would have allowed those who are developing and mandating strict guidelines to observe what these look and sound like when applied in classrooms. Perhaps, the administrator and literacy coach could also recognize possible areas for improvement.

Another important follow-up to this type of study would be further exploration into the reasons behind observed or recorded teaching practices. Teachers in this study

participated in data analysis but were not asked to specifically defend or support their teaching practice. This information seems to be a missing link that could deepen the understanding of the existing problems with classroom discourse. The relationship between literacy teachers' stated beliefs and actual teaching practices needs more investigation to understand discourse practices in classrooms.

Further investigations should explore influences on teacher talk beyond the classroom teacher. This wider focus seems necessary because the school culture appears to be impacting the way teachers teach and the way students learn. The teachers' interview responses suggest that teaching behavior is greatly affected by the culture of the school, which is affected by the larger educational system. The culture seems to be promoting goals that do not align with social learning theory and meaningful learning: results, accountability, and knowing the answers that will be on the test. Further exploration into school culture and how it affects teacher talk would be informative.

Concluding remarks

This investigation of teacher talk revealed discourse patterns which are consistent with those commonly described throughout educational research on the topic. The teacher's voice, an often overlooked element of educational research, was heard during this study. Further exploration into possible external influences on the discourse used by classroom teachers is necessary to gain greater insight into the problem of ineffective discourse practices and possible solutions.

To maximize student learning, the discourse that occurs within the social and cultural context of the classroom must be targeted for examination and improvement.

Improved classroom discourse is possible when the topic becomes an intentional focus of instructional practice and teachers take advantage of the social aspects of learning.

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Appendix A: Interview Questions

Interview Questions

Questions Before Recording

- How do you decide what kinds of questions to ask during a read aloud?
- How do you decide what kinds of feedback to give to student responses during a read aloud?
- How does your teacher talk during read alouds affect reading comprehension?
- What are some factors that impact your teacher talk during read alouds?

Questions While Reviewing Each Transcript

- How did your teacher talk affect student comprehension during the read aloud?
- What was your purpose for questioning during the read aloud?
- What types of questions did you use during the read aloud? (higher level/recall)
- What was the purpose of the feedback you gave to students during the read aloud?

Final Questions

- How do you decide what kinds of questions to ask during a read aloud?
- Do you normally have a “correct answer” in mind when you ask a question?
- How do you decide what kinds of feedback to give to student responses during a read aloud?
- How does your teacher talk during read alouds affect reading comprehension?
- What are some factors that impact your teacher talk during read alouds?
- Are you generally satisfied with your teacher talk during read alouds? If not, what would you change if no limiting factors existed?

Questions Before Recording	Corresponding Research Question
How do you decide what kinds of questions to ask during a read aloud?	2b
How do you decide what kinds of feedback to give to student responses during a read aloud?	3b
How does your teacher talk during read alouds affect reading comprehension?	1, 4
What are some factors that impact your teacher talk during read alouds?	1, 4
Questions While Reviewing Each Transcript	Corresponding Research Question
How did your teacher talk affect student comprehension during the read aloud?	1, 4
What was your purpose for questioning during the read aloud?	2a
What types of questions did you use during the read aloud? (higher level/recall)	2b
What was the purpose of the feedback you gave to students during the read aloud?	3a

Final Questions	Corresponding Research Question
How do you decide what kinds of questions to ask during a read aloud?	2b
Do you normally have a “correct answer” in mind when you ask a question?	2a
How do you decide what kinds of feedback to give to student responses during a read aloud?	3b
How does your teacher talk during read alouds affect reading comprehension?	1,4
What are some factors that impact your teacher talk during read alouds?	1,4
Are you generally satisfied with your teacher talk during read alouds? If not, what would you change if no limiting factors existed?	4

Appendix B: Recording Schedule

Recording Schedule

(10:30 a.m.–11:15 a.m.)

	Tuesday	Wednesday	Thursday
Week 1	Teacher 1	Teacher 2	Teacher 3
Week 2	Teacher 2	Teacher 3	Teacher 1
Week 3	Teacher 3	Teacher 1	Teacher 2

Appendix C: Consent Form

CONSENT FORM

I agree to participate in the research project entitled **An Analysis of Teachers' Discourse and Their Perceptions Concerning the Use of Questioning and Feedback during Reading Instruction in Third-Grade Classrooms**, which is being conducted by **Jennifer C. Farist, 350 Calvin Jackson Dr. Ellijay, GA 30540**. I understand that this participation is voluntary; I may withdraw my consent at any time without penalty.

The following points have been explained to me:

1. The reason for the research is to examine teacher talk during read alouds and the benefits that I may expect from it are: **Participants will become more aware of their instructional discourse and possibly identify areas for improvement.**
2. The procedures are as follows: **Each participant will be audiotaped during read aloud instruction. Participants will review transcripts of dialogue used during instruction as part of a self-assessment/reflective process. After participants have had the opportunity to assess their own classroom discourse and identify areas for improvement, additional audio recordings will be made to determine if any changes occur. The approximate length of the study is nine (9) weeks, and the time commitment for participants includes reviewing transcripts and reflecting on dialogue with researcher.**
3. The discomforts or stresses that may be faced during this research are: **None**
4. Participation entails the following risks: **No expected risks**
5. The results of this participation will be **confidential** and will not be released in any individually identifiable form without the prior consent of the participant unless required by law.
6. Inclusion criteria for participation: **Third-grade teacher**

Signature of Investigator, Date

Signature of Participant or Authorized Representative, Date

PLEASE SIGN BOTH COPIES, KEEP ONE AND RETURN THE OTHER TO THE INVESTIGATOR

Research at Kennesaw State University that involves human participants is carried out under the oversight of an Institutional Review Board. Questions or problems regarding these activities should be addressed to Dr. Ginny Q. Zhan, Chairperson of the Institutional Review Board, Kennesaw State University, 1000 Chastain Road, #2202, Kennesaw, GA 30144-5591, (770) 423-6679.