THE EFFECTS OF PHYSICAL MOVEMENT DURING STORY TIME ON VOCABULARY ACQUISITION OF PRIMARY STUDENTS IN GRADES K-1: AN EXPLORATORY INVESTIGATION IN ONE SCHOOL LOCATION

by

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DISSERTATION APPROVAL

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ABSTRACT

An abstract of the dissertation of Carol Totsky Hammett for the Doctor of Education in Educational Leadership presented October 2009.

Title: The Effects of Physical Movement during Story Time on Vocabulary Acquisition of Primary Students in Grades K-1: An Exploratory Investigation in One School Location

The purpose of this study was to explore vocabulary acquisition of primary grade children. Specifically, the study used a unique teaching strategy that added physical movement to typical read-aloud sessions with kindergarten and first grade children. Although a review of reading research revealed a plethora of studies, very few studies investigated the effect of movement during story time on the acquisition of targeted vocabulary.

The research for this study was conducted in two phases. Phase I utilized a pre/posttest quasi-experimental design during a 14-week time period. During this timeframe, the Active Read-Aloud Strategy was implemented as the 10-week intervention. The Active Read-Aloud Strategy was designed by the researcher of this study as the movement based read-aloud literature strategy for the investigation. Teacher perception (experimental group) regarding active learning was gathered

during Phase II of the study. An analysis of the quantitative data revealed statistically significant vocabulary gain scores for the children in the experimental group compared to the control group, for the targeted vocabulary words chosen for the study. Qualitative findings from this study suggested that the majority of children participating in physical activity during story time chose the active method of engagement in read-alouds when given a choice.

Given the national attention on the importance of acquiring reading skills at an early age, this study is timely. The findings are encouraging and warrant further investigation into teaching methods and strategies that promote vocabulary acquisition of children in the early primary grades. This study also provides a window through which researchers can view the importance of kinesthetic learning, learning *through* movement, and its benefits that may be enjoyed by all learners. Finally, this study offers possibilities for an action research model that educational leaders can use to support teacher-research at the classroom level.

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DEDICATION

To Jim, who never stopped believing in me and to Matthew, Alicia, Dan, and Jessica for their love and never-ending sideline cheers!

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CHAPTER I

INTRODUCTION

> *"In every task, the most important thing is the beginning…especially when you deal with anything young and tender"* (Plato, 1997/360 BC, p. 88)

To become a nation of readers, it is imperative that we, as a society, consider seriously the importance of emergent literacy acquisition and invest in research that is committed to understanding the diverse nature of the development of literacy skills in young children (Anderson, Hiebert, Scott, & Wilkinson, 1985). At no other time in our nation's educational history has reading and reading to learn been a national goal (National Reading Panel, 2000). The reauthorization of the Elementary and School Education Act (ESEA), specifically the No Child Left Behind Act of 2001 was considered in the United States Congress during 2007 session and remains under consideration in 2008. Within the law, reading education is addressed through the Reading First Initiative and the mandate is, at the time of this writing, that all children will read at grade level by the year 2014 (No Child Left Behind Act of 2001). As a consequence of this mandate, "many pedagogical practices for literacy learning have been re-examined to align themselves with the results of the National Reading Panel report" (Curtis, 2007). The stakes are high and now, more than ever, instructional leadership in education must be focused, committed, and cognizant of quality research on reading and how it informs decision making for the adoption and use of curricula

and materials, as well as staff development, at all levels of education (McGill-Franzen, 2000).

Reading is a topic centrally important to education. Researchers, during the past five decades, have explored the relationship between reading and different cognitive abilities and skill sets (Snow, Burns, & Griffin, 1998). Much of this research focused on understanding the correlation between cognitive abilities and the skills that are necessary for learning to read (Hammill, 2004). Additionally, research also sought to create reliable measures to correctly identify young children entering school with diverse language and literacy backgrounds so that early interventions could be put into place to assist students needing additional support (Hammill, 2004). Unfortunately, large numbers of children continue to experience reading difficulties (Snow et al., 1998). It is essential that instructional leaders have the knowledge to prepare schools and teachers to serve all children as they enter kindergarten.

Interest in emergent literacy and the identification of children with reading difficulties has intensified in recent decades, as school leaders search for more effective, efficient, and appropriate methods to improve academic achievement. Beginning with the landmark study, in 1985, *Becoming a Nation of Readers: The Report of the Commission on Reading* (Anderson et al., 1985), reading experts set out to research and more accurately understand how young children develop, acquire language, gain literacy skills, and decide on recommendations to guide policy makers and educational leaders in their work in ensuring that all children are literate. Subsequently, the National Academy of Education's Center for the Study of Reading

issued its report. Two important findings were illuminated. The report stated, "The single most important activity for building the knowledge required for eventual success in reading is reading aloud to children" (Anderson et al., 1985, p. 23). Other researchers (e.g., Zeece, 1996) support this finding. Additionally, the report stated reading aloud "is a practice that should continue throughout the grades. Opportunities to read to children should be a part of the literacy environment, whatever the reader's level" (Anderson et al., 1985, p. 51). These specific findings provided the impetus for this study.

The Purpose of the Study

The purpose of the study was to examine one aspect of literacy development, specifically oral vocabulary acquisition of primary grade students. For purposes of this study, "primary grade students" was operationally defined as children enrolled in kindergarten and first grade. This study investigated read-aloud sessions for primary students and how these sessions promoted the acquisition of vocabulary in five to seven-year-olds. Specifically, the study focused on the extent that engaging primary grade children physically during story time affected their oral vocabulary acquisition in comparison with children who did not take part in active read-alouds. Traditionally, children are physically inactive during read-alouds. Physically active read-alouds invited the children during story time to "leap" just like the "gazelle" in the story, for example. Targeted vocabulary words such as "leap" and "gazelle" were experienced kinesthetically. Data collected were analyzed to determine if there was a differing effect on the vocabulary acquisition among subgroups of children. Additionally, data

were collected and examined to draw conclusions about student perception of active read-alouds versus inactive. Finally, an analysis of data collected from the teacher who implemented the intervention in the study, informed the researcher about the value this teacher placed on providing physically active story times for her students and the teacher's ability to accomplish this.

Research Questions

Vocabulary development in young children is a multifaceted process. Today, instruction in vocabulary acquisition is informed by a body of knowledge that represents a fairly comprehensive review of research conducted in recent years (Apthorp, 2006). While this body of literature points to the evidence that vocabulary growth is needed for successful reading comprehension (Biemiller, 2001), adequate vocabulary development in primary grade language arts programs falls short. According to Griffith (cited in Beck, McKeown, & Kucan, 2002), vocabulary instruction has been neglected, in comparison to other major components of reading; phonemic awareness, phonics, fluency, and comprehension, as identified in the report submitted by the National Reading Panel (2000). Studies that focused on the connection between vocabulary and text found that vocabulary assessed in first grade predicts at least 30% of grade 11 reading comprehension (Cunningham & Stanovich, 1997). Are instructional leaders encouraging teachers to broaden their methods and strategies for the teaching and learning of vocabulary?

Although teaching and learning opportunities vary from classroom to classroom, reading aloud to children is a common occurrence in most primary grades

(Aram, 2006). Teaching strategies used by teachers during story time differ in focus, frequency and implementation. As stated previously, integrating physical activity during story time, to promote the acquisition of vocabulary, is one strategy that has not been described in the research literature. To add to the body of research regarding vocabulary development of young children, the following research questions were posed:

1a. What impact does physical movement during story time have on vocabulary acquisition of primary grade students?

1b. Is there a different impact on vocabulary acquisition among subgroups of students (gender, age)?

2. How do children perceive active story time versus inactive story time?

3. How do teachers perceive the value of pairing physical movement during story time?

The Nature of the Problem

"If you do only one thing to improve your reading program, I would urge that it be increasing the time you spend reading aloud to children" (Anderson et al., 1985, p. 23). Huck (1992) wrote that "every time you read aloud, you are helping young children learn to read" (p. 4). This statement is consistent with the findings in *Becoming a Nation of Readers* (Anderson et al., 1985). The message is clear. It is imperative that teachers of young children provide opportunities for their students to hear good literature being read aloud throughout the school day. It is equally important that read-aloud sessions engage children so that literacy skill development is

appropriate, relevant, and personally meaningful for all learners. Many competing interests pull early childhood teachers away from creating classroom environments that are abundant in literacy opportunities and natural extensions of the home. Developmental kindergarten and primary grade classrooms of decades past were slower paced, allowing for multiple story times throughout the day. The read-alouds encouraged authentic questioning, reflection, and rich conversations between the reader and listeners. Learning opportunities for the development of language arts skills (listening, speaking, reading, and writing) were fully integrated throughout the young child's day. Today, there are competing interests. The No Child Left Behind Act of 2001 set an admirable goal that all children would receive a high-quality education. In an effort to hold states accountable for student progress, state-wide tests in reading and math, in grades 3 through 10 have been created by each state's Department of Education and are given to children annually. Early childhood educators are faced with a dilemma; the accountability demands of No Child Left Behind legislation *or* staying the course with authentic and appropriate teaching and learning practices. According to Cress (2004), middle ground seems impossible to find. Many teachers perceive a dichotomy between meeting increasingly academic standards in the early grades while creating engaging, child-initiated activities. Early childhood (preschool through second grade) classroom environments are changing to meet the new academic standards. According to Bredekamp and Copple (1997), in their seminal work for the National Association for the Education of Young Children (NAEYC), appropriate learning environments in kindergarten and first grade should include:

home centers, block centers, sand and water tables, drama centers, and painting easels, with literacy learning opportunities integrated throughout the environment. A closer look at today's primary grade classrooms reveal the changes being made. In place of the learning centers and materials described above, we find tables and chairs for children and seating arrangements dedicated to small group teacher-directed reading instruction and workbook tasks that are more sedentary, reducing the opportunity for children to move throughout their day. Classroom environment changes also limit children's opportunities to learn *through* movement.

The plethora of reading research on methodologies, teaching strategies, commercial programs, and standardized assessments are both encouraging and contradictory. The most notable report surrounding reading research is the *Reading First Implementation Evaluation: Final Report*, released October 2008 (U.S. Department of Education, 2008). The purpose of the study was stated as:

> The Reading First Impact Study[27] [The report available at http://ncee/edu.gov] is designed to answer questions about the impact of the Reading First Program on classroom instruction and student reading achievement as well as about the relationship between instruction and reading achievement. The study collected data in 248 schools located at 18 sites and in 13 states over three school years. This data collection included detailed classroom observations in grades 1 and 2 and reading comprehension assessments in grades 1, 2 and 3. The study uses a regression discontinuity design to compare two groups of schools: those that did and those that did not receive Reading First funding. The study's recently released Interim Report presented findings based on the first two of three years of data collection.
>
> - On average, Reading First increased instructional time spent in the reading block on the five essential components of reading instruction promoted by the program (phonemic awareness, phonics, vocabulary, fluency, and comprehension).

- On average, across the 18 participating sites (17 school districts and one statewide program), estimated impacts on student reading comprehension test scores were not statistically significant.

- Average impacts on reading comprehension and classroom instruction did not change systematically over time as sites gained experience with Reading First. (p. 13)

The long-awaited reports (U.S. Department of Education, 2006, 2008) add support to the current study. The Reading First Program compared Reading First (RF) schools with non-RF Title I schools. Reading First schools received substantial funding for the study. While non-RF Title 1 schools did not, the school's designation, Title 1, entitles Title 1 schools to receive federal funding not available to the non-Title 1 schools across the nation. For schools whose poverty level prevents them from receiving additional federal funds for reading instruction, they must provide for all students, with fewer dollars. On the other hand, as shown in the Reading First final report (U.S. Department of Education, 2008) schools that did not participate in the study were found to use supplemental materials more often that the RF schools. According to the surveys in the report, teachers believed that they were *more* responsive to the literacy needs of their students when the teachers were allowed to use a variety of instructional materials and strategies. The researcher of the current study seeks to investigate a novel teaching strategy that will inform the body of research supporting decision making policies encouraging the use of varied methods and strategies for differentiated reading instruction.

Trelease (2006), in his book *The Read-Aloud Handbook*, cited evidence from the *National Reading Report Card* that nearly every child entering kindergarten is excited about learning to read. However, that enthusiasm wanes as the years go by:

- Among fourth-graders, only 54% read for pleasure daily
- Among eighth-graders, only 30% read for pleasure daily
- Among twelfth-graders, only 19% read for pleasure daily

Studies have shown a correlation between progression through elementary school grade levels and a decline in recreational reading attitudes by students (McKenna, Kear, & Ellsworth, 1995). McKenna et al. (1995) also showed a trend toward more negative recreational attitudes modestly related to academic abilities, with the steepest decline in attitudes toward reading for the least able readers. Much of the literature reviews regarding reading research focused on why children begin their school careers eager to read, only to lose the motivation a few years later (McKenna et al., 1995). Other researchers have focused on parental roles in developing children's literacy skills (Merlo, Bowman, & Barnett, 2007; Smetana, 2005; Wells, 1986). Additional studies have focused on the needs of individual learners (Snow et al., 1998). Are teachers aware of current research and are they considering the implications as they attend to diverse learning styles, strengths, weaknesses, and the interests of all children? Finally, research has also looked at teaching strategies to determine the most appropriate and effective approaches to teaching young learners (Beck & McKeown, 2001). These issues are examined in greater depth later in this paper.

To be sure, acquiring literacy skills that will serve children throughout their lives is a multifaceted process. It requires an intricate weaving of child development knowledge (psychology, biology, physiology, and neurology), teaching and learning pedagogy, and deep understanding of cultural and sociological complexities. Calkins (2001) communicates her understanding of this complexity:

> It is important to give our students the words that will help them read actively, but it is even more important to invite them to become active readers. If we want children to read with wide-awake minds, then we need to invite them to live this way in the dailiness of our classrooms. Teaching reading, then, is rather like teaching living. (p. 15)

What does research on literacy development in young children tell us? Are teaching and learning methodologies and strategies developed, based on research and informed by sound practices in the classroom? Is the research community studying non-traditional ways of interacting with children in literacy environments?

Background of the Study

Jack be nimble,
Jack be quick.
Jack jump over
The candlestick.

Anonymous, n.d.

At first glance, early childhood teachers might view this popular nursery rhyme as a read-aloud opportunity to explore rhyme in text and promote the understanding of novel words (nimble, quick, candlestick). Often, what goes unnoticed by teachers is the opportunity to turn a typically inactive story time into an active read-aloud, where the children are invited to enter the story and experience it from the inside out, through physical movement. An extensive review of the literature

for this study failed to find empirical research that investigated the conditions of story reading, physical activity, and vocabulary acquisition. Furthermore, a survey of the top three language arts programs (acceptable for district adoption) listed with State Departments of Education in 10 states, found no commercial reading programs that prescribed intentional physical activity during read-aloud sessions.

As stated, read-alouds in the early childhood classroom are a natural extension of the child's home. Reading aloud to very young children has been a time-honored tradition that parents, teachers, and caregivers have engaged in for decades (Frosch, 2001). One of the earliest picture books published in London was entitled *A Little Pretty Pocket-Book*, by John Newbery (1787), an 18th-century British bookseller. This book was enjoyed by many children and parents and launched a successful line of children's books by Newbery. For many older children the phrase "story time" evokes wonderful memories of special moments with a caring adult. To be sure, some adults are carried back to a time when finding a cozy spot and just the right book was an invitation to journey into another world, full of surprise and wonderment.

For some children, being read to by a parent or caregiver begins shortly after birth. Children, whose parents read aloud to them at an early age, are more likely to display emergent literacy skills by the time they enter kindergarten (Burgess, Hecht, & Lonigan, 2002; Whitehurst & Lonigan, 1998). To support the belief that the development of reading skills begins long before kindergarten, a U.S. government program, The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) launched a study that included the issue of storybooks as gifts to low

income parents of infants and toddlers (Harris, Loyo, Holahan, Suzuki, & Gottlieb, 2007). The toddlers and preschoolers in the study participate in story time at neighborhood libraries, daycare centers and preschool programs. The study results included positive effects from reading to children (Harris et al., 2007).

Reading aloud continues for children as they enter school. Kindergarten and primary grade teachers, who embrace a developmental perspective of learning, report reading story books to their students two or three times each day. When children are engaged in stories read by adults who model enthusiasm and enjoyment, they develop positive attitudes about reading and, if the positive attitude holds, they become lifelong readers who enjoy reading. According to Sipe (2008), when we read aloud to children, we are doing much more:

> I want to emphasize that when we read picture storybooks to children in the early years of school; we are doing much more than simply indoctrinating them into the world of school-based literacy. We are opening to them the richness, beauty, and fascination of subtle and fascinating stories and gorgeous visual art. We are expanding their aesthetic experience exponentially. (p. 6)

Additional research supports reading aloud to young children as an effective and appropriate activity for building vocabulary (Bus & van Ijzendoorn, 1995). Common teaching strategies include Text Talk, Dialogic Reading, and the "reading" of storybook illustrations (Kress, 1998, 2000; Walsh, 2003). These strategies showed causal relationships to vocabulary acquisition for some primary grade children.

This researcher's professional experiences as an early childhood motor development specialist and as an early childhood special educator included responsibilities for fostering growth in all areas of child development: emotional,

social, cognitive, communication, and physical domains. Through years of observation and interaction with children, the researcher of this study surmised that many young children appeared to learn through "active engagement." This term refers to children who are kinesthetic learners: children who make sense effectively and efficiently of the world around them through physical movement. The researcher of the current study found that some children had difficulty maintaining interest and engagement in the story unless they were able to participate physically in the storyline. These teaching experiences caused the researcher to wonder if some children might be able to learn novel vocabulary in storybooks more effectively if they could be physically engaged in the storyline during the read-aloud.

The Nature of the Study

This study was centered on understanding the impact primary grade children's physical engagement in story time had on vocabulary acquisition. Although the current study did not employ an action-research design per se, it did offer the researcher, who also serves as the school principal at the research site, an authentic view of the study. The limitations this view presented will be discussed in subsequent sections of this paper. From this position, however, it is believed that through deeper understanding of this facet of literacy development, more school leaders will be better equipped to guide teachers through staff development designed to enhance core knowledge regarding vocabulary acquisition, particularly through non-traditional teaching strategies.

Although vocabulary knowledge is but one of many skill sets that are important in the literacy process, it is an important aspect. Many schools focus heavily on letter-sound correspondence (giving less attention to other aspects) because research has found that phonics is crucial for developing word recognition skills (Ehri & Roberts, 2006; Snow et al., 1998). Phonics skills, however, are not sufficient (Baker, Simmons, & Kame'enui, 1998). Researchers have found vocabulary knowledge is crucial to reading comprehension, in particular for students in the later grades, as growth in reading comprehension is dependent upon their knowledge of word meanings (Cunningham & Stanovich, 1997).

According to Sipe (2008), "The storybook read-aloud situation has been the object of more research than any other early literacy event because it is possible to view this situation from many different perspectives" (p. 238). This research study is unique in that it examines a particular kind of read-aloud practice that is interactive, through verbal discourse, and involves both active teachers and active students. However, a thorough search of relevant literature found no research studies that focused directly on children being physically active during read-alouds and the effect activity has on vocabulary acquisition. Therefore, this study provides a perspective by which teachers and educational leaders may gain insight of a multimodal approach in the emergent reading process. This unique approach has the potential to positively impact vocabulary acquisition for many young students.

Finally, this study was intended to add to the broader body of knowledge regarding literacy skill development of young children by shedding new light on

vocabulary development from a constructivist pedagogical perspective. It is hoped that policy makers, developers of instructional materials, and school leaders will be encouraged to review and consider the instructional implications gained from this research with regard to structuring active read-aloud sessions so that *all* children may benefit from research-based teaching and learning practices.

CHAPTER II

LITERATURE REVIEW

Introduction

This study sought to add to the body of knowledge regarding emergent literacy development by investigating vocabulary acquisition in primary grade children (kindergarten and first grade). In particular, the researcher of this study strove to illuminate appropriate teaching practices in literacy development so that school leaders could draw on additional information as they moved faculty toward the goal of meeting the instructional needs of all learners. While research, on reading development is abundant in general terms, Cassidy and Cassidy (2004) stated that the need for more attention to research on various aspects of vocabulary development is warranted. The report by the National Reading Panel (2000) on their meta-analysis of reading research identified 16 categories of text comprehension instruction from 38 studies. Only three of the studies addressed the relationship between vocabulary knowledge and text comprehension. In a more recent review of research on vocabulary learning and instruction, Blachowicz, Fisher, Ogle, and Watts-Taffe (2006) concluded that while there is a renewed interest in vocabulary, particularly at the primary grade level, little research has been done that informs school leaders and practitioners.

To frame this study properly, it was important to begin by examining relevant literature in order to present a theoretical understanding of learning theories in early

childhood education and establish a foundational perspective for this study. This foundation provided the context for a review of the literature regarding theories of language development and the impact on emergent literacy, as well as general reading development theories. With reading development well framed, attention was then paid to multimodal learning theories, generally and specifically, with regard to reading development. Additionally, it was important to review the literature on reading achievement gaps among diverse subgroups of children. Finally, the review of the literature progressively narrowed to examine teaching methods, specifically read-aloud strategies in the primary classroom and the effect on young children's oral vocabulary acquisition.

Theories of Knowledge Acquisition

As instructional leaders examine school populations within districts and individual schools today, they are acutely aware of the ever-increasing diversity of students. Diversity shows many faces, including race, ethnicity, religion, culture, gender, socio-economic status, and abilities. School leaders, at all levels, seek to provide continuous professional development for teachers and support staff to guide them toward the goal of meeting effectively the unique learning needs of all students. A commitment to professional development requires that school leaders have a deep understanding of educational research regarding various learning theories.

What must be included in the mix of professional development topics is the importance of keeping abreast of current research in learning theories. While educational research in various learning theories continues, investigations in

behaviorism and constructivism continue to share the majority of the limelight (Serafini, 2003).

Although research in behaviorism and constructivism in K-12 education, as theoretical perspectives of teaching and learning, is complex, it is also abundant (Green, 2002). To narrow the review of this vast body of literature, this study centered on literature regarding cognitive learning theories, with an eye on behaviorist and constructivist pedagogy in early education. Thus, what follows is an overview of the philosophical influences of behaviorism and constructivism on primary grade education. A historical sketch frames this discussion and concludes with the researcher's position statement about constructivist pedagogy and how it created the foundation for this study.

Behaviorist Pedagogy

Behaviorism in education, often called objectivism or positivism, has its roots in behavioral psychology. This theory posits that one's worldview of knowledge acquisition is accomplished by each individual's examination of his/her experiences in the world and the acceptance and representation of this knowledge, with increasing accuracy (Applefield, Huber, & Moallem, 2001). "Knowledge is believed to exist independently of the learner, and then to become internalized as it is transferred from its external reality to an internal reality of the learner that corresponds directly with outside phenomenon" (Applefield et al., 2001, pp. 36-37). In summary, behaviorist pedagogy subscribes to the notion that knowledge exists and can be directly transferred to the learner, through systematic, explicit instruction.

It is important to consider the literature on behaviorism from a historical perspective in order to follow the consistent thread in continual waves of research that both embrace behaviorism and malign it, particularly in early childhood education. Behaviorism, as a knowledge theory, asserts that the act of learning is both observable and measurable. The late E. L. Thorndike (1874-1949), an early twentieth century psychologist, believed that whatever existed, did so in amounts sufficient enough to be measured (Ediger, 2006). Thorndike (1922), one of the most influential theorists in the field of education, was best known for his development of "drill and practice" methodologies and materials, such as worksheets. The use of these materials in classrooms has endured for decades. Today, in elementary schools across the United States, commercially produced workbooks are used to reinforce the idea that skills can be repeatedly practiced and measured for progress until the child attains proficiency.

Arguably, the most widely studied behaviorist in education is the late B. F. Skinner. Skinner was a strong advocate of programmed learning (Ediger, 2006) and his beliefs in behaviorism were promoted in earnest beginning in the 1930s and known widely in behaviorist circles by the 1970s (Malone, 2003). Furthermore, Skinner believed that all academic subjects, no matter the complexity, could be broken into smaller, component parts, and further divided into subsets of specific skills (Skinner, 1953). According to Ediger (2006), "With behaviorism as a psychology and philosophy of learning, objectives are stated prior to instruction" (p. 180). Paced and systematic progression through carefully designed curricula, guided children through

subject content by requiring reading, responding, and checking for accuracy sequentially and continually (Ediger, 2006).

Magliaro, Lockee, and Burton (2005) credited Siegfried Engelmann and his colleagues for the creation of the direct instruction (DI) model in the 1960s under a federal Project Follow Through grant. DI, favored by behaviorists as an instructional model, includes key components such as modeling, reinforcement, feedback, and successive approximations (Joyce, Weil, & Calhoun, 2000). The teaching goals, objectives, and tasks are clearly stated and the learner is guided through activities for mastery of specific content, all the while being reinforced by feedback (Joyce et al., 2000). The first DI model, Direct Instruction System for Teaching and Remediation (DISTAR) was designed for instruction in reading (Engelmann & Bruner, 1969), math (Engelmann & Carnine, 1969) and language (Engelmann & Osborn, 1969). Direct instruction is particularly evident in commercially prepared curricula, especially in computer-mediated learning environments such as computer-aided instruction (Magliaro et al., 2005), whereby the computer delivers the instruction, as well as the feedback.

An analysis of Project Follow Through was conducted in 1975. The Follow Through (FT) evaluation was intended to compare and contrast the models included in Project Follow Through (Watkins, 1997). According to the National Research Council (Snow et al., 1998):

> By design, the 20 models included in the project contrasted broadly in philosophy and approach and included basic skills models, emphasizing basic academic skills; cognitive-conceptual models, emphasizing process over

> content learning; and affective models, emphasizing self-esteem, curiosity, and persistence. (p. 178)

Analysis of the data (Stebbins, St. Pierre, Proper, Anderson, & Cerva, 1977) concluded that most of the models produced more negative than positive effects on basic skills tests, with the exception of the DI model. The evaluation study, however, has received great criticism because of critical flaws in the research designs of most of the models (Snow et al., 1998). Although the DI model received praise, it was not embraced in the two decades following the FT evaluation. In a study conducted soon after the evaluation report was published (Peterson, Swing, Braverman, & Buss, 1982), the researchers suggested that the reluctance to use DI may be due to teachers' perceptions that DI is only for teaching factual information to low achieving students and is not appropriate for fostering problem-solving or higher-level thinking skills.

In the last decade, interest in behaviorist pedagogy has resurfaced. Today, many textbook publishers are following the formally structured nature of behaviorism in their development of commercial reading programs for K-12 education, citing the instructional recommendations by the National Reading Panel (2000). The recommendations included advocacy for systematic, directed instruction, based on explicitly stated objectives, and evidence of measurable progress. In the contemporary classroom, instructional approaches to reading have changed (Taxel, 1999), notably the increased use and strict adherence (implementation with fidelity) to curricula designed by textbook publishers. The most popular commercial reading programs for K-12 education in the United States include a carefully laid out scope and sequence of

skills to be taught, through systematic, direct instruction, with increasing attention to these materials designed for instruction in the early primary grades. Currently produced commercial programs also provide electronic basal readers and workbooks as supplements to the traditional texts and consumable workbooks. Electronic learning materials allow students to work independently, without collaboration with peers and teachers. Skills can also be reinforced at home by simply accessing the materials online.

In an editorial, Jalongo (1999), an expert in early childhood education, described behaviorist pedagogy, DI in particular, as a "harsh, inflexible and depersonalized approach to learning" (p. 139) and expressed concern that it would make its way into early childhood classrooms in both live and electronic forms. Jalongo is not alone in her thinking. Strand, Barnes-Holmes, and Barnes-Holmes (2003) stated, "…little is known about the effects of behavioral education on child development over the long-term, or the development of non-academic competencies such as prosocial behavior" (p. 106). Early childhood educators, including proponents of the Responsive Education Model, Tucson Early Education Model, Bank Street Model, Open Education approach, and the Cognitive Curriculum Model studied in Project Follow Through (Stebbins et al., 1977), for example, maintain support for early childhood education from a constructivist worldview. To be sure, the reading wars continue and juxtaposing the work of the behaviorists, the researcher of the current study found equally strong arguments for constructivist pedagogy.

Constructivist Pedagogy

One of the most influential views of teaching and learning in recent decades is the theory known as constructivism (Applefield et al., 2001). Contemporary educational literature offers several definitions of "constructivism" (Null, 2004). The most central concepts of constructivism cited in recent literature include the following worldview tenets (Applefield et al., 2001; DeVries, 2002; Prouix, 2006; Rainer, Guyton, & Bowen, 2000; Vygotsky, 1978; Waite-Stupiansky, 1997):

1. Knowledge is constructed by the learner.
2. Active engagement with the environment promotes the construction of knowledge.
3. The process of change (knowledge construction) occurs in the learner's thinking as learning occurs.
4. All learning takes place within a social context and is cultural dependent.

Relative to pedagogy, "constructivist teaching is a process of helping students mobilize their prior understandings and reorganize them in light of current experience" (Dhindsa & Anderson, 2004, p. 64). Windschitl (2002) framed constructivism in practice by comparing, contrasting, and intersecting multiple contexts of teaching within the realm of "dilemmas" expressed by teachers as concerns or questions raised as they attempt to embrace and engage in constructivist education. The four frames of reference described are; conceptual dilemmas, pedagogical dilemmas, cultural dilemmas, and political dilemmas (Windschitl, 2002). In an effort to offer a working definition of constructivism for teachers, Terry Anderson (cited in Null, 2004)

"defined constructivism as an interactive process during which teachers and learners work together to create new ideas in their mutual attempt to connect previous understandings to new knowledge" (pp. 181-182). To summarize, constructivist pedagogy requires educators to create environments and learning opportunities that engage children actively and authentically in exploration, questioning, and experimentation of their physical world, inclusive of a social and cultural context.

As with the previous discussion about behaviorist pedagogy in the literature review, it was necessary to frame this discussion about constructivism from a historical perspective. By reflecting upon and considering the thoughts and ideas of pioneers in the field and influential educators of the past, a pathway to the present is described so that this literature review could serve contemporary educational leaders, as they make critical decisions about the teaching and learning environment in primary classrooms; pedagogy, content, and curricula. Uncovering the long-held beliefs about constructivism in early childhood education created a unique lens through which readers of this research study could view the rich theoretical background of constructivism, and compare and contrast this information with contemporary understandings of constructivism. The following discussion analyzed the critical aspects of constructivism, relative to this study, viewed by classical theorists: Rousseau, Pestalozzi, Froebel, Dewey, Piaget, and Vygotsky.

It is important to understand the earliest prominent contributors to the body of knowledge of constructivism and constructivist pedagogy in early childhood education, as their ideas have endured over time. Jean-Jacques Rousseau (1712-1778)

was a philosopher of the 18th century. His widely published writings included topics such as political science, philosophy, and education. In discussing one of Rousseau's most famous works, *Discourse on the Origin of Inequality* and *Emile,* Null (2004) stated that Rousseau "argued for a more equal system of schooling from a philosophical perspective that combined education, politics, and social action" (p. 183). Rousseau challenged education policy makers of the time to return education to a more naturalistic environment, whereby children could develop and grow from an innate interest in the natural world. He believed that in a learning environment promoting an atmosphere of freedom, children would be self-motivated to learn to read (Crayton, 2005). Today, constructivism theorists and researchers state this belief in modern terms, and argue that all self-constructed knowledge should come from a child's interact with his/her environment (Null, 2004).

Swiss educator, Johann Heinrich Pestalozzi (1746-1827), read *Emile* as a teenager and was greatly influenced by the philosophy of Jean-Jacques Rousseau. Within the normal school that Pestalozzi established early in his career, he worked diligently at developing what he referred to as the "object teaching method" that brought together concrete materials and lessons that supported the lesson being taught (Null, 2004). By the end of his career, Pestalozzi was clear about his definition of education; it was a natural and progressive development of the whole child, by honoring the child and attending to his/her unique interests (Bowers & Gehring, 2004). According to Henson (2003), what is evident today in learner-centered

education is Pestalozzi's belief that "children should be *nourished* like a plant while they *learned by doing*" (p. 8).

Perhaps the most well-known European educator was Friedrich Froebel (1782-1852). Deemed the father of kindergarten, (meaning "children's garden"), Froebel's work focused on the development of five year olds. One of the main teaching methodologies that was adopted by American kindergartens was the use of "hands-on" materials, particularly specially designed blocks (Fromberg, 2006), still found in some kindergartens today. Margarethe Schurz brought Froebel's model of kindergarten from Germany to the United States in 1856. Schurz embraced the Froebelian practice of conducting daily "circle time" gatherings which continues today. American educators who adopted the constructivist pedagogy included Elizabeth Peabody, Susan Blow, and Patty Smith Hill (Fromberg, 2006).

John Dewey (1859-1952) was more influential in American education than any other individual (Henson, 2003). He founded the nation's first laboratory school at the University of Chicago, where the curriculum was developed to promote problem-solving activities. Dewey embraced the idea of learner-centered education and believed that each individual's learning experiences were uniquely owned and understood by the individual (Henson, 2003). Dewey's progressive thoughts and ideas promoted constructivist pedagogy until the 1960s when behaviorists began to promote quantifiable methods of teaching and learning.

Jean Piaget (1896-1980), a developmental psychologist, is widely known for his work in child development. As a cognitive theorist, Piaget believed that a child's

starting point for learning was the material world in which she or he lived and that the child would move through fairly predictable stages of development (Duckworth, 1996). To promote cognitive development, Piaget asserted that the teacher must create a mentally challenging, interactive environment for spontaneous experimentation by the child, both independently and collaboratively (Green, 2002). Although time consuming from the teacher's perspective, Piaget believed that intellectual development depended on the constructivist activity of children, with all its errors and time it required (Green, 2002). Piaget (1952) believed that the development of cognition was an ongoing process that progressed in stages throughout childhood. According to Applefield et al. (2001), this Piagetian theory perspective "emphasized individual knowledge construction stimulated by internal cognitive conflict as learners strive to resolve mental disequilibrium" (p. 37).

Lev Vygotsky (1896-1934), Piaget's contemporary, was a Russian psychologist and sociologist who intently studied children's interactions. Vygotsky has had perhaps the most impact on teacher practices, in constructivist circles, where the terms "scaffolding" and "zone of proximal development" are used liberally and sometimes misused. Unfortunately, what Vygotsky offered the field of education is difficult to understand as the translation of his works from Russian to English is a not an easy task (Bodrova & Leong, 2006). The language barrier, however, has not deterred Vygotskian scholars who advise practitioners to use caution when considering large scale changes in educational practice. With this in mind, the

researcher of the current study has taken care not to extrapolate Vygotsky's work beyond what is understood as Vygotsky's major premises.

Unlike Piaget, Vygotsky's theory of learning relies heavily on the sociocultural context in which children are engaged in small groups to solve problems through collaborative discourse (Henson, 2003). In contemporary education this structure is called cooperative learning. While researchers disagree on the authorship of the term "scaffolding," the concept is most often attributed to Vygotsky, as his description of social learning interactions fit contemporary definitions of scaffolding (Green, 2002). A definition used generally in education includes the interaction of the more competent learner as a support (scaffold) by way of modeling, questioning, and informing the less competent learner (Green, 2002). Vygotsky's (1978) seminal work discusses his widely acknowledged theory of the Zone of Proximal Development (ZPD) which Vygotsky argued "was the difference between a child's independent and potential levels of functioning, the latter being triggered through scaffolding" (Cumming-Potvin, 2007, p. 487). Vygotsky's ideas about scaffolding and the ZPD are cornerstones for the understanding of constructivist pedagogy (Cumming-Potvin, 2007; Donovon & Smolkin, 2002; Maloch, 2002; McVee, Dunsmore, & Gavelek, 2005; Paris & Cross, 1988). The researcher of the current study is mindful also of the importance of Vygotsky's cultural-historical theory that underscores the importance of a child's culture and its inseparable nature in the constructivist learning process.

The literature reviewed relative to behaviorism and constructivism demonstrates that aspects of both theoretical perspectives can be found in

contemporary primary grade classrooms (Fromberg, 2006). Although modified from practices of past decades, behaviorist pedagogy is generally defined by teacher-directed, explicit instruction in carefully controlled learning environments, using a tightly designed scope and sequence of curricular materials. The singular importance is on predetermined content knowledge goals and the frequent use of assessments to measure systematically student progress (Crayton, 2005; Hammill, 2004). Constructivist pedagogy, on the other hand, is defined by a teaching and learning environment that views the child's self-directed interaction with his/her world as the impetus for individual knowledge construction. Constructivists view teachers, students, and parents as partners in the learning process. The use of instructional materials is flexible in order to meet the diverse learning needs of all children. Although broad learning targets are defined, it is understood that there are multiple ways for children to demonstrate their progress toward the targets, as well as all knowledge the child acquires (Crayton, 2005; Davidson & Snow, 1995; Iaquinta, 2006). Offering a divergent view on learning, Green (2002) conducted a review and analysis of constructivism in school-based practices and cautioned educational leaders and practitioners to remain vigilant of the negative impact that constructivism may have on children with learning disabilities, as more direct instruction may be needed for this subgroup of children. An alternative perspective offered by Foorman and Moats (2004) stated that the mandate by the No Child Left Behind Act of 2001, requiring that all children will prove competency in reading by the year 2014, will not be reached unless instruction is evidence-based, systematic, explicit, and direct.

Constructivism: The Theoretical Framework of this Study

This researcher found it important to begin by reviewing relevant research on learning theories (behaviorism and constructivism) in order to arrive at an understanding that determines the theoretical framework for this study. Creswell (2003) stated that providing a distinctive lens, through which a study is designed, helps to guide the research and provide rich context for the reader. Quantitative and qualitative educational research studies were synthesized for the development of the theoretical lens for this study. Quality research for both behaviorist and constructivist worldviews was found. However, even when considering the positive findings of research in the behaviorist paradigm, the majority of the research reviewed for this study supports the researcher's bias toward the acceptance of constructivism and its perspectives as the appropriate teaching and learning foundation in the primary grades. Therefore, after a thorough analysis of behaviorism and constructivism this researcher has selected to use constructivism as the theoretical framework for this study.

In conclusion, the literature on learning theories and theorists reviewed provided a glimpse into the past to better understand the individuals whose work remains important today. Tyack and Hansot (1982) noted that it is through a careful study of the history of education that today's leaders can consider the contributions of individuals who shaped the context and course of education and leadership in the past. This information arms educational leaders of today with knowledge to reformulate contemporary views based on work from the past that is worthy of carrying forward today (Tyack & Hansot, 1982). Once armed with this information, creating a road map

to meet the demands set forth by the No Child Left Behind Act of 2001 or other driving forces in education will seem less daunting.

Theories of Language and Literacy Development

Language Development

Developing language is perhaps the most cognitively difficult and complex of human capacities (Gardner 2004). According to Caulfield (2002), "the acquisition of language is the crowning glory of humankind" (p. 59). In an effort to frame his discussion on language, Caulfield also stated that language learning involves both nature and nurture. Learning to talk seems to follow a predictable sequence (nature), but a linguistically stimulating environment (nurture) is required (p. 59). Language development begins at birth as infants hear and begin to explore language sounds. Intelligible speech is evident at about one year of age, although the ability to produce speech sounds begins very early in an infant's life (Zeece & Churchill, 2001). Expressive communication, with parents and caregivers, such as gesturing and babbling emerges in the behavior of young children long before use of spoken language (Luze et al., 2001; McCathren, Warren, & Yodder, 1996; Tomasello & Farrer, 1986). Researchers believe that cooing, laughing, babbling, and even crying help infants to produce the unique phonemes of their own language (Hoff, 2001). According to Liu, Tsao, and Kuhl (2007), infants repeated exposure to their home language causes them to develop sensitivity to sounds they hear repeatedly and aspects of language that differentiate meaning within their culture. Infants are dependent upon feedback regarding their linguistic behavior in order to shape their language to match

that of their culture (Wells, 1986). Wells' research informs us of the critical need for young children to experience rich conversations in order to become successful language users and eventually acquire skills necessary for reading.

"A considerable body of research has documented that word learning supports the early acquisition and organization of conceptual knowledge in infancy" (Booth, Waxman, & Huang, 2005, p. 491). Booth et al. (2005) concluded that very young children use a variety of inputs for word learning, including both perceptual and conceptual sources. Conceptual learning occurs when infants and toddlers engage in rhymes, hand-clapping jingles, and other oral language games (Zeece & Churchill, 2001). As young children begin to acquire conceptual understanding of sounds and symbols, they are taking their first steps toward becoming literate.

Word learning happens when children begin to make connections between frequently heard sounds and their referents (Wells, 1986; Zeece & Churchill, 2001). "The *mental lexicon* is a dictionary of all the words in the receptive or expressive vocabulary of a child" (Hoff cited in Bruckner, Yoder, Stone, & Saylor, 2007, p. 1632). Children, who develop typically, according to predictable norms, demonstrate an initially slow growth of spoken vocabulary, acquiring approximately 10 words by their first birthday. Within a few months of their second year, typically developing children have somewhere between the 50-100 words (Koster et al., 2005). This critical mass seems to trigger an explosion in their vocabulary banks. "Mean vocabulary production quickly grows to roughly 500 words by the time a child reaches

2 ½ years of age" (p. 427). This level of lexical acquisition precedes grammatical development (Marchman & Bates, 1994).

A sociocultural perspective of child development emphasizes that infants, toddlers, and young children learn many skills through adult-child interactions, including language. "Vygotsky (1986) posited that social interactions with an adult, within the cultural contexts of society, are fundamental to cognitive development" (Dodici, Draper, & Peterson, 2003, p. 124).

> A strictly environmental approach to boosting literacy is Piagetian in its assumption that children will construct knowledge primarily through imitating the teacher and by interacting with materials. A more Vygotskian view focuses on the development of literacy in a group of children and assumes the assistance of a competent adult. (Rosenquest, 2002, p. 243)

Research suggests that children who are linguistically actively seek verbal interaction with adults and peers, in a language-rich social environment talented (Gilger, Ho, Wipple, & Spitz, 2001). When these children engage in discussions, verbal sparing, and linguistic activities (word games and puzzles), research suggests that this group of children propel their own language development, particularly vocabulary, a necessary correlate to reading comprehension. Because of rich input, "…the mean language abilities of the talented children and average group of children will increasingly diverge" (Gilger et al., 2001, p. 492). When designing learning environments, the research by Gilger and others (cited in Bates, 1984) suggests we consider the needs of linguistically diverse learners so that children are not isolated from language-rich learning opportunities that support all children.

The review of related literature on language development supports this researcher's constructivist theoretical framework for this study. Language learning begins at birth within the infant's social context of family and continues throughout an individual's life. Early language development is the critical precursor to literacy development and reading, in particular (Gaskins & Labbo, 2007; Snowling, Adams, Bishop, & Stothard, 2001). Kirkland and Patterson (2005) also hold this view:

> The development of oral language is crucial to a child's literacy development, including listening, speaking, reading and writing. While the culture of the child influences the patterns of language, the school environment can enable children to refine its use. As children enter school, they bring diverse levels of language acquisition to the learning process. Therefore, teachers face a challenge to meet the individual needs of each language learner, as well as discerning which methods work most effectively in enhancing language development. (p. 391)

Literacy Development

Literacy is defined generally, in the field of early childhood education, as the acquisition of knowledge and skills in listening, speaking, reading, and writing (Kirkland & Patterson, 2005; Wells, 1986). This view supports the belief held by early childhood researchers and practitioners that the driving force for emergent literacy skills is the need for individuals to communicate with others in their pursuit of meaning and comprehension related to their world and print. As previously stated, it is from this rich language foundation that prerequisite skills for reading and writing emerge.

Once a child begins formal schooling (including preschool and kindergarten for some children), the scope of literacy begins to narrow. At this point in a child's

development, most research and implications for best practice focus almost exclusively on reading and writing. Listening and speaking skills are of secondary importance in the curriculum. However, individuals who hold the constructivist pedagogical worldview offer that skills within the foundational domains of listening and speaking and reading and writing are intertwined and mutually supportive. Several early childhood researchers who share this view conducted qualitative studies that investigated literacy development from a holistic, constructivist perspective (Crayton, 2005; Kirkland & Patterson, 2005). Although this researcher's study focused on one domain of the literacy framework (reading), and specifically, vocabulary acquisition, constructivism remains the theoretical framework that guides this study.

Reading Development

Researchers and practitioners who embrace a behaviorist perspective regarding literacy generally view learning to read as a sequential process of linking together isolated components: phonics, vocabulary, rapid naming, and recall, through systematic, explicit instruction (Foorman & Moats, 2004). In an analysis of reading research, Hammill (2004) stated:

> Reading is a process by which individuals understand and interpret graphic symbols. To be sure, these graphic symbols represent oral language and thoughts, but reading itself is tightly bound to and restrained by, the arbitrary system of orthographic rules and conventions that govern how oral language is expressed through writing. (p. 465)

With a renewed interest in empirical research in reading, the literature is replete with research and discussion that is aligned with the perspective of the National Reading Panel. The National Reading Panel (2000) report claimed that

scientific research reviewed by the panel of reading experts provided evidence that an effective reading curriculum must contain systematic, direct instruction in five components; phonemic awareness, phonics, vocabulary, fluency, and comprehension strategies.

Juxtapose to the behaviorist perspective is that of the constructivist worldview. From a constructivist paradigm, the term "emergent reader," is used to describe the developmental process typical children go through as they acquire the knowledge and skills required to become a reader (Rueda, 2005; Teale & Sulzby, 1986). Beginning with what the child has learned about his/her culture, language, and the purpose and value of reading, the child constructs personal understanding of signs, symbols, and graphemes. Informal shaping of this knowledge (modeling, authentic questioning, praising) by parents, siblings or caregivers helps a child conceptualize the meaning of "word" before a child begins formal instruction in kindergarten. From a holistic perspective, the most important factor defining an emergent reader is "meaning-making" through the integration of emergent skills (Snow et al., 1998; Wells, 1986). In addition to print-related skills, Smith and Dickinson (1994) stated that a child's social and emotional development strongly guides reading development. Recent research by Scarborough (2005) added credence to evidence supporting the argument that reading development is multidimensional, with interaction among various facets. This interaction directly and indirectly influences the rich complexity of emergent reading (Hay, Elias, Fielding-Barnsley, Home, & Freiberg, 2007).

Multimodal Influences on Literacy Development

A review of the literature on multimodal learning generally draws from three theoretical perspectives: the numerous learning style theories (e.g., Dunn & Dunn, 1992; Honey & Mumford, 2000; Kolb, 1999), the theory of Multiple Intelligences (Gardner, 1993), and the most recent theoretical perspective, technological multimodal learning systems (Lo & Shu, 2005; Vincent & Ross, 2001). While this researcher recognizes the contribution of technological learning systems to the general literature on multimodal learning, the focus here will include the literature on learning styles and multiple intelligences theories and their influence on literacy development. This was decided as a result of a literature review that revealed the preponderance of research on technological learning systems to date involved older students (upper elementary through college age).

Each of the previously described perspectives has informed educational practices regarding language and literacy development for several decades and continues to do so. The literature review for the current study sought to provide a balanced review that included critical analyses of empirical research on theories focusing on learning styles, multiple intelligences, and "brain-based" educational practices. This required a step out of the familiar education field and into the world of laboratory research primarily of the brain. This field serves as the overarching informant for discussions on multimodal learning (Howard-Jones, 2008). An examination of recent neuroscience research for the current research study focused on

both sound and unfounded practices implemented in classrooms in the name of multimodal learning theories and their influences on literacy learning pedagogy.

Learning Styles

Choi, Lee, and June (2008) defined learning styles as the learner's preference for processing, organizing, representing, and comprehending information so that it makes sense to self and others. Learning style preferences, according to Choi et al., are as unique as each learner and shift, depending on the learning context and engagement with the task. Arguably, one of the more comprehensive studies on learning styles was a meta-analysis of empirical research conducted between 1980 and 2000 (Lovelace, 2005). This quantitative synthesis of experimental research, based on the Dunn and Dunn Model (Dunn & Dunn, 1992), found "evidence for increased achievement and improved attitudes when responsive instruction was available for diagnosed learning-style preferences" (p. 176). Furthermore, Lovelace (2005) concluded that "the Dunn and Dunn model had a robust moderate to large effect that was practically and educationally significant" (p. 176).

Although the work conducted by Lovelace (2005) reported positive academic and attitudinal gains, the field of research on learning styles is divided. For each report on research purporting positive benefits, there appears to be an equal number of researchers reporting results that declare no correlation between learning styles and educational significance. In a systematic, exhaustive research project, Coffield, Moseley, Hall, and Ecclestone (2004) summarized 71 models of learning styles into five broad categories:

i. Learning styles and preferences are largely constitutionally based including the four modalities VAKT[1]

ii. Learning styles reflect deep-seated features of the cognitive structure including 'patterns of ability'

iii. Learning styles are one component of a relatively stable personality type

iv. Learning styles are flexibly stable learning preferences

v. Move on from learning styles to learning approaches, strategies, orientations and conceptions of learning. (p. 26)

The work by Coffield et al. utilized selection criteria which reduced the 71 models to 13n. The five broad categories were derived after triangulation of the data from the analysis of the 13 models. The researchers concluded that the majority of the research on learning styles consists of relatively small scale applications of specific models to equally small groups of children in learning contexts which are of particular design. In a critical review of the research by Coffield et al., Snook (2007) summarized emphatically that:

> All the claims about learning styles are false. People cannot be reliably assigned to leanings styles which are conceptually and empirically distinct and there is no sound evidence that students will learn better if their learning styles are taken into account. Learning styles are indeed a modern educational myth. (p. 6)

Professional literature on learning styles appears to agree that learners, young and old, have preferred styles for taking in, processing, and making sense of information. Practitioners report anecdotal data that acknowledges higher levels of enjoyment when learners tackle tasks through their preferred styles. In fact, this data are accepted commonly among educational researchers and practitioners (Franklin,

[1] VAKT = Visual, auditory, kinesthetic, tactile

2006). Does learning through a preferred style provide a significant advantage to the learner or would the learner do just as well under any conditions? Critics of learning styles theories challenge their opponents to continue their investigations so that sound, empirically researched data can lay the foundation for future studies (Denig, 2004).

Multiple Intelligences Theory

The theory of Multiple Intelligences stems from the seminal work of Gardner (1983). His theory expanded the initial idea of intelligence by purporting that all humans have multiple, malleable capacities that are as fundamental as those measured by traditional Standford-Binet IQ tests. The Standford-Binet IQ tests purport to measure intelligence that is genetic in nature, and stable throughout one's life (Aborn, 2006). Gardner's initial work sought to answer the question about human nature and the abilities we all share. The evolution of his work ultimately resulted in the identification of human capacities he spoke of as "frames of mind: multiple intelligences" (Gardner, 1983). In his earlier work, Gardner theorized that "all human beings are capable of at least seven different ways of knowing the world – ways that I have labeled the seven human intelligences" (Gardner, 1991, p. 12). Gardner's initial work included seven intelligences; logical-mathematical, linguistic, musical, bodily kinesthetic, spatial, interpersonal, and intrapersonal. Gardner has recently added naturalistic intelligence to the list and is investigating a ninth intelligence; existential intelligence (Aborn, 2006). Unique characteristics, behaviors, and skill sets distinguish each intelligence and, at once, the intelligences are complementary and integrated (Gardner, 1991).

The research in learning styles has investigated the effect of using multi-sensory approaches to teaching and learning, incorporating many of Gardner's concepts. Multi-sensory refers to use of one's senses to receive and assimilate information. Examples include a child aptly kneading play-clay labeled "soft, red, clay" (tactile/kinesthetic, visual); looking at a picture book, including photographs, about song birds while listening to a CD recording of the song birds (visual, auditory), and a child, at the science center, comparing and contrasting the scents and textures of spring lilacs and barrel cactus blossoms (tactile, visual, olfactory). As children move through the primary grades, listening and responding to directions for projects, a story read-aloud, and information about assignments, their auditory, visual and kinesthetic senses are continually in demand as they listen, read, and write as part of the educational process. How a child performs various tasks, for the purpose of assessment, will be determined in a large part by the classroom teacher's perspective and practices. In primarily teacher-directed classrooms, children will accomplish tasks through listening, reading, and writing. Teacher assessments of learning are usually limited to written or oral responses to pre-determined tasks or prompts. In child-directed classrooms that encourage children to learn through their senses children are more apt to include, drawing and painting, creating 3-D projects, and incorporating music, drama, and technology in their presentations. Individual variations in how to show "what I know" (assessment of learning) depends on the child's preferred learning style for processing and making sense of the task at hand.

Learning through the Senses: Kinetics

The focus of this study involved children's developing literacy skills, specifically vocabulary, through movement. The review of relevant literature regarding the theoretical constructs of learning styles and multiple intelligences converge and bring the reader to the essence of this study: kinetics; the potential to learn through motion.

As previously described, one can find published, empirical research correlating the delivery of lessons developed for a student's specific learning styles and/or multiple intelligences and the purported benefit to the student, while at the same time, reviews of reading research that report no correlation or at best, a small correlation. Evidence for both positions is presented.

Much of the literature review included work claiming that Gardner's multiple intelligence, "bodily-kinesthetic," is a viable learning modality for many young children. This intelligence is defined as "the ability to solve problems or to fashion products using one's whole body, or parts of the body" (Gardner, 1999, p. 9). Gardner's (1983, 1991, 1993, 1999) professional works include numerous examples of how one's bodily-kinesthetic intelligence is expressed. Examples include descriptions of performances and actions by athletes, dancers, mimes, actors, mechanics, and surgeons, to name a few. It is important to note that all of these individuals are offered as examples because of their *expressive* knowledge. Through their actions, the aforementioned individuals show what they know and the depth of that knowledge can be evaluated using agreed upon criteria for each task or action. Much of Gardner's

work regarding this intelligence focused on the assessment of the intelligence *through doing*, providing evidence of a learner's expressive knowledge. The focus of the current research was to determine a child's ability to receive information through task-specific movements involving vocabulary. Do we know that a child receives information through a kinesthetic process (movement) and builds understanding and meaning from this source of input? If so, how can this learning modality be measured, particularly in vocabulary acquisition?

Several researchers (Glenberg, Gutierrez, Levin, Japuntich, & Kaschak, 2004; Rubman & Waters, 2000; van Meter, 2001) have looked at literacy learning and the correlation to fine-motor activity (using the hands). The activities included depicting stories using felt storyboards and drawing pictures relating to texts. Glenberg et al. (2004) examined activity and imagined activity and its impact on young children's reading comprehension using hand manipulation of objects. Glenberg et al. (2004) investigated word learning in young children (first and second graders). The researchers hypothesized that the physical manipulation of objects, while teachers read about them, can help children derive meaning from text. The research design called for one experimental group of children to manipulate objects (e.g., a toy barn, tractor, and horse) while reading a short story about a farm scenario, for example. The children's actions corresponded to the storyline. A second experiment asked children to imagine manipulating objects to depict the storyline. After the children read the scenarios, they were told to look at the objects and imagine acting out the storyline. The results showed a significant increase in memory and comprehension with both the

manipulation group and the imaged group compared to the control group, although the manipulation group showed a greater gain. It is important to note that the control group was instructed to reread the story for better understanding and comprehension. This is a very typical strategy used daily by teachers. The question the researcher of the current study pondered was "would there have been an even greater gain in scores if the children had used gross-motor movement (whole body) instead of fine-motor hand manipulation?"

Noice and Noice (2001) investigated the impact of whole body movement on the ability to learn dialogue. The researchers sought to expand on research by Nilsson (2000) that focused on subject-performed tasks (e.g., "open the book") which showed better recall when subjects actually performed the tasks compared to typical memorization of dialogue. Noice and Noice investigated movements that were not matched literally with words (e.g., actor yawns while saying "I've had an exhausting day."). Their reported findings indicate a significant memory recall benefit when students were asked to practice their scripts while engaging in non-literal movement. This allowed the actors to convey their unique understanding of the dialogue. While the studies described involved college students, the results gave promise to the current study involving young children and activity-enhanced literacy learning and vocabulary acquisition.

A small, but growing number of researchers are investigating the use of hand gestures (kinesthetic movement) as an additional learning input system (Alibali, Kita, & Young, 2000; Block, Parris, & Whiteley, 2008; Glenberg & Kaschak, 2003; Pine &

Lufkin, 2004). Glenberg and Kaschak (2003) stated that gestures support language development and comprehension by indexing movement, in this case hand gestures, to thoughts, ideas, and words. Glenberg et al. (2004) proposed that "when young children are first learning oral language, it is in a context that is highly indexed" (p. 426). This is an important point when one considers how language develops naturally, as parents assist their infants and toddlers with talk that describes objects within their environment and context of the conversation. Parents often model gestures such as waving "bye-bye" and almost always point to and label objects and actions during their conversations with their children. Children's language comprehension and vocabulary grow rapidly because of these interactions. Block et al. (2008) have expanded this work by studying gesturing as part of a kinesthetic comprehension strategy called Comprehension Process Motion (CPM). The focus of their research was to investigate a method (CPMs) that could be used by emergent readers as a way to learn comprehension processes for better comprehension of written material. The researchers reported that their work followed the theoretical construct of dual-coding, instruction which suggests that students comprehend more when learning opportunities include a "linguistic and nonlinguistic input system" (Block et al., 2008, p. 461). Block et al. suggested that kinesthetic motions can be used to represent abstract concepts by creating mental images. "Comprehension Process Motions (CPMs) are kinesthetic hand placements and movements that portray the visual and physical representations of abstract, unseen comprehension processes such as finding main ideas, inferring, making predictions, and clarifying" (p. 461). The authors

reported that their study was the first of its kind to investigate the idea that kinesthetic learning aids could be learned by children as young as kindergarten and aid them in understanding the complex processes of comprehension. The implications added support to this study by adding to the empirical research on the benefit of creating multimodal learning opportunities for young children, specifically bodily-kinesthetic.

Not all research on multimodal learning, however, shows promise for informing the field of literacy learning. As with many theories, interpretation of original research is subject to misunderstanding, misinterpretation, and misguided extrapolation and extension of the theories. Lack of knowledge and judgment in synthesizing research has led to the prolific publication of articles, teacher resources, books, and curricular materials that purport to be the panacea for many education problems, and literacy development is no exception, despite the warnings by neuroscience researchers. Effective educational leadership demands requisite knowledge to separate fact from fiction.

As school leaders search for researched-based curricular resources, they will find a plethora of perceptual motor programs (PMPs) purporting to be empirically researched. These claims resonate with uninformed teachers because of their kinesthetic nature and the implicit connection to Gardner's (1993) work on the bodily-kinesthetic intelligence. Brain Gym (2008), a popular commercial program proclaimed that children can "learn ANYTHING faster and more easily" (p. 1) if the program is followed with strict fidelity. According to the Web site, "Brain Gym includes 26 easy and enjoyable targeted activities that integrate body and mind to bring about rapid and

often dramatic improvements in: concentration, memory, reading, writing, organizing, listening, physical coordination, and more" (Brain Gym, 2008, p. 1). The Brain Gym program is reported to be taught in thousands of public and private schools worldwide. All of the Brain Gym activities are physical in nature. None incorporate reading, writing, or math skills. Stephenson, Carter, and Wheldall (2007) reported on an analysis of perceptual motor programs that are used by Australian schools. In addition to Brain Gym, the list included in the researchers' analysis cited Children's Connection Ltd, Move to Learn, and Smart Starters as common programs. In summary, Stephenson et al. (2007) reported:

> Our results confirm the findings that PMPs are still being used as part of remediation programs for students with difficulties in literacy and numeracy in Australian schools. It is also of concern that the programs are being widely used with typically developing children with the expectation that there will be an impact on academic learning, cognitive skills and social development. These broad ambit claims are made with no reference to any research to support them and simply echo the claims made by those advocating such programs. (p. 14)

The authors of the study call for educational leaders, teacher training institutions and government agencies charged with high stakes decision-making to set clear guidelines for a critical review of curricular materials and programs so that well-informed decisions can be made. A critical review regarding PMPs by Hyatt (2007) placed the responsibility for thoroughly reviewing instructional programs and selecting only those that have been objectively researched squarely with the schools' educational leaders. There is also a resounding call from the education field for more research that

will be made readily accessible to classroom teachers and special education personnel (Hyatt, 2007; Maskell, Shapiro, & Ridley, 2004: & Stephenson et al., 2007).

Neuroscience Research and Literacy Development

Concluding the literature review on multimodal learning is a discussion regarding the recent integration between the interdisciplinary fields of neuroscience and education. This discussion served to illuminate recent educational and neuroscientific understanding and the effect these bodies of knowledge have on teaching and learning. Of particular interest to the researcher of the current study, was the literature discussing the impact kinesthetic activity has on literacy development. The implications drawn from the body of research in neuroscience once again underscores the need for educational leaders and practitioners to proceed with caution as they read, synthesize, and apply study findings.

A special issue of the journal *Educational Research* was devoted to the topics of neuroscience and education (i.e., Geake, 2008; Goswani, 2008; Howard-Jones, 2008). Specifically, the call for papers focused on the interconnectedness between the fields of neuroscience and education. The papers presented in the issue highlighted the major discussions at the Economic and Social Research Council – Teaching and Learning Research Programme (ESRC-TLRP) seminar series "Collaborative Frameworks in Neuroscience and Education" conducted during 2005 and 2006. The seminars brought together over 400 teachers, policy-makers, educational leaders, psychologists and neuroscientists to promote interdisciplinary research between the fields, in recognition of the growing public interest in neuroscience and education. Of

major concern to professionals in both fields is the warning issued by Howard-Jones (2008) that "this enthusiasm also brings with it dangers, as evidenced by the long-running success of entrepreneurs in constructing and promoting unscientific and unevaluated 'brain-based' pedagogy" (p. 119). Relative to the current study, research presented by Goswami (2004) detailed what the field of education knows about the neural systems involved with learning to read. Goswami cautioned that although different brain imaging techniques show promise, future research must include developmental studies through the use of longitudinal design. To date, most of the neuroimaging studies involved only adult participants. Goswami called for patience, while more appropriate techniques are developed for the study of children and literacy learning.

An article by Geake (2008) criticized several of the most popular ideas about brained-based learning practices found in classrooms around the world; VAKTing (learning styles), multiple intelligences, and Brain Gym. Geake (2008) referred to these examples as neuromythologies and stated "the evidential basis of these schemes does not lie in cognitive neuroscience, but rather with the various enthusiastic promoters; in fact, sometimes the scientific evidence flatly contradicts the brain-base claims" (p. 124). Geake implored professionals in education to question the "widespread and largely uncritical acceptance" (p. 124) of neuromyths and to become critical consumers of educational research and its implications for practice.

In view of the previous recommendations for researchers, the current study rose to the challenge of researching educational practices that show promise. There are

unanswered questions about the correlation between physical engagement and learning, in particular, literacy learning. The following discussion brought the literature review to the focal point of the study; research on vocabulary development, the effect of read-alouds on vocabulary acquisition, and leads the reader to the investigation of active read-alouds with kindergarten and first grade children.

Research on Vocabulary Development

A child's first spoken words appear around his/her first birthday. These early utterances provide a snapshot of a child's understanding of word syntax, semantics, and the child's ability to represent word meaning more narrowly and more broadly. By age two, children's productive vocabularies, words used in speech (expressive) are roughly 500-600 words and their receptive vocabularies, words children understand when they hear them but cannot yet express, are substantially larger (Graves, 2006). From this point, a child's oral vocabulary grows rapidly. According to Graves (2006) tens of thousands of words will be added to a child's vocabulary between the time they start first grade and when they graduate high school. Research has shown that children's oral vocabulary helps develop their print vocabulary (Hart & Risley, 1999) and that print vocabulary leads to more efficient reading and, therefore, comprehension. Therefore, oral vocabulary is a critical prerequisite to becoming a proficient reader (Morgan & Meier, 2008).

From a broader perspective, research on vocabulary instruction has produced many articles published in instructional journals. According to a research synthesis by Blachowicz et al. (2006), more than 400 dissertations on vocabulary instruction were

identified since the 1960s. While the majority of the research was conducted on upper elementary students or higher levels of education, a long-term study by Hart and Risley (1995) of vocabulary development of very young children (birth to age four) brought attention to the gap in development between children from low income families and families of higher economic status. Simply stated, children from more affluent families arrive at school having heard richer language and possess larger lexicons. It is important to note that the research on various age groups of students focused on very different aspects of instruction. Research involving older students looked at vocabulary instruction through reading, as well as instructional discourse. However, given the reading limitations of early primary students, much of the research has been limited. Once again, the focus of the current study returned to the acquisition of oral vocabulary.

Vocabulary and Reading Comprehension

The importance vocabulary knowledge plays in reading comprehension has been well researched (Beck, Perfetti, & McKeown, 1982; Davis, 1968; McKeown, Beck, Omanson, & Perfetti, 1983). Literacy research shows a strong correlation between a child's oral vocabulary knowledge and general reading skills (Anderson & Freebody, 1981; Beck & McKeown, 2007). Specifically, early vocabulary knowledge, receptive and expressive, in the primary grades (kindergarten and first grade) is a significant predictor of reading comprehension later in middle school and high school (Cunningham & Stanovich, 1997; Scarborough, 1998). Arguably, reading comprehension (meaning-making from text) is the point of reading (Wells, 1986).

Two decades later researchers are still in agreement. “The ability to read and comprehend text well is at the heart of educational attainment and, as such, is central to all children’s elementary school success” (U.S. Department of Education, 2006, p. 17).

To aid in the quest to help children make meaning from text, contemporary education leaders ask the question, “What are the most effective methods for vocabulary instruction?” In years past, the research seeking answers to this question have been dictated by priorities set by educators, researchers, and politicians. These ever-shifting priorities have included a focus on increasing children’s vocabulary through direct instruction, incidental learning by exposing children to rich and varied vocabulary through oral discourse and depth and breadth of reading, and an interest in closing the achievement gap between groups of children through the use of specially designed programs (Blachowicz et al., 2006). After reviewing research in each of the aforementioned areas, Blachowicz et al. (2006) concluded that the abundance of research had not changed dramatically classroom instruction or the design of commercial materials. These researchers have found that teachers hold steadfastly to familiar methods of instruction. The researcher of the current study believes that lack of sound interpretation of available research leaves teachers with no alternative but to fall back on what appears to be working. Evaluating research must begin with school leaders and subsequently shared with faculty in a meaningful, supportive context.

The recent evaluation of the Reading First Study (U.S. Department of Education, 2008), underscores the latest research in vocabulary instruction and the

urgent need for guidance in this critical component of literacy development. Instruction leaders, charged with making curricular decisions for their elementary schools need up-to-date information that can be counted on when selecting instructional materials, aligning instruction with local, state and national standards in language arts, and planning continuous, sustained staff development for teachers.

The urgency for sound research in oral language development is underscored when one considers the fact that prior to third grade, referred to in the literature as the preliterate period, children differ by several thousand root-word meanings (Biemiller & Boote, 2006). The difficulty in planning instruction lies in the trajectory of vocabulary growth that shows similar growth patterns for *all* children. In other words, children with small vocabularies gain about as many words as do children with much larger vocabularies for the remainder of their K-12 education. Therefore, the gap among groups of children is unlikely to be narrowed unless interventions are designed to increase the vocabularies of young children before they reach third grade (Biemiller & Boote, 2006). To illustrate the urgent need for further research, consider the oral vocabulary estimates of linguistically advantaged children. It is estimated that by the time these children enter first grade, they possess an oral vocabulary of roughly 10,000 words, about twice the size of children from linguistically disadvantaged backgrounds (Biemiller & Slonim, 2001; Hart & Risley, 1995; White, Graves, & Slater, 1990). It is important to note that this current study seeks to add to the research regarding vocabulary acquisition of young children so that the gaps among groups of children can be diminished.

Word knowledge is not an all-or-nothing condition (Beck & McKeown, 1991). Children come to know the meanings of words, based on the context in which the word is learned and the children's prior knowledge. As contexts are widened and children are able to expand their thinking, from little meaning to deep, rich decontextualized meaning, their knowledge of word meanings changes in order to read and use words in a variety of contexts (Beck & McKeown, 1991). Words can be known in varying degrees and this process is arguably a life-long journey. The goal is to help students achieve personal understanding and the ability to transfer this knowledge to new and more complex situations (Phillips, Foote, & Harper, 2008).

A review of relevant research that informs the current study revealed roughly three categories of vocabulary instruction (Biemiller & Boote, 2006; Blachowicz et al., 2006; Elley, 1989; Hiebert & Fisher, 2005; Yopp & Yopp, 2007). It is generally agreed that the categories of vocabulary instruction can be termed; definitional approach, natural incidental learning, and, what the researcher of the current study terms traditional contextual instruction. What follows is a brief explanation of the theory behind each of the instructional approaches, with attention to vocabulary instruction for primary grade children.

Vocabulary Acquisition: Definitional Approach

Direct instruction, or intentional teaching of vocabulary definitions was shown to be superior to no intentional vocabulary instruction, according to a review of research prior to the 1970s (Baumann, Font, Edwards, & Boland, 2005). This research focused on teaching fifth grade students word definitions and specific strategies for

learning new words. The instruction included verbal and written information during teacher-directed lessons, as well as workbooks and other written materials. This view of instruction focused on learning discrete words, prompting the development of materials that relied on individual word learning strategies, typically from word lists (Blachowicz et al., 2006). For example, students were asking to use a dictionary to write definitions of words from their grade level word lists. More current research, however, reveals limitations to traditional teaching strategies that rely heavily on direct instruction of new vocabulary without context, and suggests that upper elementary children profit from vocabulary instruction that is placed in real and relevant contexts (Apthorp, 2006; Carlo, August, & McLaughlin, 2004).

Written materials designed for vocabulary instruction present a unique challenge for young children. Many kindergarten and first grade children are learning to read so definitional instruction must be delivered via oral communication. According to Beck and McKeown (2007) “oral conversation is the primary source from which young children learn the words they know” (p. 252). Research conducted on oral discourse focused on reading aloud to children once they begin kindergarten, shows vocabulary gains when the conversations included intentional instruction that included explanation of word meaning for targeted words (Beck et al., 1982; Biemiller & Boote, 2006; Biemiller & Slonim, 2001; Elley, 1989). It appears that vocabulary instruction for children in the early primary grades must rely on strategies that engage emergent readers through story reading, conversations, and other methods of sharing language orally.

Vocabulary Acquisition: Natural Incidental Learning

Researchers have shown that the bulk of initial vocabulary growth comes from incidental learning. The primary source of this learning for young children comes from oral conversations with parents and caregivers, siblings, and friends (Beck & McKeown, 2007). However, studies also indicate that by the time a child enters school, incidental learning of new vocabulary lessens. According to Cunningham and Stanovich (1997), this reduction in critical impact is because everyday conversations in schools usually contain words children already know. For example, teacher talk in the early primary grades consists mainly of giving instructions, directions for classroom management tasks, praise for effort and time on task, and directives for behavioral expectations and guidance. This language is straight forward and uncomplicated. In these examples, teacher talk is typically not novel nor is language rich enough to provide opportunities for incidental learning of many new words.

Several studies on learning vocabulary incidentally or through inference (Nagy, Herman, & Anderson, 1985; Sternberg, 1987) showed that incidental learning through reading storybooks, trade books, and non-fiction books did account for modest positive gains in vocabulary growth. More recent research, however, showed increased gains if teacher instruction is given in addition to students learning from simply the act of reading.

What was of relevance for the current study, was that the research conducted by Nagy et al. (1985) several decades ago involved intermediate grade students and *self-guided reading* of texts. Because emergent readers are not likely to read at a level

that influences vocabulary learning (encountering novel words), the current study seeks to explore additional strategies that can impact the learning of new vocabulary for emergent readers.

Vocabulary Acquisition: Traditional Contextual Instruction

Early readers are books leveled for typical kindergarten and first graders. They are simplistic in vocabulary because the focus is on repetition of phonics, word families, and common sight words. Leveled readers, appropriate for early primary grades, contain short sentences, are simply structured, and are almost void of uncommon, incidental words (enriched vocabulary) as these words tend to disrupt reading fluency because of their advanced difficulty in decoding (Cunningham & Stanovich, 1997). Books of this nature, chosen to match a child's reading ability, can be useful in helping a child increase reading fluency. However, early leveled readers are not likely to contain novel words and, therefore, are not beneficial in promoting new vocabulary acquisition.

To summarize, vocabulary acquisition through instruction that includes the definitional approach, natural incidental learning, and traditional contextual instruction presents a problem for instructional leaders who are struggling with providing guidance for primary grade teachers. Incidental vocabulary learning, through natural conversation, needs to be bolstered with additional instructional strategies when children enter kindergarten. Research on direct instruction through the use of written materials and the memorization of word definitions has been limited to elementary children in the intermediate grades and, because of lack of validity and reliability of

studies with young children, does not inform instruction at the early primary grades confidently. The third approach, traditional or typical contextual instruction provides only limited opportunities for vocabulary growth because of the nature of the materials used commonly in kindergarten and first grade. As stated, the reading programs are designed to carefully control for sentence structure and introduction of new or novel words, as much of the reading process requires independent, self-guided reading by the young child.

This summary directed this researcher's literature review to research of literature describing the time-honored activity of reading aloud to young children. When compared to the aforementioned three categories of vocabulary acquisition instruction, read-alouds provide opportunities for the teacher at the kindergarten and first grade levels, to employ flexible direct instruction through natural oral discourse within a rich, meaningful context.

Research on Read-Alouds

The introduction to the current study stated the importance of continuing research in the field of reading, specifically the need for investigating the complexities of vocabulary acquisition in young children. As previously stated, Anderson et al. (1985) reported that the "single most important activity for building the knowledge required for eventual success in reading is reading aloud to children" (p. 23). A comprehensive review of pertinent research for the current study's literature review sought to answer several questions. What does research tell us about reading aloud to young children and its effects on emergent reading skills? What is known about

instructional strategies that are used commonly during read-alouds in the early primary grades? Are these strategies effective with regard to vocabulary acquisition for all children?

Read-Alouds: A Common Practice

In a dissertation published by Gibson (2007), she sites numerous studies that recognize the widespread acceptance by researchers that reading aloud to children should be highly recommended as an activity that fosters language and literacy development (Beals, DeTemple, Snow, & Tabors, 1991; Bus, van Ijzendoorn, & Pellegrini, 1995; Scarborough & Dobrich, 1994). Indeed, many parents, particularly parents of middle class or higher socioeconomic status, seem to know intuitively that "lap time with a story book" is good for their child (Baker & Scher, 2002; Baker, Scher, & Mackler, 1997). This activity continues with young children, unquestioned, when they spend time away from home in daycare centers, preschools, and library outings (Howell, 2007). However, parents, as well as paraprofessionals in daycare facilities and preschools, may not understand, from a research perspective, why story time is so important to young children; it just seems like a natural thing to do.

The Changing Face of Story Time

When children enter public kindergarten, the format for story time begins to change shape. According to Sipe (2008) there is an over reliance on "teacher proof" (p. 4) curricula that are highly scripted. Pre-determined teaching strategies are aimed at efficiency in acquiring specific emergent reading skill sets (i.e., phonemic awareness, phonics, fluency). This narrowing view of what defines reading ignores the

critical importance of natural conversation during story time. Many commercial programs script the teacher-talk during story time with predetermined questions that are designed to elicit specific responses by the children. The developers of these commercial programs believe that the teacher-guided questions in the scripted lesson plans help children arrive at what they should understand about the story. Many researchers believe that there are several missing elements from this perspective: a child's prior knowledge (based on personal experiences and culture), a child's unique receptive and expressive vocabulary, and relevance in the lives of individual children.

Effective Read-aloud Strategies

What, then, makes the practice of read-alouds effective in fostering vocabulary development in young children? Studies by Wells (1986) and Wiezman and Snow (2001) posited that it is the interactive, oral discourse during read-alouds that enriches a child's language through increased opportunities to hear novel vocabulary, in a language rich context, that offers multiple perspectives by peers. Most kindergarten and first grade children cannot yet read all the words they show knowledge of, both receptively and expressively, so they must rely on conversation about the story in order to make sense of challenging vocabulary. Beck and McKeown (2001) stated that pre-readers' aural comprehension abilities far surpass their word recognition abilities by reading text. Studies that investigated instructional practices with young children, showed positive effects when researchers used dialogic reading methods (shared storybook reading) with preschool children (Hargrave & Senechal, 2000; Whitehurst et al., 1994). The dialogic reading method enhances opportunity for incidental

vocabulary gains by exposing children to sophisticated vocabulary, by way of meaningful conversation, during story time (Biemiller, 1999).

Picture books, shared during read-alouds, are "the principal format through which most young children experience literature" (Sipe, 2008, p. 4) and the rich language that stories have to offer. As stated, read-alouds promote incidental learning for many children. However, according to some researchers (Elley, 1989, 1997; Henderson, 2001) not all children benefit from read-alouds equally and that certain types of incidental exposures to novel words may be more advantageous than others (Justice, Meier, & Walpole, 2005). Engaging children in intentional conversation with adults, about novel vocabulary, may boost learning for some but this well-research teaching strategy does not reach every learner.

Read-Aloud Strategies: Reaching Every Child

As previously stated, the research on dialogic reading strategies has shown positive effects for young children with limited vocabulary (Hargrave & Senechal, 2000) compared to typical read-alouds that do not include the integration of direct-instruction, incidental learning opportunities, and contextual relevance. Unfortunately, some children continue to struggle with vocabulary development (Biemiller, 2005). The gap between children with low and high vocabulary knowledge is not closing (Silverman, 2007). Biemiller and Boote's research (2006) on interventions with students in grades K-2 shows promise. However, more research is needed to identify effective research-based vocabulary teaching strategies for specific groups of children (Scarborough, 1998). Although the rate of vocabulary learning for children with

limited vocabularies can begin to match the rate of typical children, once they are in school, the rate for children with comparatively low vocabularies must increase at a faster rate than their more linguistically-rich peers in order to narrow the gap (Biemiller & Boote, 2006). This fact leaves educational leaders still searching for answers that will inform their ability to make sound curricular decisions that successfully guide their teachers in employing effective vocabulary instruction for *all* young children. The research for the current study was designed to take the first step in investigating a novel teaching strategy for vocabulary acquisition.

Summary of Literature Review

Who are the children who seem to be resistive to current instructional practices? Are there additional vocabulary teaching strategies that have not been thoroughly investigated? These pivotal questions focused the current study on a teaching strategy that has not been researched; the effects on vocabulary acquisition when read-alouds include physical movement.

The purpose of this literature review was to identify a thread of reasoning and align it with the volumes of research on reading so that the thread wove a strong case for this study and its implications for educational leaders. The thread was spun by revealing relevant literature on the multifaceted learning process of emergent readers. It began with a discussion of cognitive learning theories and built the constructivist theoretical framework as the foundation for the remainder of the literature review. Further evidence for this theoretical perspective was presented through a thorough review of language and general reading development in young children. Building on

this body of research, the thread continued to weave through convergent and divergent research on multimodal learning and its implications for the young learner. Finally, the thread was aligned with volumes of research on vocabulary acquisition and the impact read-alouds during story time have on the developing lexicons of early primary grade children. This research clearly demonstrated the need to complement and boost incidental vocabulary acquisition during read-alouds with additional teaching strategies. Can the thread that has been carefully woven be further strengthened by investigating a seldom used strategy proposed by this study?

The intervention created for the current study was a unique active read-aloud strategy. The specially designed read-alouds sought to provide teachers with information about vocabulary acquisition through active engagement with the storybook's specific content, including context, storyline concepts, and targeted novel vocabulary. Through movement, children depicted story ideas, conceptual understanding, and vocabulary knowledge. The active read-aloud lessons provided children with an additional multimodal approach (kinesthetic) to explore, make meaning, and demonstrate vocabulary understanding by defining words through movement. This kinesthetic approach builds on the multimodal theoretical framework for kinesthetic learning presented in this chapter.

This summary would not be complete without addressing the limitations of the studies reviewed. A conscientious attempt was made to present research, both complementary and opposing, that informed the particular focus of the current study. Because the focus was narrowed, some research was not included in the literature

review. Within each subsection of the literature review, research was presented from qualitative studies and to a lesser degree, quasi-experimental designs providing quantitative data. Some of the studies included small sample sizes and convenience sampling, which limited the ability of the researchers to make strong implications, for application of the findings, by educational leaders and practitioners.

The researcher of the current study believes that the most important finding stated in many of the studies presented in this literature review was the need for further research in an attempt to replicate studies and follow groups of participants longitudinally. Most importantly, the literature review pointed to the lack of studies in multimodal teaching strategies for vocabulary learning. In conclusion, the information presented in this chapter provided a solid research base to support further investigation of teaching strategies in vocabulary acquisition that may inform critically the curricular decisions made by educational leaders in elementary schools.

CHAPTER III

METHODOLOGY

Restatement of the Purpose of the Study

The purpose of this research was to examine the effect of incorporating physical movement during read-aloud sessions on the vocabulary acquisition of kindergarten and first grade students. A thorough review of relevant research centering on early literacy development points to the need to better understand how young children acquire requisite skills to become competent, confident readers and writers. Literacy development is a complex, multifaceted process. This research examined one aspect of literacy development; vocabulary acquisition, using a unique teaching strategy, referred to as the Active Read-Aloud Strategy (see Appendix A). It will be referred to as the ARAS throughout this paper. Although "interactive story book reading" has been researched, the term "interactive" has not meant *physical activity*, as it does in the current study. This research sought to answer the following questions:

1a. What impact does physical movement during story time have on vocabulary acquisition of primary grade students?

1b. Is there a different impact on vocabulary acquisition among subgroups of students (gender, age)?

2. How do children perceive active story time versus inactive story time?

3. How do teachers perceive the value of pairing physical movement during story time?

Research Setting

Site Information

The study took place at a small, public magnet school in a medium size school district, located in the northwestern region of the United States. The school district has 14 elementary schools. The school is situated in the downtown area of the city in which it is located. The city's population is approximately 75,000. The magnet school's focus is on child-initiated, child-directed learning. There are six classrooms in the school and each of the six teachers has approximately 30 students per class. Four of the six classrooms have blended grades primarily: two kindergarten/first and two second/third grades. The intermediate grades are straight fourth grade and fifth grade configurations. The school's population is approximately 180 students in grades kindergarten-fifth. Student statistics at this school, at the time of the study, included:

- 24% SES (as measured by free/reduced meal prices [FARM]), district average at 40%
- <1% ELL population (Portuguese)
- 18% Special Education population
- 5% Minority ethnicity (Asian, East Indian, Hispanic, Latin American, Liberian)

Classroom Information

Two classes participated in the study. Both classes were kindergarten/first grade blended groups (kindergarten/first grade class). There were 30 children in each

classroom (15 kindergartners and 15 first graders). The kindergartners attended school from 9:00am-11:40am. The first graders remained until 3:30pm each day.

The teachers of the two primary classes, Mrs. Bird and Mrs. Short, were involved in the study. Both kindergarten/first grade teachers began their teaching careers at this school either 5 or 6 years prior to the study and had taught kindergarten and first grade during this time. Both teachers earned master's degrees in education, with licensure endorsements in early childhood and elementary education prior to beginning their teaching careers.

Research Team

A randomization process determined the assignment of the teachers to the experimental and control groups. Mrs. Bird was assigned to provide the intervention to the experimental group. Mrs. Bird's role in the research was that of a research assistant in Phase I and as a participant in the study during Phase II. As such, she was given a consent form (see Appendix B) to sign and return to the researcher. The consent form outlined the two roles that Mrs. Bird would play in the study.

Mrs. Short was assigned to the control group and her role was that of a research assistant in the study. She was also given the teacher consent form (see Appendix B) to sign and return to the researcher.

As stated, the study was conducted in two phases. During the first phase of the study, the teachers acted as members of the research team and, therefore, their teaching was not observed or analyzed except to verify fidelity of implementation of the active and inactive read-aloud sessions. The focus of Phase I was primarily on the

students; establishing baseline data through assessments, implementing the treatment, post-treatment assessments, and collecting post-treatment data from the experimental group's student questionnaires and interviews (see Appendix C). The teachers also received training during Phase I on the curriculum designed for the study; the Active Read-Aloud Strategy.

The school's Speech/Language Pathologist (SLP), Mrs. Talke, participated in the study (see Appendix D) as a research assistant, and administered the Expressive One-Word Picture Vocabulary Test (Brownell, 2000), as a pre and posttest measure of general expressive vocabulary knowledge (see Appendix E). In the remainder of this document, the Expressive One-Word Picture Vocabulary Test will be designated as EOWPVT. Because of time conflicts, the researcher of the current study assisted the SLP in the administration of the EOWPVT with two of the 60 participants. Mrs. Talke also assisted the researcher in double-scoring the researcher-designed pre and post-treatment assessment, developed to measure the students' growth in learning of the targeted vocabulary words. This assessment is referred to as the Active Read-Aloud Strategy Assessment (ARASA; see Appendix F). The purpose of the double-scoring was to establish inter-rater reliability regarding the ARASA. This database is discussed further in this chapter.

Role of the Researcher

The researcher of the current study served as the principal of the school site chosen for the study. At the time of the study, the principal was serving in her eighth year in the role of school leader. As an educational leader, it is important to work to

advance new ideas in literacy development. As a researcher, it is critical to promote continuous investigations in literacy learning. It was with these goals in mind that the researcher stepped into the current study.

Because of the leadership role this researcher played at the study's site, letters inviting the individuals to participate in the study explained clearly that the classroom teachers, the SLP, parents, and students were free to choose whether or not to participate. The letters also stated that the participants could withdraw from the study at any point.

The responsibilities of the researcher included designing the intervention strategy, planning and implementing the training for the teachers and SLP, assisting the SLP with the pre and post-treatment assessment of general vocabulary knowledge, if needed, conducting the researcher-designed assessment, and sporadic observations of the experimental and control groups to ensure fidelity of treatment of the read-alouds by the classroom teachers. A short interview with the children in the experimental group was also conducted, at the end of the intervention, by the researcher. Finally, the researcher interviewed the teacher of the experimental group during the second phase of the study.

Participants

Convenience sampling was utilized in this study because the researcher chose, as the study site, the school where she serves as principal. Attempts were made by the researcher to conduct the research at other schools within the district. However, due to

the fact that the traditional schools in the district where committed to implementing a specific reading program, other sites were not available for this study.

As previously stated, the site selected had only two classrooms for kindergarten and first graders. Both of the classrooms were blended and, therefore, included both kindergartners and first graders. The teachers involved in the study were highly skilled at teaching their classes as a cohort group. Therefore, the mixed-age groups did not require that the teachers change their methods of delivering instruction. Using a coin toss, two intact classes were designated as the control group and the experimental group.

Child Participants

All parents/guardians, whose kindergartners and first grade students attended the school during the 2008-2009 school year, were invited to participate in the study. An invitation letter informing the parents/guardians about the details and significance of the study was sent to the parents/guardians of the 60 children (see Appendix G). The information included an informed consent form (see Appendix H) for the parents/guardians to complete if they chose to give permission for their child to participate in the study. Additionally, the parents/guardians were asked to read, to their child, and sign a child assent form (see Appendix I), acknowledging that they had discussed the study with their child and their child agreed to participate. Initially, it was planned that if any parents chose to have their child excluded from the study, the child would be assigned to the control group and would not participate in the pre and post-assessments. This was planned so that none of the children would miss hearing the story selections. It also avoided the potential that some children might feel “left

out." However, this plan was not implemented as all 60 children returned assent forms and the parents of the 60 children gave their consent to have their children participate in the study. Gathering the consent and assent forms took approximately 2 weeks. Mrs. Bird and Mrs. Short reminded several families verbally about returning their forms. Each teacher posted a reminder notice as well.

No child was excluded from the study based on gender, race, color, abilities, or demographic characteristics. One first grade boy, with an auditory processing difficulty, participated in the study as a member of the experimental group. As a matter of course, his teacher wore an amplifier so that her voice could be picked up by the child's hearing aids. This helped the child to focus on all oral instructions, discussions, and conversations during the day. The child's augmentative communication device allowed the boy to participate fully in the research project.

The study began with 60 children; 30 kindergartners and 30 first graders. One child was dropped from the study (control group) because she was not in attendance during the 2-week posttesting period. Consequently, $N = 59$ for total number of student participants; $N = 30$ for the experimental group, and $N = 29$ for the control group. There were 13 kindergarten boys and 17 kindergarten girls enrolled during the study. The gender count for the first graders included 12 boys and 17 girls. In the study, therefore, $N = 25$ for boys and $N = 34$ for girls. The average age at pretest for the kindergartners was 6 years 1 month. For the first graders, the average age at pretest was 6 years 11 months.

Adult Participant

Phase II of the study focused on additional data collection. Mrs. Bird, the teacher of the experimental group, became a participant in the study at the conclusion of the 10-week intervention period. During this phase of the study, Mrs. Bird completed a questionnaire and was interviewed by the researcher (see Appendix J).

Research Design and Timeframe

As previously stated, this research project was conducted in two phases. Phase I utilized a pre/post test, quasi-experimental design, specifically a non-equivalent control group design. One of the kindergarten/first grade blended classes was randomly chosen as the experimental group. The other kindergarten/first grade blended class of children served as the control group. Pretesting took approximately 2 weeks. The intervention, the ARAS, was conducted over the course of 10 weeks. During this 10-week time span, the school recessed for 1 week for spring break. Posttesting took an additional 2 weeks. This resulted in a time period of 15 weeks in which the children and teachers were actively involved in the study. Tables 1, 2, and 3 explain the timeline for the implementation procedures of the study.

Table 1

Timeline: Pre-Treatment Schedule

Data	*Source*	*Implementation*
EOWPVT	Experimental Group Control Group	2 weeks pre-treatment 2 weeks pre-treatment
ARASA	Experimental Group Control Group	2 weeks pre-treatment 2 weeks pre-treatment

Table 2

Timeline: 10-Week Intervention Schedule

Date	Experimental Group	Control Group
Week 1	*Full Moon Barnyard Dance* Inactive/active lesson 20 minutes, 2x/week	*Full Moon Barnyard Dance* Inactive/inactive lesson 20 minutes, 2x/week
Week 2	*Giraffes Can't Dance* Inactive/active lesson 20 minutes, 2x/week	*Giraffes Can't Dance* Inactive/inactive lesson 20 minutes, 2x/week
Week 3	*Hilda Must be Dancing* Inactive/active lesson 20 minutes, 2x/week	*Hilda Must be Dancing* Inactive/inactive lesson 20 minutes, 2x/week
Week 4	*Imagine* Inactive/active lesson 20 minutes, 2x/week	*Imagine* Inactive/inactive lesson 20 minutes, 2x/week
Week 5	*Imagine a Day* Inactive/active lesson 20 minutes, 2x/week	*Imagine a Day* Inactive/inactive lesson 20 minutes, 2x/week
Week 6	*In the Small, Small Pond* Inactive/active lesson 20 minutes, 2x/week	*In the Small, Small Pond* Inactive/inactive lesson 20 minutes, 2x/week
Week 7	*Pretend You're a Cat* Inactive/active lesson 20 minutes, 2x/week	*Pretend You're a Cat* 20 minutes, 2x/week Inactive/inactive lesson
Week 8	*Saturday Night at the Dinosaur Stomp* Inactive/active lesson 20 minutes, 2x/week	*Saturday Night at the Dinosaur Stomp* Inactive/inactive lesson 20 minutes, 2x/week
Week 9	*Thesaurus Rex* Inactive/active lesson 20 minutes, 2x/week	*Thesaurus Rex* Inactive/inactive lesson 20 minutes, 2x/week
Week 10	*Berlioz the Bear* Inactive/active lesson 20 minutes, 2x/week	*Berlioz the Bear* Inactive/inactive lesson 20 minutes, 2x/week

Table 3

Timeline: Post-Treatment Schedule

Task	*Group*	*Timeline*
EOWPVT	Experimental Group	2 weeks post-treatment
	Control Group	2 weeks post-treatment
ARASA	Experimental Group	2 weeks post-treatment
	Control Group	2 weeks post-treatment
Questionnaire	Students: Exp. Group	1 week post-treatment
Interview	Students: Exp. Group	1 week post-treatment
Book Log Analysis	Researcher	1 week post-treatment
Student Picture Analysis	Researcher	1 week post-treatment

Note: Exp. = experimental

Instruments

Expressive One Word Picture Vocabulary Test

Review of relevant research on receptive and expressive language development and language assessments caused the researcher of the current study to focus on measuring expressive language only. Tests of expressive vocabulary measure one's ability to use words. This requires that the individual gain access to words and retrieve them from memory (Brownell, 2000). Research confirms that children's use of expressive word knowledge requires a higher level of cognitive skill development than receptive word knowledge. Therefore, the researcher of the current study determined that employing the EOWPVT as the measure of the children's general vocabulary knowledge would support the goals of the study.

The EOWPVT is a norm-referenced test designed to assess the extent of spoken vocabulary used by individuals ages 2 years 0 months through 18 years 11 months (Brownell, 2000). As stated in the EOWPVT manual (Brownell, 2000) the

reliability studies conducted on the EOWPVT supply evidence that the assessment provides a consistent measure and the users of the assessment can have a high degree of confidence in the results acquired from the test. Furthermore, the validity studies conducted on the EOWPVT give strong support that the measurement is valid with regard to content validity, criterion-related validity, and construct validity. Standardized, norm-referenced assessments, such as the EOWPVT, are used widely in educational research because of the well established confidence levels for reliability and validity factors.

Active Read-Aloud Strategy Assessment

Research supports the use of experimenter-designed assessments such as the ARASA developed for the current study. According to Zipoli (2007), tools created by researchers closely match instruction, thereby tightly aligning instruction and assessment. Studies conducted by other researchers (Elley, 1989; Robbins & Ehri, 1994) investigating target word learning were used to guide the development of the ARASA for the current study.

The ARASA was designed as the measure of expressive knowledge of the specific targeted vocabulary words and non-treatment words. The researcher of the current study believed it would provide richer data (compared to receptive vocabulary data) for analysis of the treatment. Regarding multi modal learning and the thread woven through the literature review for the current study, this researcher views body movement as a potential *expression* of a child's vocabulary knowledge. Therefore,

measures of expressive word knowledge were determined to be appropriate for the current study.

The ARASA was modeled after the EOWPVT, the Test of Language Development (TOLD), and other measurements of expressive vocabulary. The ARASA required that the children respond to a probe requesting information about the targeted word (e.g., "Tell me what it means to lunge?"). A second prompt was used if the child indicated that he or she did not know the answer. The second prompt encouraged the child to express knowledge of the word through action (e.g., "Can you *show* me what lunging looks like?"). Likewise, if the child answered the first prompt with an action, the second prompt encouraged the child to express knowledge of the word verbally (e.g., "Can you *tell* me what it means to lunge?"). If a word had multiple meanings (e.g., buckle, flap, shuffle) the researcher used the prompt, "Does it mean anything else?" The scoring system uses a rubric that assigns point values to student responses; 3 points if the child gives the correct definition of the word verbally, 2 points if the response verbally describes conditions or attributes of the word but the child does not give the complete definition, 1 point if the child gives an acceptable physical demonstration of the word, and zero points if the response indicates no understanding of the targeted word. The scoring system was created to represent the different levels of "knowing" a word's meaning.

Inter-Rater Agreement

The ARASA was designed by the researcher for this study and thus, it is a non-standardized assessment. Every effort was made to design the assessment and its

record form and instructions so that the scores obtained by different raters would be the same at pretest and also the same at posttest. It was, therefore, important to determine the level of inter-rater agreement between the researcher and the speech pathologist in order to make valid inferences from the data. Approximately 25% of the pre and post ARASA assessments (15) were double-scored for this purpose. Cohen's Kappa assesses inter-rater agreement beyond chance levels (Cantor, 1996). Kappa statistics of 0.61 – 0.80 are considered substantial, with 0.81 – 1.00 considered almost perfect (Landis & Koch, 1977). For this study, Kappa scores on both pretest assessments and posttest assessments showed very strong agreement between raters (.968 and .987 respectively).

Procedures: Phase I

Phase I was designed to answer the research question whether physical movement during story time has an impact of vocabulary acquisition of primary grade students. It also sought to investigate whether or not there was a different impact on subgroups of children (age, gender). Finally, Phase I investigated how children perceive active story time versus inactive story time.

Active Read-Aloud Strategy Design

As previously stated, the intervention for this study was a researcher-designed program, the Active Read-Aloud Strategy. The ARAS included 10 storybooks, approximately 45 targeted vocabulary words (three to six per book). The ARAS also included 10 additional vocabulary words that did not receive treatment, and 20

uniquely designed active lesson plans for the biweekly read-alouds for each featured storybook.

It was determined that verbs would be the targeted vocabulary words in each story book. This determination was supported by the research on kinesthetic learning reported in the literature review. In summary, the relevant research discussed in chapter 2 on multimodal learning, specifically through physical movement, suggests that some children may benefit from opportunities to explore concepts through movement. Physical representation of the meaning of verbs requires that the individual utilize fine and gross motor movements, as well as body language and facial expressions. The determination to use verbs set the stage for investigating the research questions guiding this study.

At the heart of the Active Read-Aloud Strategy was the literature selection. Storybooks are the main format through which young children experience literature (Sipe, 2008) and, therefore, served as the primary vehicle for presenting the targeted vocabulary. The researcher of the current study used her professional judgment when selecting the 10 storybooks, as well as best practices supported by research (Allor & McCathren, 2003; Aram, 2006; Hargrave & Senechal, 2000; Justice et al., 2005; Sipe, 2008; Trelease, 2006). Criteria for book selection included: age appropriate, high interest books for young children, book illustrations closely reflecting the text and storyline, and text that include 55 verbs (including 45 targeted words and 10 non-treatment words) not commonly known by kindergarten and first grade children. In addition, the 45 targeted words needed to be action words that could be depicted easily

by the children through movement. As with the 45 targeted vocabulary words, the 10 non-treatment words were also verbs. The non-treatment words were selected to create a sufficient bank of words that would not be included in the ARASA thereby adding to the validity of data analysis. Finally, the researcher sought storybooks that were not commonly found in the primary classrooms or school library at the study site. Table 4 lists the literature selected for the ARAS.

Table 4

Read-Aloud Strategy Literature

Storybook Titles
Berlioz the Bear (1991) by Jan Brett, New York: Scholastic
Full Moon Barnyard Dance (2003) by Carole Lexa Schaefer, Cambridge, MA: Candlewick Press
Giraffes Can't Dance (2001) by Giles Andreae, New York: Orchard Books
Hilda Must Be Dancing (2004) by Karma Wilson, New York: Margaret K. McElderry Books
Imagine (1989) by Alison Lester, Boston: Houghton Mifflin Company
Imagine A Day (2005) by Sarah L. Thomson, New York: Atheneum Books for Young People
In the Small, Small Pond (1993) by Denise Fleming, New York: Scholastic Inc.
Pretend You're a Cat (1990) by Jean Marzollo, New York: Dial Books for Young Readers
Saturday Night at the Dinosaur Stomp (1997) by Carol Diggory Shields, Cambridge, MA: Candlewick, Press
Thesaurus Rex (2003) by Laya Steinberg, Cambridge, MA: Barefoot Books

Several widely used vocabulary word banks (Chall & Dale, 1995, Dale & O'Rourke, 1981) were analyzed to determine "rare" words or words "unlikely to be known" by kindergartners and first graders. The 55 identified words (45 targeted words and 10 non-treatment words), served as the vocabulary words for data analysis of word learning. For the current study, the primary source for the words chosen was *The Living Word Vocabulary* (LWV) (Dale & O'Rourke, 1981). As described by Biemiller (2004), the LWV is a compellation of 44,000 words, each listed with a

corresponding grade level. The list "indicates the grade level at which a word meaning was initially known by at least two thirds of children sampled" (Zipoli, 2007, p. 51). The list includes information for words tested in grades 4, 6, 8, 10, 12, 13, and 16. Grades 13 and 16 represent a student's first and third year in college. The LWV data also includes the percentage of children who knew the word when tested. The following is an example of a word found in the LWV:

- Buckle
    - Word meaning: to fold up
    - Grade: 12
    - Score: 72%

The current study investigated vocabulary acquisition of kindergarten and first grade children. Therefore, it was necessary to calculate new scores for the targeted vocabulary words found in the selected literature. This was done by converting the score listed in the LWV, for each targeted word, to a percentage that reflected how many kindergartners and first graders were likely to know the word.

The research conducted by Dale and O'Rourke (1981) found that the scores in the grade levels not listed in the LWV (grades 5, 7, 9, and 11) could be reasonably predicted by increasing or reducing the percentage score by 10% for each grade level from the score listed in the LWV. For the current study, this required that the researcher calculate, at the kindergarten and first grade levels, the predicted scores for each targeted word (see Table 5). Using this information, the predicted scores for "buckle" are:

- Buckle
    - Word meaning: to fold up
    - Grade: 12
        - Score: 72%
    - Grade: 1
        - Score: 22%
    - Grade: Kindergarten
        - Score: 20%

Table 5

Targeted Vocabulary and Non-Treatment Words

Book title	Vocabulary	LWV grade level	LWV score (% known by grade level)	LWV predicted score converted to 1st grade	LWV predicted score converted to kindergarten
Berloiz the Bear	lumber	12	75%	23%	21%
	lurch	12	80%	25%	22%
	pant*	6	80%	47%	42%
	strain	8	75%	36%	32%
Full Moon Barnyard Dance	amble	10	72%	28%	25%
	bleat	10	78%	30%	27%
	flap*	8	70%	33%	30%
	sashay	12	11%	<1%	<1%
	scurry	8	69%	32%	29%
	shrug	6	69%	40%	36%
	whisk	8	76%	36%	32%
Giraffes Can't Dance	buckle	12	72%	22%	20%
	prance	8	67%	32%	29%
	reel	12	75%	23%	21%
	somersault*	4	71%	52%	47%
	sneer	8	74%	36%	32%
	swish	12	74%	23%	21%
Hilda Must Be Dancing	croon	12	70%	22%	20%
	knit*	4	87%	63%	57%
	pirouette	13	69%	19%	17%
	quake	8	79%	38%	34%
	wallow	10	74%	29%	26%

Table 5 (continued)

Book title	Vocabulary	LWV grade level	LWV score (% known by grade level)	LWV predicted score converted to 1st grade	LWV predicted score converted to kindergarten
Imagine	gnash	12	77%	23%	21%
	laze	10	79%	31%	28%
	lurk	10	79%	31%	28%
	prowl	6	76%	44%	40%
	stampede*	6	84%	49%	44%
Imagine A Day	enfold	10	68%	26%	23%
	rock	8	71%	34%	31%
	soar	6	69%	40%	36%
	summon	8	69%	32%	29%
	tangle*	4	86%	51%	46%
	withstand	8	67%	32%	29%
In the Small, Small Pond	dabble	12	70%	22%	20%
	doze	6	89%	52%	47%
	hover	10	69%	26%	23%
	lunge	8	68%	32%	29%
	parade*	4	75%	54%	49%
	splatter	16	54%	13%	12%
	sweep	10	68%	26%	23%
Pretend You're A Cat	fetch	13	77%	21%	19%
	flee*	6	77%	37%	33%
	root	10	70%	27%	24%
	perch	6	68%	40%	36%
	slither	13	56%	15%	13%
Saturday Night at the Dinosaur Stomp	caper	12	54%	17%	15%
	plod	10	73%	28%	25%
	shuffle	8	79%	38%	34%
	slick*	4	71%	52%	47%
	tromp	6	71%	42%	38%
Thesaurus Rex	extend*	6	85%	50%	45%
	forage	16	66%	16%	14%
	rollick	13	88%	25%	22%
	scour	10	77%	29%	26%
	swill	12	30%	10%	9%

* Non-treatment words.

A thorough review of literature regarding vocabulary acquisition revealed a wide range of criteria by researchers when choosing target words for their investigations. Specifically, for words likely to be known or unknown by students at a given grade level, words designated as known by not more than one-third of the

students appeared to be the level at which the researchers were able to address statistical significance. In other words, the higher the percentage of students knowing a specific word, the less confidence researchers placed in reporting conclusions and implications for their research (Baumann & Kame'enui, 2004; Foorman, 2003). For the current research, however, several targeted words (12) where chosen even though they exceeded 34%. The researcher used her professional judgment that these 12 words, which were scored between 34% and 52%, were *not* likely to be known by first grade children (see Table 5). Criteria used to select the 12 words included low frequency in children's literature, as well as the researcher's judgment regarding children's conversations, based on her years of experience working with young children. Additionally, there were nine words with scores between 34%-47% at the kindergarten level. Table 5 includes the vocabulary words (targeted and non-treatment words), the grade levels and scores listed in the LWV, and the predicted scores for first grade and kindergarten.

Two lesson plans were developed for each of the 10 storybooks. Both lessons for each book were taught in the same week for the experimental and control groups. The first lesson plan followed a typical read-aloud that includes best practices in conducting story time:

- Gathering the children in a comfortable seating area close to the reader
- Reading the title and introducing the author and illustrator
- Predicting the storyline

- Drawing attention to the illustrations
- Voice inflection

In addition, both teachers were directed to use specific language when identifying and defining each targeted word. The language was explicitly scripted in each book's specially designed lesson plans.

The second lesson plan of the week required the teacher of the control group to reread the story, repeating the lesson plan instructions from the first day. After completing the rereading, the lesson plan instructed the teacher to invite the children to draw a picture of their favorite part of the story. The teacher also invited the children to write or dictate to their teacher a comment for their illustration.

The teacher of the experimental group implemented the *active* lesson plan during the second day. The school's multipurpose room was reserved for the active lesson each week. The kindergarten and first grade children were familiar with this space as they used this room frequently during the week (two to three visits) for physical education instruction. The active lesson plan instructed the teacher to review the book's targeted vocabulary, as scripted, and then invite the children to perform each of the choreographed movements, with the teacher modeling the movements. Additionally, the active lesson plans for day two asked the children to use the targeted vocabulary in a sentence, either as a declarative or an interrogative.

Teacher training. Just prior to the study, Mrs. Bird and Mrs. Short received training to help familiarize themselves with the 10 books selected for the read-alouds and the lesson plans. Each book and its corresponding lesson plans were organized in

binders for the teachers. The 45 targeted vocabulary words were marked in the storybooks with removable stick-on arrows. The 10 non-treatment words were not marked. Each teacher was given a book log to record the titles of additional books read to the children during the 10-week period. The researcher also familiarized the teachers with the space provided at the end of each written lesson plan where they could capture comments, questions, or reflections.

The training session allowed Mrs. Bird and Mrs. Short time to ask questions they had about the storybooks. The session also gave the teachers an opportunity to share the common strategies they use during story time. The read-aloud schedule was reviewed and any adjustments to the teachers' daily schedule were made, including reserving the multipurpose room for Mrs. Bird's use for the implementation of the active lesson plans. The training session took approximately 1 hour.

In addition to the initial training session, Mrs. Bird received specific training on the Active Read-Aloud Strategy and the second lesson, the active lesson, for each story. The training included a review of the specially designed active lesson plans for each of the selected books. The researcher demonstrated how to model the physical actions for the targeted vocabulary. This additional training session with Mrs. Bird took approximately 1 hour. Lastly, the researcher reviewed, with Mrs. Bird, the child questionnaire that would be given to the children in the experimental group at the end of the treatment.

Treatment fidelity. Treatment fidelity is the degree to which a treatment or intervention is implemented with consistency and accuracy. Treatment fidelity was

monitored through teacher observations during the study by the researcher. Observational data were collected at the beginning, middle, and end of the 10-week treatment period, resulting in a total of 12 fidelity observations, to determine the level of fidelity of implementation of the Active Read-Aloud Strategy (ARAS). Checklists created by the researcher (see Appendices K and L) were used to collect the data. The skills observed earned marks for; not being present (No), sometimes observed (Usually) or present (Yes). There were a total of 26 skills/behaviors observed during the lessons presented by the control group teacher (day 1 and day 2 combined) and a total of 20 skills observed for the experimental group's lessons. An analysis of this data showed that the experimental and control group teachers implemented the ARAS with 100% fidelity. In other words, the desired skills/behaviors were displayed by the teachers consistently during each of their six observations.

Book log data. A review of each teacher's book log revealed that, on average, two additional books were read per week during the 10-week treatment period. An analysis of the book logs revealed that, without exception, these books were read on the days that the Active Read-Aloud Strategy (ARAS) storybooks were not read to the children. The teacher of the experimental group reported that three target vocabulary words appeared in the books listed in her book log. The words *plod*, *scurry* and *tromp* appeared one time in three separate books. The teacher of the control group reported that she found no target words in the additional books she read to her students. Therefore, it is unlikely that the presence of three targeted vocabulary words, reported

by the teacher of the experimental group, had any impact on the vocabulary gain scores of the experimental group.

Implementation Steps

Prior to the study, an invitation (see Appendix M) to participate in the research was extended to the kindergarten/first grade teachers at the school; Mrs. Short and Mrs. Bird. Both teachers gave verbal consent to participate in the study in one of two roles; leading the experimental group or the control group.

An assessment schedule was determined for the 2-week pre-treatment testing period. The researcher and the SLP reviewed the data collection tools and the assessment protocols for the EOWPVT and the ARASA. At this time, the kindergarten and first grade students were assessed using the EOWPVT by the school's SLP, Mrs. Talke. The researcher assessed one child during pretesting due to time conflicts. The EOWPVT assessments took place in Mrs. Talke's room, a small comfortable classroom. This room was familiar to all of the children in the study because the room was used for their district required reading assessments conducted each trimester.

The researcher conducted the pretest assessment using the ARASA. The assessments took place in the researcher's office. The principal's office was known by most of the kindergartners and first graders as it was available to the children as an inviting, quiet room for reading and small group projects. The traditional stigma attached to "the principal's office" was not apparent at the study site.

Over the course of the 10-week treatment period, the experimental group participated in the Active Read-Aloud Strategy (targeted vocabulary instruction and

physical activity) and received 20 lessons, two per week. Ten storybook selections were read to the experimental group, one each week. Each specially designed lesson was approximately 20 minutes in length and focused on a total of 45 targeted vocabulary words over the course of the 10-week period.

The control group participated in 20 inactive read-alouds in keeping with a traditional story reading model and common practices observed in Mrs. Short's typical read-aloud sessions. Each of the 10 storybooks was read twice during the week. Following the format of the experimental group, story time for the control group was approximately 20 minutes. As stated previously, the same book selections were read to the children in the control group. Each specially designed lesson focused on the same 45 targeted vocabulary words. The second lesson for each story required that the children draw a picture of their favorite part of the story. Dictation was taken by Mrs. Bird as each child described their drawing. At the end of the 10-week treatment period, the drawings and captions were analyzed by the researcher for the presence of themes and the use of targeted vocabulary words or their definitions.

At the end of the treatment, the researcher reviewed the teacher book logs, and examined the books listed in the logs for the inclusion of any targeted vocabulary words and non-treatment words. Frequency of targeted vocabulary words and non-treatment words was quantified.

A "child-friendly" student questionnaire was administered post-treatment to the students in the experimental group by Mrs. Bird. The questionnaire was designed with sensitivity to the development of emergent readers and writers so that all children

would be able to participate fully in the survey. Therefore, the questionnaire was clearly explained and read to the children by Mrs. Bird, one question at a time. The student questionnaire took approximately five minutes to complete.

The researcher conducted a short interview post-treatment with each child in the experimental group to gather information about their thoughts regarding the active story times versus the inactive read-alouds. This interviewed required an additional five minutes of the students' time.

Procedures: Phase II

Phase II was conducted to answer the final research question. Data from a questionnaire and interview sought to understand how the teacher of the experimental group valued adding physical activity to story time.

Teacher Questionnaire

The researcher provided Mrs. Bird with the teacher questionnaire at the conclusion of the intervention. This instrument was designed to capture the teacher's thoughts, regarding the value of story time in general, and her perceptions of student vocabulary acquisition using the Active Read-Aloud Strategy.

Teacher Interview

The researcher also conducted an interview with Mrs. Bird. The interview was designed to give Mrs. Bird an opportunity to provide relevant information about the Active Read-Aloud Strategy that the teacher questionnaire may not have touched upon.

Design Limitations

A quasi-experimental design was chosen for this study because randomly assigning the children to groups was not possible. This is a reality for much of the research done in schools. The fact that the two groups were similar lessened the threats to the validity of the study due to maturation, history, or testing factors.

The intact experimental and control groups did not allow for analysis of teacher effect, thereby increasing the potential threat to internal validity (Gay & Airasian, 2000). In other words, were the results due, in part, to teacher ability or entirely to the intervention? To correct this, each of the classes needed to be divided so that each teacher had an experimental group and a control group. This design would have allowed the researcher to control for any teaching differences between the two teachers. However, it was determined that this design could have allowed for possible "harmful" effects on the children in the control groups, as they may have perceived the Active Read-Aloud Strategy as "more fun" and, therefore, may have experienced a feeling of being denied instruction.

Potential conflict between the teachers and the researcher, because of the researcher's role as principal and supervisor, was diminished by creating a design that did not directly study teacher practices regarding story time.

Philosophical biases of the primary researcher of the study presented a potential threat to external validity. Experimenter effect was possible due to unintentional affects on the study's procedures, the behavior of the teachers, or the evaluation of the children's performance (Gay & Airasian, 2000). The fact that the

researcher designed the ARAS, created a potential for the researcher's biases to enter into the study. It is recognized that experimenter bias remains a confounding factor in quasi-experimental research in education.

Finally, the demographics of the school and the size of the participant group limited generalizing the results of the study beyond school sites with similar conditions and demographics.

Summary

This chapter presented the research design that was created to investigate the questions that guided this study on vocabulary acquisition using active read-alouds with primary grade children. This discussion included a description of the research setting, participants, design, timeframe, and procedures for the implementation of the study, and the instruments used to collect the data for the study. In particular, detailed information was provided for the Active Read-Aloud Strategy and the Active Read-Aloud Strategy Assessment that was designed for this investigation. Chapter 4 presents the results and findings of the data collected during the two phases of the study.

CHAPTER IV

RESULTS

This study investigated vocabulary acquisition in kindergarten and first grade children. Specifically, the study focused on a teaching strategy that added physical movement to traditional read-alouds with primary grade children. The quasi-experimental, non-equivalent control group design allowed the researcher to investigate whether there was a difference between the two groups regarding vocabulary acquisition, as well as student and teacher perceptions of the value of the novel teaching strategy.

The research questions examined in this study were:

1a. What impact does physical movement during story time have on vocabulary acquisition of primary grade students?

1b. Is there a different impact on vocabulary acquisition among subgroups of students (gender, age)

2. How do children perceive active story time versus inactive story time?

3. How do teachers perceive the value of pairing physical movement during story time?

This chapter presents the findings of the study and describes the analyses of quantitative data collected as well as information gathered from qualitative data analyses. In order to answer the research questions, eight hypotheses were developed

and tested based on the relevant literature that shaped this study and its research design. Statistical data analyses and descriptive statistics are presented, as appropriate, for each of the eight hypotheses.

Research Question 1a

What impact does physical movement during story time have on vocabulary acquisition of primary grade students? This question was addressed in two parts; targeted vocabulary gain scores and general vocabulary gain scores. One-way analysis of variance (ANOVA) was used to compare the differences in gain scores between the groups. The independent variable in this study was the physical movement during the read-alouds. The dependent variable was the change in vocabulary gain scores assessed by the ARASA and the EOWPVT, from pre to post-treatment.

Research Hypothesis 1

Physical movement during story time will result in greater targeted vocabulary gain scores, from pretest to posttest, on the ARASA for students in the experimental group compared to students in the control group.

A one way ANOVA was conducted to compare the differences in vocabulary gains between the experimental and control groups. Table 6 provides the pretest and posttest descriptive statistics for each treatment group on the ARASA, as well as the pre/posttest differences for each treatment group. The mean scores represent the percentage of correct vocabulary responses on the ARASA.

Table 6

ARASA Targeted Vocabulary Words: Percentage Correct Pretest/Posttest

		Pretest		Posttest		Difference	
TX Group	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental	30	.07	.04	.23	.11	.16	.09
Control	29	.07	.05	.16	.08	.09	.06

The analysis showed that the mean gain score for the experimental group was significantly higher than the control group (see Table 7). These results support Hypothesis 1 that physical movement during story time would increase targeted vocabulary gain scores more for the experimental group than the control group.

Table 7

ANOVA: ARASA Targeted Vocabulary Words

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	.084	1	.084	14.597	.000
Within groups	.328	57	.006		
Total	.412	58			

Research Hypothesis 2

Physical movement during story time will result in greater non-treatment vocabulary gain scores, from pretest to posttest, on the ARASA for students in the experimental group compared to students in the control group.

The one-way ANOVA conducted compared the difference in mean gain scores between the experimental and control groups on the ARASA non-treatment words. Table 8 provides the descriptive statistics of the ARASA non-treatment, pre/posttest differences for the treatment groups. The mean scores represent the percentage of correct vocabulary responses on the ARASA.

Table 8

ARASA Targeted Non-Treatment Words: Percentage Correct Pretest/Posttest

		Pretest		Posttest		Difference	
TX Group	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental	30	.17	.13	.28	.13	.11	.14
Control	29	.16	.11	.26	.14	.10	.13

The results showed that there were no significant differences between the groups regarding the non-treatment words (see Table 9). These results do not support Hypothesis 2, that there would be a significant difference between the groups regarding the non-treatment words.

Table 9

ANOVA: ARASA Non-Treatment Words

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	.001	1	.001	.054	.818
Within groups	1.054	57	.018		
Total	1.055	58			

Research Hypothesis 3

Physical movement during story time will result in greater general expressive vocabulary score gains, from pretest to posttest, on the EOWPVT for students in the experimental group compared to students in the control group.

A one way ANOVA was conducted to compare the differences in general expressive vocabulary gains between the experimental and control groups. Table 10 provides the pretest and posttest descriptive statistics for each treatment group on the EOWPVT, as well as the pre/posttest differences for each treatment group. The mean scores represent the average percentile rank of students on the EOWPVT.

Table 10

EOWPVT General Vocabulary Scores (Percentiles): Pretest/Posttest

		Pretest		Posttest		Difference	
TX Group	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental	30	65.6	21.4	69.6	17.5	4.0	12.9
Control	29	64.8	28.1	67.8	24.5	3.0	19.9

The one-way ANOVA conducted compared the change between the experimental and control groups on the EOWPVT. These results do not support Hypothesis 3. The measure of general vocabulary growth did not show a significant difference in gain scores between the groups. Table 11 presents the results of the analysis.

Table 11

EOWPVT

	Sum of Squares	*df*	Mean Square	*F*	*p*
Between groups	14.746	1	14.746	.053	.819
Within groups	15946.000	57	279.754		
Total	15960.746	58			

Research Question 1b

Is there a different impact on vocabulary acquisition among subgroups of students (gender and age)? This question was addressed in two parts; targeted vocabulary gain scores (ARASA) and general vocabulary gain scores (EOWPVT) comparing boys and girls and comparing kindergartners and first graders. A factorial analysis of variance was used to analyze the relationship between the variables and the subgroups. As there was no significant differences found between treatment groups, on the non-treatment words nor the EOWPVT gain scores overall, it was assumed that there would also not be any differences between subgroups (gender and age). Therefore, no further analyses for these subgroups were conducted on these instruments. The descriptive statistics for the subgroups, regarding the non-treatment words and the EOWPVT, are presented in Tables 12, 13, 14, and 15.

Table 12

Mean Gain Scores of Non-Treatment Words by Gender

	Boys			Girls		
TX Group	*N*	*M*	*SD*	*N*	*M*	*SD*
Experimental	14	.14	.12	16	.09	.16
Control	11	.11	.14	18	.09	.12

Table 13

Mean Gain Scores of Non-Treatment Words by Age

	Kindergarten			1st Grade		
TX Group	*N*	*M*	*SD*	*N*	*M*	*SD*
Experimental	15	.07	.14	15	.15	.14
Control	15	.07	.12	14	.14	.13

Table 14

Mean Gain Scores of the EOWPVT Words by Gender

	Boys			Girls		
TX Group	*N*	*M*	*SD*	*N*	*M*	*SD*
Experimental	14	8.6	13.5	16	.00	11.2
Control	11	4.4	27.3	18	22.0	14.6

Table 15

Mean Gain Scores of the EOWPVT Words by Age

	Kindergarten			1st Grade		
TX Group	*N*	*M*	*SD*	*N*	*M*	*SD*
Experimental	15	7.3	14.3	15	.67	10.7
Control	15	4.6	22.1	14	1.3	17.9

Research Hypothesis 4

Physical movement during story time will result in greater targeted vocabulary gain scores, on the ARASA, for boys than for girls, from pretest to posttest.

A factorial ANOVA was conducted analyze the differences between the boys and girls in the experimental group and the control group on the ARASA. Table 16 presents the descriptive statistics by gender for the two treatment groups, pre/posttest difference scores.

Table 16

ARASA Targeted Vocabulary Words, Gender Subgroup: Percentage Correct Pretest/Posttest

		Pretest		Posttest		Difference	
TX Group	*N*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Experimental							
Boys	14	.07	.04	.23	.11	.16	.10
Girls	16	.07	.05	.24	.10	.16	.08
Control							
Boys	11	.08	.05	.17	.08	.09	.06
Girls	18	.06	.05	.15	.08	.09	.06

The analysis showed that there were no significant main effects for gender [$F_{(1, 55)} = .028$, *ns*] and no significant interactions [$F_{(1, 55)} = .002$, *ns*] between the gain scores of the boys compared to the girls. These results do not support Hypothesis 4.

Research Hypothesis 5

Physical movement during story time will result in greater targeted vocabulary gain scores, on the ARASA, for kindergartners than for first graders, from pretest to posttest.

A factorial ANOVA was conducted to analyze the differences between kindergartners and first graders in the experimental group and the control group on the ARASA. Table 17 provides the descriptive statistics by age for the two groups.

Table 17

Descriptive Statistics: ARASA Subgroup; Age

Treatment group	Grade level	*M*	*SD*	*N*
experimental group	Kindergartners	.1334	.05203	15
	1st graders	.1933	.01944	15
	Total	.1634	.08954	30
control group	Kindergartners	.0834	.019	15
	1st graders	.0926	.020	14
	Total	.0879	.05848	29
Total	kindergartners	.1084	.05611	30
	1st graders	.1447	.10378	29
	Total	.1263	.08432	59

The analysis showed no main effects for age [$F_{(1, 55)} = 3.225$, *ns*] nor any significant interactions between the gain scores of the first graders compared to the

kindergartners [$F_{(1, 55)} = 1.73$, *ns*]. These results do not support Hypothesis 5. The kindergartners did not show a greater gain in scores on the ARASA compared to the first graders as was hypothesized.

Research Question 2

How do children perceive active story time versus inactive story time? This question was addressed through a descriptive analysis of data collected at the end of the 10-week intervention period. Additionally, drawings and their captions created by the students in the control group were analyzed post-treatment.

Research Hypothesis 6

When given a choice between active and inactive story time, children in the experimental group will choose activity over inactivity during story time.

Qualitative data were collected through the analyses of student questionnaires and interviews from the students in the experimental group.

Student questionnaires. Table 18 summarizes the questionnaire responses for the kindergartners and Table 19 presents the first grade data. The notation for Tables 18 and 19, for Questions 1 and 2, is as follows:

A = positive response (+)

B = neutral response (0)

C = negative response (–)

Question 3 had only two response choices as notated:

A = inactive

B = active

Table 18

Student Questionnaire Responses: Kindergartners

	Responses			
Question 1	A +	B 0	C -	Total
How children felt about being able to move around	13	2	0	15
Question 2				
How children felt about sitting quietly	8	6	1	15
Total	21	8	1	30
Question 3	A	B		
Comparison of active versus quiet story time	3	12		15
Total	3	12		15

Table 19

Student Questionnaire Responses: First Graders

	Responses			
Question 1	A +	B 0	C -	Total
How children felt about being able to move around	14	1	0	15
Question 2				
How children felt about sitting quietly	8	2	5	15
Total	21	3	6	30
Question 3	A	B		
Comparison of active versus quiet story time	2	13		15
Total	2	13		15

The data from questions one and two showed that 90% of the kindergartners and first graders combined indicated they liked being able to move around the room while their teacher read a story. None of the children reported disliking the opportunity to move during story time, while 10% reported that it was "just okay." When asked about how they felt about sitting quietly while their teacher read stories, the majority, 53% reported that they liked sitting quietly. Approximately 27% reported that sitting still during story time was, "just okay" and 20% reported that they did not like sitting still. The data indicates that the majority of the children enjoyed both the active and inactive read-alouds, with a greater preference for movement, especially among the first graders.

The children's answers to the third question were more definitive. When given two choices only, 83% of the kindergartners and first graders combined chose to move rather than sit quietly during story time. Figure 1 captures that information.

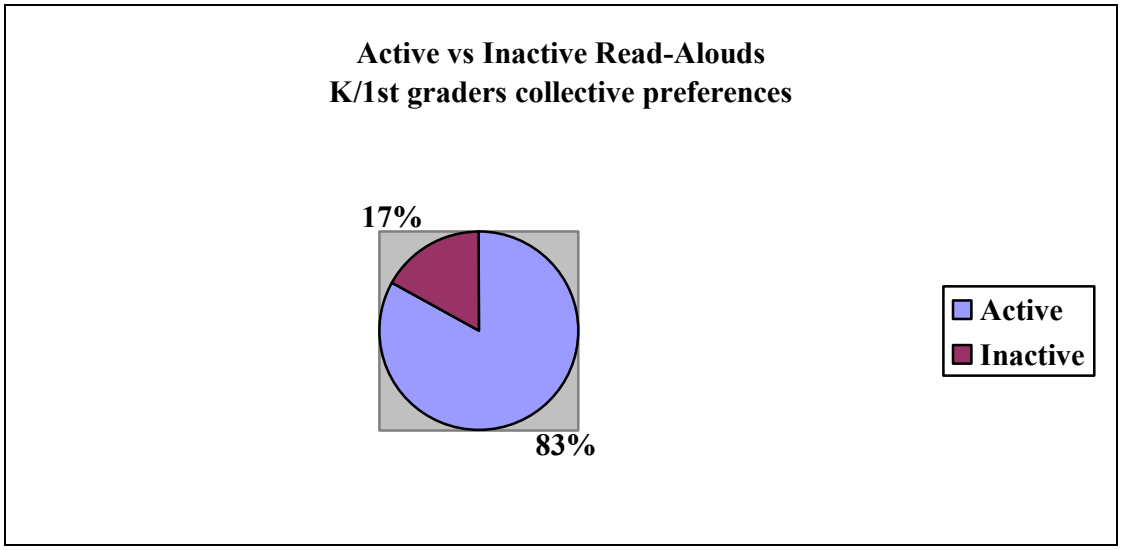

Figure 1. Story time activity preference.

Student interviews. The researcher met with each child in the experimental group individually to conduct interviews during Phase Two of the study. The interviews were short, lasting approximately three-five minutes on average. Comments made by the children were written by the researcher verbatim. The researcher framed the interview by telling the children that she was interested in hearing their thoughts about story time. The open-ended statement allowed the children to talk about story time in general and about the active read-alouds specifically, although the latter was not mentioned initially by the researcher.

Analysis of the 30 written interviews revealed several common themes:

- a positive attitude toward story time
- enjoyment of the active read-aloud sessions
- wanting access to the story books after they were read to the class
- wanting to choose the characters/roles they got to play during the active lessons

Regarding a positive attitude toward story time in general, approximately 93% of the kindergartners and first graders combined (28/30 of the students) made statements to the researcher, during their interviews, that were categorized as evidence of having a good attitude. Three themes emerged; learning, entertainment, and sharing literature children have in common. Examples of the most common remarks in the three themes include; “stories make you smarter” (learning), “books make me happy/laugh” (entertainment), and “I like to talk to my friend about the stories we hear” (sharing literature in common).

The percentage of children expressing enjoyment with story time was the same for kindergarteners (14 children) and first graders (14 children). This was the same percentage (93%) reported in the category of "positive attitude toward reading." The remaining two children responded, "Yes, I like books." When the researcher encouraged the children to tell her more about liking books and story time, one child responded that he liked being read to by his mom. The other child (a girl) did not offer more information.

The expression of enjoyment was greater for boys than for girls. Thirteen of the 14 boys (93%) indicated they enjoyed moving during story time. When the researcher asked why, six of the boys said they "liked to run around" and seven indicated that story time was not boring when they were allowed to move. The one boy who said that the active story times were "okay" followed his response by saying that, "One time I fell down and hurt my knee." Eleven of the 16 girls (68%) reported liking the active read-alouds. Each of the remaining five girls said it was "okay" but that they "sometimes got tired."

In the category of wanting access to the storybooks, approximately 20% of the children interviewed stated that they wanted Mrs. Bird to read the story again. By this they meant after the week it was scheduled to be read. The protocol for the Active Read-Aloud Strategy required that Mrs. Bird give the researcher the book after it was read, thus removing each book from circulation in the classroom. The 20% represented six children, with equal numbers of kindergartners/first graders and boys/girls.

The least common theme centered on the children wanting to choose the roles/characters from the story for activity lessons rather than being assigned to them. Three girls and two boys (15% of the children interviewed) said it would have been more fun if they had been given a choice of characters or roles to play. Again, the Active Read-Aloud Strategy's protocol required that the teacher follow the written lesson plans with fidelity and, therefore, the teacher of the experimental group did not accommodate the children's request to adapt the lesson plans being presented.

In summary, the interviews with the children supported the data collected by the student questionnaires. In general, most of the children enjoyed the physical activity during story time, with slightly more boys, at both the kindergarten and first grade levels, expressing enjoyment than girls. Setting aside gender and age, the findings support Hypothesis 6.

Research Hypothesis 7

When given an opportunity to draw something from the ARAS storybooks, students in the control group will illustrate targeted words more often than other words from the books.

Qualitative data were collected through the analysis of the student drawings and captions created by the children in the control group. The control group teacher took dictation for the emergent writers who were unable to label their drawings, particularly at the beginning of the 10-week treatment period. There were 29 children in the control group, each of whom had an opportunity to draw 10 pictures. Due to absenteeism in the control group, 274 drawings were completed by the children out of

a possible 290. The drawings were collected by the researcher and analyzed for common themes. Table 20 shows the categories of words or themes that emerged from the analysis of the drawings.

Table 20

Analysis of Student Drawings

Week	Target Words/Week	Target Words in Captions	Target Word Definitions in Captions	Other Actions Described	Non-Action Themes Described
1	6	0	1	17	10
2	5	0	0	17	11
3	4	0	4	15	8
4	4	0	0	9	18
5	5	0	0	13	16
6	6	0	1	11	15
7	4	2	0	13	12
8	4	0	0	18	7
9	4	1	0	21	6
10	3	0	0	26	2
TOTAL $N = 274$	45	3	6	160	105

Of the targeted words, the word “slithered” was used by two children (week 7) and the word “forage” was used by one child (week 9) in their storyline captions. Regarding targeted word definitions, one child said that the cats in her illustration

were “walking easily” down to the pond (week 1). This was the definition for the word “sashay.” Two children used the definition for the word “croon” (singing) in the explanation of their drawings (week 3). Another child also defined a targeted word (doze) when he described his drawing of a turtle “sleeping lightly” in a pond (week 6). The definition for the targeted word “quake” (to shake) was used in the captions of two additional illustrations (week 3). The drawings described above were done by nine children. As a result, only one of the nine drawings, using targeted words or their definitions, was done by the same child. Figure 2 represents this information in a simplified manner.

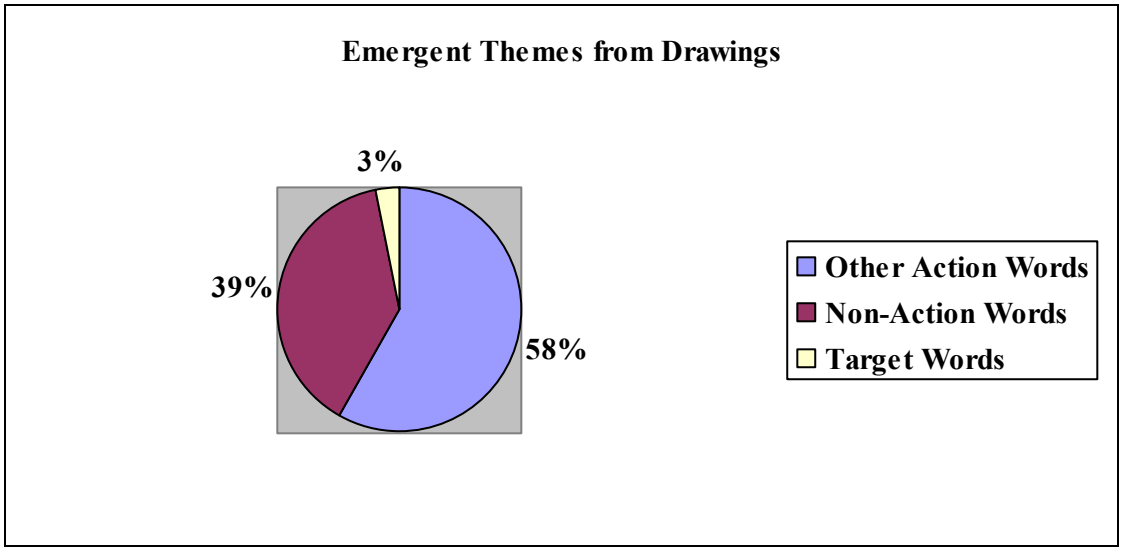

Figure 2. Emergent themes from drawings.

The storybook illustrations created by the children in the control group provided an opportunity for the researcher to evaluate vocabulary learning from a unique perspective. Although the initial purpose was to give the control group equal time with the second lesson each week in a comparable manner as the experimental group, the researcher found that several themes emerged (as described) from the

illustrations. While the analysis of the children's drawings did not add significance to the study, it was noteworthy that the majority of the children chose to illustrate action words. Examples included verbs such as dance, throw, cry, and jump. Each of the drawings of the "other action words" (verbs that were not targeted words) corresponded accurately to the action illustrated in the stories read. The children's drawings of non-action words or other non-movement themes were less tightly connected to the stories. For example, a child created a drawing of cats and the child's notation read, "My favorite parts in the story are about the cats." Indeed, there were cats in the story but they were not central to the storyline or the actions in the story.

The data analyzed from the children's drawings do not support Hypothesis 7. The children did not illustrate, to a significant degree, more targeted vocabulary words as their "favorite part of the story" than other words from the storybooks.

Research Question 3

How do teachers perceive the value of pairing physical movement during story time? This question was addressed through a descriptive analysis of data collected from a teacher questionnaire and interview.

Research Hypothesis 8

The teacher of the experimental group will evaluate active story time as having greater benefits for students than inactive story time.

Qualitative data were collected through the analyses of the questionnaire completed by the teacher of the experimental group during Phase II of the study. In

addition to the questionnaire, the teacher participated in an interview conducted by the researcher.

Teacher questionnaire. The purpose of the teacher questionnaire (see Appendix J), given to the teacher of the experimental group during Phase Two of the study, was to answer the third research question, "How do teachers perceive the value of pairing physical movement during story time?" With only one teacher implementing the movement lessons of the Active Read-Aloud Strategy, Mrs. Bird's questionnaire was analyzed for themes that represent her perceptions alone.

Mrs. Bird described her overall experience as "enjoyable" and a worthwhile experience. Watching the children "have fun" added to her enjoyment. Mrs. Bird also stated that both she and the children enjoyed the book selections. Mrs. Bird responded that she could not state any negative outcomes for the students. This question was asked so that the researcher could consider any negative impacts of the physical activities from the teacher's perspective as well as the children's.

Regarding positive outcomes for the students, Mrs. Bird stated again that the children enjoyed the stories and "really had fun" putting words into movement. Mrs. Bird shared that many of the children used the vocabulary words and definitions as they acted out (physically and verbally) various activities from the lesson plans following the movement sessions.

One of the questions asked Mrs. Bird if she could identify a type of learner who benefited from the active-read alouds. Mrs. Bird stated that she thought *all* children in her class benefited. She then identified children who "have lots of energy

to burn" and "those who are not active typically" as types of individual learners who benefited from the strategy. Mrs. Bird did not identify any learner as a child who would not benefit from active read-alouds.

The researcher was interested in determining if the experimental group teacher would be likely to continue providing her students with active read-aloud opportunities. Mrs. Bird responded, "Yes!" and restated that the process was enjoyable for the children, as well as for her. The follow-up question was asked if a positive response was given by the teacher. Mrs. Bird was asked to identify what would be needed to enhance the active read-aloud teaching strategy. Mrs. Bird indicted that "an extra adult would be helpful" and a list of "good, active read-aloud resources" would add to the strength of the new strategy.

Teacher interview. The researcher met with the experimental group teacher, Mrs. Bird, following her completion of the teacher questionnaire. This gave the researcher an opportunity to have a more in-depth conversation with Mrs. Bird. It also gave the researcher an occasion to ask follow-up questions based on Mrs. Bird's responses in the questionnaire. The interview lasted approximately 20 minutes.

Mrs. Bird restated her enjoyment with the strategy and her commitment to adding the active read-aloud strategy to her teaching schedule on a regular basis. As a follow-up question, the researcher asked Mrs. Bird if she would further explain what she meant by her comment on the questionnaire, "a list of good, active read-aloud resources" enhancing the teaching strategy. Mrs. Bird responded that a list of books that lent themselves to movement and easy access to the books would be very helpful.

Mrs. Bird also mentioned that written lesson plan ideas would be appreciated until she felt she could design them on her own.

Mrs. Bird did not state any similarities or differences between boys and girls or kindergartners and first graders regarding any aspect of the Active Read-Aloud Strategy. When asked about this, Mrs. Bird responded that she did not perceive any differences among the aforementioned subgroups of children.

The data analyzed from the teacher questionnaire and interview supports Hypothesis 8. The teacher of the experimental group expressed positive value in providing physical activity during story time.

Summary

This chapter presented the results of the data collected during the course of this study. The quantitative data analysis employed objective measures to address the hypotheses developed to answer the research questions. The qualitative data collected was analyzed using a critical perspective that focused on an interpretation of the drawings generated by the children in the control group, as well as the perceptions of the teacher and children in the experimental group regarding the Active Read-Aloud Strategy. The aforementioned analyses of data collected provided a depth and breadth of information that shaped the discussion, conclusions, recommendations for future research, and implications for educational leadership presented in the final chapter of this paper.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Chapter 5 begins with a summary that reviews the purpose of this study, the research questions that guided the investigation, an overview of the methods and procedures, and a brief analysis of the results. The second section provides an interpretation and discussion regarding the findings of the study. Study limitations are restated in the third section. The final two sections offer recommendations for future research as well as implications for educational leadership regarding the active read-aloud teaching strategy investigated in this study.

Summary

The purpose of the study was to examine a unique teaching strategy that combined physical movement with story time. The study was shaped by the following questions:

1a. What impact does physical movement during story time have on vocabulary acquisition of primary grade students?

1b. Is there a different impact on vocabulary acquisition among subgroups of students (gender, age)?

2. How do children perceive active story time versus inactive story time?

3. How do teachers perceive the value of pairing physical movement during story time?

The study took place in a small, public magnet school in the northwestern region of the United States. School enrollment at the time of the research was 180 children in grades kindergarten through fifth grade. At the time of the study, approximately 24% of the students qualified for free or reduced meal prices, the district's measure of SES. Students qualifying for Special Education services represented 18% of the student population. The minority population was reported at 5% and the ELL population was <1%.

A thorough review of relevant literature relating to language acquisition and literacy revealed an absence of research on vocabulary acquisition using novel teaching strategies. Recent research on vocabulary learning supports the theory that this learning process begins very early in childhood. Children enter school with disparate word knowledge and abilities to use language appropriately and effectively. And without thoughtful and intentional instruction, based on solid research, the knowledge gaps among diverse groups of children will continue (Baker et al., 1998; Beck & McKeown, 2007; Biemiller & Boote, 2006). The literature review for the current study formed the foundation for the research.

A pretest posttest, quasi-experimental, non-equivalent control group design allowed the researcher to investigate vocabulary acquisition between groups, using two intact classes. Each of the classes was a blend of kindergarten and first grade students, for a total of 59 student participants. The two teachers were randomly assigned to the experimental group and the control group.

A unique teaching strategy, pairing physical movement during story time, was the focus of the study. A specially designed curriculum, featuring 10 selected story books and 45 targeted vocabulary words found in the books, served as the platform for the intervention; active read-alouds. The participants were pretested on a standardized measure of expressive vocabulary and a researcher designed assessment that measured the children's knowledge of the 45 targeted vocabulary words. Each teacher read pre-selected storybooks, one each week for 10 weeks. During the second day of each week, the control group teacher reread the story, while the teacher of the experimental group led the children in a physically active lesson that focused on the targeted vocabulary words from the story selection. Posttesting followed the 10-week treatment period. A one-way analysis of variance confirmed a statistically significant gain in vocabulary scores on the targeted words for the experimental group compared to the control group. The analysis found no statistically significant differences within the subgroups; gender and age. Qualitative analyses of the teacher and student questionnaires and interviews showed a strong preference for the physically active read-alouds by the students and teacher in the experimental group.

Discussion

The researcher of this study holds a career-long belief that children shift from understanding language used in their environment (receptive language) long before they can speak, to using known words (expressive language) by creating and utilizing bridging language or *physical language*. Stated another way, the researcher believes that children are often able to show physically the definition of a known word,

particularly verbs, before they are able to communicate the definition verbally. This long-held belief was the catalyst for this investigation and shaped the design and analyses of the research.

Each of the research questions and their hypotheses are discussed in the order in which they are presented in chapter 4. The researcher submits her theories for the apparent results of the data collected and analyzed. Suggestions for future research and implications for educational leadership are offered after the interpretation of the research findings.

Interpretation of the Findings

Research Question 1a

What impact does physical movement during story time have on vocabulary acquisition of primary grade students? Three hypotheses were formed to answer this question;

- *Hypothesis 1*

  Physical movement during story time will result in greater targeted vocabulary gain scores, from pretest to posttest, on the ARASA for students in the experimental group compared to students in the control group.

- *Hypothesis 2*

  Physical movement during story time will result in greater non-treatment vocabulary gain scores, from pretest to posttest, on the

ARASA for students in the experimental group compared to students in the control group.

- *Hypothesis 3*

  Physical movement during story time will result in greater general expressive vocabulary gain scores, from pretest to posttest, on the EOWPVT for students in the experimental group compared to students in the control group.

Targeted word learning: Hypothesis 1. It was anticipated that the Active Read-Aloud Strategy (ARAS) created for this study would yield results that supported the researcher's primary premise; movement during story time promotes vocabulary learning of targeted words. The ARASA provided a comparison between the targeted vocabulary word learning gains of the experimental group and the control group. The data collected through this assessment, pre and post treatment, answered the first research question regarding the effect of adding physical movement during story time on children's vocabulary acquisition. The results indicated that, while both groups made gains in targeted vocabulary word learning, the children in the experimental group made statistically significantly more growth than the control group. Hypothesis 1 was supported soundly. Several explanations for this result will be discussed later in the manuscript.

A preliminary look at the rate of learning of words, designated by grade level on the Living Word Vocabulary (LWV), did not show a pattern of learning by grade level. In other words, fourth grade words were not learned at a greater rate than words

commonly used at eighth grade. It appears that word difficulty did not influence rate of learning using the active read-aloud strategy. However, the current study did not include a critical analysis of word learning by word levels.

The researcher looked at word learning among the story books selected for the study. There does not seem to be a relationship between more well-known books than the books that were unfamiliar to the children. For example, *Giraffes Can't Dance* (Andreae, 2004) and *Saturday Night at the Dinosaur Stomp* (Shields, 1997) were familiar to approximately 20% (six) of the children in each of the treatment groups. The familiarity did not seem to affect the word learning for the targeted vocabulary or non-treatment words in the two books. Each of these books contained targeted vocabulary and non-treatment words ranging from fourth grade through twelfth grade. It is unknown how many times the children who were familiar with *Giraffes Can't Dance* and *Saturday Night at the Dinosaur Stomp* had heard the story prior to participating in this study. As with the previous discussion on vocabulary words by grade level, the current study did not include a critical analysis of word learning regarding each of the 10 storybooks included in the ARAS.

Each of the teachers in the study reported that the children enjoyed the 10 books that were read during the treatment period. The children in the control group noticed early in the intervention (within the first 2 weeks) that the story books were being read to them twice a week, in a predictable pattern. With very few exceptions, the books were read on Tuesdays and reread on Thursdays. The children accepted the explanation given by their teacher, Mrs. Short and did not ask again about the

rereading of the books. Virtually all of the children listened attentively to the first reading and did not lose interest during the second reading. This was observed by the researcher during classroom observations for implementation fidelity.

Mrs. Bird, the teacher of the experimental group also reported that her students were interested in the 10 storybooks. However, Mrs. Bird reported greater interest in the second "reading" of the book each week because it involved movement. This was also observed by the researcher during fidelity of implementation observations that took place in the classroom and gym. Mrs. Bird's reflections on the ARAS, captured during a post-treatment interview with the researcher, will be discussed later in this chapter.

The results of the findings point to increased targeted word learning using a reading strategy that employs an active read-aloud strategy, regardless of word difficulty or familiarity with a book. However, it is impossible to rule out the high level of interest that Mrs. Bird spoke of as a confounding factor in the positive vocabulary gain scores shown by the experimental group. A research study that investigates word learning and student interest levels during active read-alouds could help to address this variable in greater depth.

Non-treatment word learning: Hypothesis 2. It was predicted that the ARAS would result in greater vocabulary gain scores for the non-treatment words. The researcher believed that if the children had greater story comprehension, due to active engagement in the story, this would allow for indirect word learning of words that were not taught directly (non-treatment words). Hypothesis 2 was formed, in part,

because of research on vocabulary instruction. Included in the review of literature for this study is research on incidental vocabulary learning (Nagy, Herman, Anderson, 1985; Sternberg, 1987). The findings of the current study did not support this prediction, however. The data for the experimental group did not show a greater vocabulary gain score compared to the control group. Deeper knowledge of the targeted vocabulary did not provide for contextual learning of the non-treatment words.

General vocabulary learning: Hypothesis 3. The Expressive One Word Picture Vocabulary Test (EOWPVT) was used as a general measure of overall vocabulary growth for the children in both groups. Research on vocabulary growth shows that virtually all groups of children receiving instruction in a traditional school environment show vocabulary gains throughout the year. In this study, however, Hypothesis 3 was formed because the researcher believed that a child's vocabulary gain scores, measured by the EOWPVT, would be greater for children who participated in the experimental group. The formation of this hypothesis was influenced by the literature reviewed that provided evidence that children with larger vocabularies have an easier time generalizing current word knowledge to novel words. However, exposure to the ARAS did not give children in the experimental group a boost in their general vocabulary gains during the 10-week treatment period. As with the non-treatment words, lack of physical engagement with words created a neutral learning environment for the two groups. In this study there appeared to be no relationship between the larger word banks being acquired by the experimental group

and the word banks of the control group. Without further research, it is impossible to say how large the word bank discrepancy between groups needs to be in order for children to show a significant gain in learning novel words. It is important to note that with the exception of one word (skydiving) the EOWPVT did not contain any verbs. The targeted words and non-treatment words in the ARAS were all verbs.

Research Question 1b

Is there a different impact on vocabulary acquisition among subgroups of students (gender, age)? Two hypotheses were formed to answer this question;

- *Hypothesis 4*

  Physical movement during story time will result in greater targeted vocabulary gain scores, on the ARASA, for boys than for girls who were in the active read-aloud group compared to students in the passive read-aloud group, from pretest to posttest.

- *Hypothesis 5*

  Physical movement during story time will result in greater targeted vocabulary gain scores, on the ARASA, for kindergartners than for first graders who were in the active read-aloud group compared to students in the passive read-aloud group, from pretest to posttest.

Word learning, gender: Hypothesis 4. It was hypothesized that there would be a greater vocabulary gain score for boys than for girls. Research on teacher perceptions regarding learning differences between young boys and girls suggests that some teachers hold a bias that boys learn better if they are allowed to be physically

active. This belief includes the benefits derived from hands-on fine motor learning opportunities, classroom learning centers where boys can be physically active (home center, block play, dramatic play center) and multiple opportunities for recess and physical education.

Data analyses of the gain scores revealed that while boys did show a greater gain on the ARASA for targeted vocabulary, this gain was small. These findings suggest that keeping boys active does not necessarily increase their learning, as compared to girls, at least with regard to vocabulary acquisition through active read-alouds. Furthermore, the data offers no support for the researcher's bias that boys learn better *through movement* than girls.

Word learning, age: Hypothesis 5. The literature review for the current study presented research on the rate of word learning in early childhood. The research in vocabulary acquisition reviewed in chapter 3 showed that children learn new words at a more rapid rate when they are younger and that this pace begins to slow as children enter school. This research suggests that the design of the strategy used in this study would predict greater gains by the kindergarteners in the experimental group when compared to the first graders in the same group.

The data from the ARASA, in fact, showed that the first graders had greater targeted vocabulary gain scores than the kindergartners, when comparing the experimental and control groups. The gains were not, however, statistically significant. No plausible explanation can be offered based on the results of the current study except that it is possible that the age range between the kindergartners and first

graders at the time of pretest was only 10 months. Perhaps the age difference needs to be greater than 10 months.

Research Question 2

How do children perceive active story time versus inactive story time? Two hypotheses were formed to answer this question;

- *Hypothesis 6*

  When given a choice between active and inactive story time, children in the experimental group will choose activity over inactivity during story time.

Children's perceptions of active versus inactive story time: Hypothesis 6. Student questionnaires and interviews provided the qualitative data to answer this hypothesis. Of interest is that the questionnaire asked the first two questions in a non-comparison way. This allowed the children to express their feelings about active *and* inactive read-alouds, without requiring the children to choose one reading environment over the other. More than half of the children (53%) responded that they enjoyed sitting quietly while being read to by their teacher. A greater number (90%) reported enjoyment during the active read-alouds. Both responses confirm that the majority of children who participated in this study enjoyed story time, active or inactive. When asked to choose between the two methods of conducting story time, 83% of the children preferred the active read-alouds. Teachers can use this information to increase the number of children who enjoy being read to by adding physical activity to their read-aloud lessons.

The student interviews support the data collected from the student questionnaires. In addition to evidence of positive attitudes and enjoyment with active story times, approximately 20% of the children in the experimental group talked about accessing the ARAS story books. During the interviews some of the children expressed disappointment with not being able to continue to look at the books introduced during the treatment period. While not the focus of the current study, it would be interesting to investigate whether children are more apt to revisit a book in which they were actively engaged compared to books that did not include active read-alouds.

The student interviews also revealed that 15% of the children in the experimental group wanted more control over the active lessons. Specifically, the children wanted to choose how to engage in the story. Future research in this area would allow researchers to study the impact of choice in designing physical activity and word learning.

- *Hypothesis 7*

  When given an opportunity to draw something from the ARAS storybooks, students in the control group will illustrate targeted words more often than other words from the books.

Children's language expressed through illustrations: Hypothesis 7. Allowing the children in the control group to create illustrations from the story books read each week gave the researcher an opportunity to analyze the drawings for common themes or patterns depicted by the children. The researcher predicted that the children would,

more often than not, draw pictures of the story characters engaging in the physical actions of the targeted vocabulary words. The results of the analysis of the drawings presented in chapter 4 showed that this was not the case. However, the children did choose to illustrate non-treatment action words (verbs) in 58% of the drawings. It must be noted that all of the literature selected for the ARAS included verbs that could be easily depicted through movement. This is not the case with all story books shared commonly with kindergarten and first grade students. Further research investigating a relationship between vocabulary learning and children acting out verbs, with a requirement to illustrate the action, would provide an opportunity to extend the purpose of the current research.

Research Question 3

How do teachers perceive the value of pairing physical movement during story time? One hypothesis was formed to answer this question.

- *Hypothesis 8*

  The teacher of the experimental group will conclude that active story time has a greater benefit for students than inactive story time.

Teacher perceptions. This hypothesis was developed because the researcher predicted that, as with the children's perception of active read-alouds, their teacher would also see greater value in active story time compared to inactive story time. As reported in chapter 4, the qualitative data for this hypothesis was captured through a questionnaire completed post-treatment by the teacher of the experimental group and her interview with the researcher. Indeed, Mrs. Bird was very happy with the ARAS

and shared only positive feedback regarding the children's responses to the strategy as well as her own. During the interview, Mrs. Bird stated that she was not surprised by this. She was, however, surprised that virtually all of her children were eager to participate in the active read-alouds. Mrs. Bird believed that the children who did not always enjoy their physical education classes might have the same attitude about the ARAS.

Mrs. Bird shared two suggestions for things that she would need to continue with active read-alouds with her students after the study ended. She said that having a "list of good read-aloud books" would be helpful. The researcher was somewhat surprised that Mrs. Bird did not mention detailed lesson plans as a needed resource in addition to a list of appropriate books. During the interview the researcher followed up on this and found that Mrs. Bird felt it would be easy to create movement lessons for any active storyline in a book because she understood the purpose of the ARAS and had received training on how to implement active read-alouds. It cannot be assumed that all teachers of children in the early primary grades would respond this way. Mrs. Bird shared that she personally enjoyed movement. A certain comfort level with activity would mostly likely be essential for teachers considering an active read-aloud strategy. Additionally, more detailed lesson plans may be required by teachers who are more comfortable with scripted lessons.

Restatement of the Study Limitations

The limitations of the study are being restated here to create the context for the following sections that offer implications for future research and educational

leadership. The importance is self-evident. Future research and decisions made by educational leaders must be based on an objective understanding of the parameters surrounding this study and its limitations.

Educational research has an inherent limitation in that all precautions must be taken to ensure that participants (children and adults) are not adversely affected by the research. Consequently, researchers are often limited to studying intact groups of children that cannot be randomly assigned to treatment groups. This study was bound by these limitations. The quasi-experimental design was chosen because random assignment of children was not possible. Threats to validity of this study were lessened, however, because the two groups were similar in age, gender, economic background and size.

Using intact classes, thereby eliminating an experimental and control group for each teacher, was also a limitation. Thus, the researcher was not able to control for teacher effect. Future researchers may be able to lessen the limitations by increasing the number of teacher and child participants through enlistment of study participants from a larger number of schools.

The design of the study placed teachers outside the focus of the researcher. Said differently, the researcher's focus was on the children, not the classroom teachers. The researcher serves as the school site's principal, creating room for a potential conflict between the researcher and the teachers she evaluates. Future researchers may want to consider conducting research at schools which are

demographically similar and where the primary researcher does not have a professional or personal relationship with the participants.

The researcher of the current study entered the study acknowledging that her professional biases could pose a threat to external validity. In educational research, researcher familiarity with the problem, methodologies, and analyses remains a confounding factor.

Generalizing the findings of the current study beyond a school with similar demographics and conditions cannot be done with confidence. Future researchers should evaluate this study's findings with a clear picture of the conditions under which the research was conducted and use the current conditions and limitations to guide expanded research in the area of vocabulary acquisition in primary grade children.

Recommendations for Future Research

The researcher of the current study found a lack of literature that explored the impact of adding movement to read-alouds. Specifically, no empirical evidence could be found that investigated vocabulary learning through the use of specially designed active lessons for storybooks. This study presents an opportunity for researchers to take the next step in exploring vocabulary acquisition by expanding upon research questions such as the questions that shaped this study.

The results of this study are positive and compelling. In this study, the scores representing learning growth between the experimental group and control group were moderately significant. With a national focus on literacy in education, particularly on vocabulary instruction, the current study takes a small, but important step forward in

the investigation of the value of adding movement during story time. The body of knowledge in reading research is vast and the current study, while adding to this body of knowledge, raises additional questions. The researcher of the current study offers the following recommendations:

- A larger sample size including subgroups would add power to future studies regarding this teaching strategy and the impact on gender and age.
- Designing questions that test vocabulary acquisition of nouns, adverbs, and prepositions through movement would add to the body of literature on language acquisition, particular with regard to the early childhood years.
- Population demographics that include a higher level of English language learners and low SES students would add strength to the ability of future studies to generalize the results more broadly and with more confidence.
- Participant populations with greater numbers of children with disabilities would add to the literature with regard to active teaching strategies that benefit children with diverse learning abilities.
- Larger studies that include more teachers with diverse backgrounds would set the stage for investigating requisite skills/dispositions for implementing active read-alouds.
- Replication of this study would add strength to the validity and reliability of the researcher developed assessment, the ARASA.

- A follow-up assessment, after a longer time period, would allow researchers to investigate whether or not the vocabulary gain scores of the experimental group persisted over time.

Educational research is demanding and challenging. The results from the current study serve to encourage researchers interested in vocabulary acquisition of children in the early primary grades to extend this research and to explore additional teaching strategies that are child-centered.

Implications for Educational Leadership

Just as demanding as educational research, educational leadership faces its own set of challenges. Many competing interests must be evaluated and prioritized by school leaders and curriculum administrators in order to make informed decisions about teaching and learning practices that truly make a difference in the education of children.

This study adds to the growing corpus of reading research, specifically on the importance of vocabulary instruction. The unique teaching strategy, physical activity paired with read-alouds, was shown to have positive gains. The remainder of this section discusses the importance of the current study's research findings for educational leaders now and in the future. It is hoped that this discussion will inform and guide important decisions made at the elementary school level regarding literacy instruction in the future.

The research presented in this study was unique is several ways. The impetus for the study came from the researcher's knowledge of vocabulary development,

coupled with her knowledge of motor development in young children. The researcher's non-traditional perspectives followed a conceptual model that connected the researcher to children over several decades. Informal observational data of children, collected over time, pointed to a possible link between active learning and vocabulary acquisition. The question, "Can children learn more effectively *through* movement?" surfaced frequently. This non-traditional approach, a focus on movement, required that the researcher observe carefully the children's need to move. Other questions emerged. "What is it that we can learn from what they are telling us through their *physical language*?" "Why are storybooks such powerful vehicles for sharing knowledge and fostering literacy development?"

Anecdotal information, collected through observations by the teacher of the experimental group and the researcher revealed that children in the experimental group created movements that quite accurately depicted the action from the stories. This information suggests that the research on the connection between text and illustrations in storybooks may offer teachers importance guidance when selecting read-aloud literature. Although the focus of this study was not on the text/illustration relationship, it is possible that the criteria for book selection (illustrations tightly tied to the targeted words – verbs), increased the accuracy of the children's movements, and therefore, vocabulary learning of novel words.

The results of this study support the widely accepted practice that teacher-designed strategies must include assessments that are closely aligned with instruction (Gersten et al., 2000) and developmentally appropriate. This statement has important

implications for educational practices. Commercial reading programs offer very little latitude for the teacher to follow a child's lead. Deviations by the child from the prescribed responses to a given curriculum are seen as mistakes to be corrected and not opportunities for the teacher to learn from what the child is demonstrating as their understanding in the moment. Teacher-designed curricula, such as the Active Read-Aloud Strategy (ARAS) and its assessment tool, used in the current study can provide opportunities for children to use many "languages" to communicate understanding. Although the curricula designed for this study required fidelity in implementation for research purposes, the movement lessons were open-ended enough to give children freedom in their interpretations of the targeted vocabulary words. The ARAS, and other curricula designed with sensitivity to responses, can more easily be adapted to the teacher's instructional goals and to the nature of young children. In addition to a focus on verbs, the researcher of the current study would encourage teachers to design action research studies to investigate the effect movement may have on learning other parts of speech such as nouns and adjectives.

The researcher of the current study suggests that educational leaders view commercial reading materials with a critical eye and make purchasing decisions that include knowledge of child development and appropriate practices as criteria for the assertion that the materials are research-based. What this research has presented is evidence that movement can have a positive impact on vocabulary acquisition when target words are learned through physical activity. Principals should encourage teachers to examine traditional reading programs for opportunities to embed

movement in their vocabulary lessons in order to reach out to diverse learners. Support by principals needs to include an environment that promotes risk taking and promotes teacher collaboration. Professional development opportunities may need to be offered to teachers who are lacking knowledge of motor development or are not comfortable as movers themselves. Most importantly, principals should work toward creating a school culture built on trust, a trust in children so that teachers are committed to learning *with* children and *from* children.

This study offers evidence that educational leaders can provide important modeling for colleagues seeking to understand more deeply the multifaceted process of building a solid and robust reading curriculum. It is not enough for educational administrators to manage staff and buildings efficiently. Accountability standards have become increasingly demanding and call for a fundamental shift in leadership, particularly at the school level. This requires that elementary principals strip their old titles and embrace a new vision as "Head Learner." With this new perspective, inquiry becomes the norm and principals are empowered to grapple with unanswered questions by designing and implementing research that seeks solutions to their critical issues.

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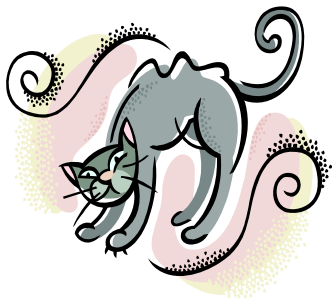
APPENDIX A

ACTIVE READ-ALOUD STRATEGY: SAMPLE LESSON PLAN

Experimental Group: Week 1, Day 1
Title: *Pretend You're a Cat*

Author: Jean Marzollo **Illustrator:** Jerry Pinkney

Timeframe: 15-20 minutes



Target Words	Definitions
Fetch	to get
Root	dig around
Perch	to rest on something
Slither	slip and slide

Developing Literacy Skills:

- Introduce the book's author and illustrator. Read the title to the children and show them the book's front and back covers, drawing attention to the illustrations by pointing to them and saying, "Look at the children and animals!"

- Tell the children that the boys and girls in the story are pretending to be many different animals. Invite the children to watch for their favorite animals as you read the story.

- After reading a page with the highlighted target word, go back and reread the word and present the definition by saying, "_____ means _____," using the written definition in the lesson plan.

- Each page of the book invites the children to answer the question, "What else can you do like a _____?" Ask the children to raise their hands and choose 2-3 children to ***tell*** (no movement) their ideas to the other children.

- If asked a question about the target words or definitions, simply repeat the word and its definition as written in the lesson plan.

- If asked a question about non-target words, say, "I'll reread that part and see if you can guess the meaning of that word."

- After reading the story, close the book and ask the children the following questions:
    - Which animal fetched? That's right, the dog fetched. Fetch means "to get."
    - Which animal perched? That's right, the robin perched. Perch means "to rest on something."
    - Which animal rooted? That's right, the pig rooted. Root means "to dig."
    - Which animal slithered? That's right, the snake slithered. Slither means to "slip and slide."

Note: If a child asks a question about the target word or its definition, simply repeat the word and its definition as written in the lesson plan. Notate any questions asked (and frequency) about the target words and definitions. This information will be collected by the researcher.

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LESSON PLAN

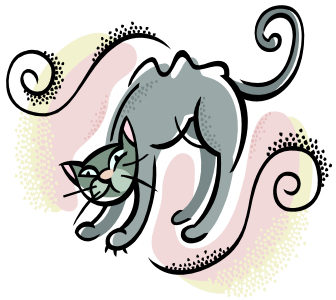
ACTIVE READ-ALOUD STRATEGY

Control Group: Week 1, Day 1

Title: *Pretend You're a Cat*

Author: Jean Marzollo **Illustrator:** Jerry Pinkney

Timeframe: 15-20 minutes



Target Words	Definitions
Fetch	to get
Root	dig around
Perch	to rest on something
Slither	slip and slide

Developing Literacy Skills:

- Introduce the book's author and illustrator. Read the title to the children and show them the book's front and back covers, drawing attention to the illustrations by pointing to them and saying, "Look at the children and animals!"

- Tell the children that the boys and girls in the story are pretending to be many different animals. Invite the children to watch for their favorite animals as you read the story.

- After reading a page with the highlighted target word, go back and reread the word and present the definition by saying, "_____ means _____," using the written definition in the lesson plan.

- Each page of the book invites the children to answer the question, "What else can you do like a _____?" Ask the children to raise their hands and choose 2-3 children to ***tell*** (no movement) their ideas to the other children.

- If asked a question about the target words or definitions, simply repeat the word and its definition as written in the lesson plan.

- If asked a question about non-target words, say, "I'll reread that part and see if you can guess the meaning of that word."

- After reading the story, close the book and ask the children the following questions:
    - Which animal fetched? That's right, the dog fetched. Fetch means "to get."
    - Which animal perched? That's right, the robin perched. Perch means "to rest on something."
    - Which animal rooted? That's right, the pig rooted. Root means "to dig."
    - Which animal slithered? That's right, the snake slithered. Slither means to "slip and slide."

Note: If a child asks a question about the target word or its definition, simply repeat the word and its definition as written in the lesson plan. Notate any questions asked (and frequency) about the target words and definitions. This information will be collected by the researcher.

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LESSON PLAN

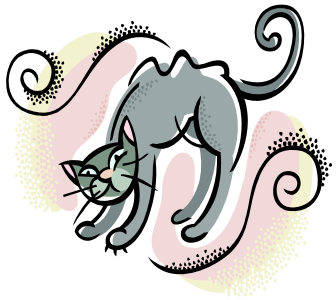
ACTIVE READ-ALOUD STRATEGY

Experimental Group: Week 1, Day 2

Title: *Pretend You're a Cat*

Author: Jean Marzollo **Illustrator:** Jerry Pinkney

Timeframe: 15-20 minutes



Target Words	Definitions
Fetch	to get
Root	dig around
Perch	to rest on something
Slither	slip and slide

Learning Through Movement:

- Read the title of the book and tell the children:
  - "We read this story the other day. The story is about children pretending to do things that animals do."

- Tell the children that they are going to pretend to be four of the animals from the story.
- Ask the children to find a partner and sit down together.

- Read the pages in the book with the highlighted target words. After reading each page, tell the children:
    - "Fetch means "to get." Can you pretend to be a dog and fetch something? Let's take turns. One partner pretends to be a dog and the other partner pretends to throw a stick. Say, "fetch the stick!"
        - After several minutes, tell the children to switch roles. Remind the children the say "fetch" as they pretend to throw a stick.
    - "Perch means to rest on something." Can you pretend to be a robin perched on one foot? Partners, find five places to perch and tell your partner where you are perching. Be sure to use the other foot!"
    - "Root means "to dig." Can you pretend to be a pig rooting in the mud? Let's take turns. One partner pretends to be a pig and the other partner pretends to wash the muddy pig. Say, "stop rooting in the mud!"
        - After several minutes, tell the children to switch roles. Remind the children to say "no rooting in the mud" as they talk to the pig.
    - Slither means to "slip and slide." Can you pretend to be a snake slithering in the wet grass? Let's take turns. One partner pretends to be a snake slithering around and the other partner is a hiker who is surprised by the snake. Say, "There's a snake slithering in the grass!"
        - After several minutes, tell the children to switch roles. Remind the children to say "there's a snake slithering in the grass!"

Note: If a child asks a question about the target word or its definition, simply repeat the word and its definition as written in the lesson plan. Notate any questions asked (and frequency) about the target words and definitions. This information will be collected by the researcher.

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LESSON PLAN

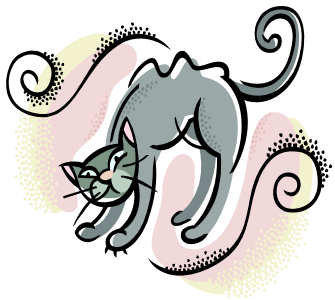
ACTIVE READ-ALOUD STRATEGY

Control Group: Week 1, Day 2

Title: *Pretend You're a Cat*

Author: Jean Marzollo **Illustrator:** Jerry Pinkney

Timeframe: 15-20 minutes



Target Words	Definitions
Fetch	to get
Root	dig around
Perch	to rest on something
Slither	slip and slide

Repeat the lesson plan as follows:

- Reintroduce the book's author and illustrator. Read the title to the children and show them the book's front and back covers, drawing attention to the illustrations by pointing to them and saying, "Do you remember that this book is about children pretending to do things that the animals in the book did?"

- Tell the children that the boys and girls in the story are pretending to be many different animals. Invite the children to watch for their favorite animals as you reread the story.

- After reading the page with the highlighted target word, go back and reread the word and present the definition by saying, "_____ means _____," using the written definition in the lesson plan.

- If asked a question about the target words or definitions, simply repeat the word and its definition as written in the lesson plan.

- If asked a question about non-target words, say, "I'll reread that part and see if you can guess the meaning of that word."

- Keep extraneous comments to a minimum during the read-aloud.
    - After reading the story, give each child paper and markers and ask them to draw a picture of their favorite animal from the story. They may take their pictures home.

Note: If a child asks a question about the target word or its definition, simply repeat the word and its definition as written in the lesson plan. Notate any questions asked (and frequency) about the target and non-target words and definitions. This information will be collected by the researcher.

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APPENDIX B

PARTICIPANT INFORMED CONSENT FORM: CLASSROOM TEACHER

Dear _____,

Thank you for agreeing to participate in my research project. During the first phase of the study, you will serve as a research assisted by leading the experimental group through a 10-week treatment period involving the Active Read-Aloud Strategy.

The purpose of this letter is to ask for your written consent to participate in the second phase of the study. This will involve an interview with me, regarding your perceptions of the Active Read-Aloud Strategy. I have listed each of the important points regarding your participation. As you read each of the points, please check each one to indicate your understanding.

____ I consent to participate in this study regarding the effects of physical activity during story time. The study is entitled "The Effects of Physical Movement during Story Time on Vocabulary Acquisition of Primary Students in Grades K-1: An Exploratory Investigation in One School Location."

____ I understand that I will complete a questionnaire at the conclusion of the study.

____ I understand that the results of the study will have no influence on or affect whatsoever my performance evaluations by Carol Hammett, my principal.

____ I understand that all publications, as a result of this study, will not identify any participant, the school, or the community by name and that there are no foreseeable risks associated with my participation in the research.

____ I understand that there will be no monetary compensation for participation in this study other than a small "thank you" gift certificate from a local coffee house.

____ I understand that my participation in this study is voluntary and that I have the ability to withdraw at any point without fear of retribution.

____ I understand that if I have any questions or concerns about the study I can contact Carol Hammett at (541) 383-6195, chammett@lclark.edu or contact the researcher's academic advisor, Dr. Tom Ruhl, at (503) 636-8141 ext. 3334, truhl@marylhurst.edu. If I have any additional questions, I can contact the Lewis & Clark College Human Subjects Research Committee at irb@lclark.edu or (503) 768-6124.

Your signature below indicates that you have read this letter, understand the scope of the study, and that you give your consent to be a participant in phase two of the study.

Please sign the form and return it at your earliest convenienc**e.** You will receive a copy of this signed consent form for your records.

Sincerely,

Carol Totsky Hammett
Doctoral student, Lewis & Clark College
Email: chammett@lclark.edu
Phone: (541) 382-9357

Dr. Tom Ruhl, Dissertation Committee Chair
Flavia Hall
Marylhurst University
PO Box 261
Marylhurst, OR 97036-0261
Email: truhl@marylhurst.edu
Phone: (503)636-8141 ext. 3334

Participant's Signature Date

Researcher's Signature Date

APPENDIX C

STUDENT QUESTIONNAIRE

Children's Opinions about Active Story Time and Inactive Story Time

NAME: _____

TEACHER: _____DATE:_____

Directions: Tell the child what each of the Faces represents. Read each question to the child and ask him/her to circle the Face that best answers the question.

1. Which Face describes how you felt about being able to move around the room while your teacher read a story?

a. 

b. 

c. 

2. Which Face describes how you felt about sitting quietly while your teacher read a story?

a. 

b. 

c. 

3. If you could choose to move or sit quietly during story time, which would you choose?

a. 

b. 

Note: This question will be asked and notated by the researcher.

4. I am interested in your thoughts about story time. Please share your ideas with me.

_____

_____

_____

_____

_____

_____

_____

APPENDIX D

RESEARCH ASSISTANT INVITATION LETTER: SPEECH PATHOLOGIST

Dear _____,

I hope that this letter finds you well and enjoying your school year.

As you know, I am a doctoral student in Educational Leadership at Lewis & Clark College and am in the process of designing my dissertation research study. Because of my passion and interest in early literacy development, I have decided to focus my research on children's reading development in the primary years. I have come to know your passion for helping children learn to read and your expertise in language development, which is why I would like to invite you to participate in the study.

The purpose of my study is to investigate if a particular teaching strategy used during story time affects the vocabulary acquisition of kindergarten and first grade students. As the Speech-Language Pathologist for Amity Creek Magnet School, you are in a position to inform my study.

Your participation, as a research assistant, will include several responsibilities, with pre and post-treatment assessments being the most important task. This will involve approximately 60 students. The 10-week treatment will involve the classroom teachers reading to the kindergartners and first graders who will be randomly assigned to either an *experimental group* or a *control group*. The 10-week treatment will take place in the winter/spring of the 2008-09 school year.

I would like to meet with you prior to the research project. At this time, we will review the assessment protocol for the Expressive One Word Picture Vocabulary Test (EOWPVT), and the researcher-designed assessment. We will look at the timeline for the pre and post assessments. I am anticipating 20 minutes will be required for each pretest and posttest. In addition, we will set a meeting to review the data after the treatment and assessments are completed.

My study will have no influence on or affect whatsoever my responsibilities as your evaluator and the substance and outcome of your evaluations. Your participation is voluntary and you are under no obligation to participate. You will receive a gift card for a local coffee house as a small "thank you" for your help. If your involvement in the study requires additional daycare costs for your child, I am happy to reimburse you for the costs.

Confidentiality is a high priority for me. If you choose to participate, your name, the name of our school, or any other identifying information will not be used in the

publication of the dissertation or any subsequent publications of the research. All adults will be given pseudonyms, as well as any children who may be identified during the course of the study. The results of the vocabulary assessments will in no way affect the evaluation or placement of the students. Your position at Amity Creek Magnet School will not be changed or altered because of your decision whether or not to participate in the study. If you agree to participate, pleased be assured that you may elect to discontinue your participation at anytime during the study.

Please let me know whether or not you are interested in participating in my study. You may contact me by phone or email. If you choose to participate, I will send a confidentiality form for you to review, sign, and return to me as soon as you make your decision.

Thank you for considering my invitation to participate in the research project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Carol Totsky Hammett
Doctoral Candidate, Lewis & Clark College
Email: chammett@lclark.edu
Phone: (541)382-9357
Cell: (541)419-2858

Dr. Tom Ruhl, Dissertation Committee Chair
Flavia Hall
Marylhurst University
PO Box 261
Marylhurst, OR 97036-0261
Email: truhl@marylhurst.edu
Phone: (503)636-8141 ext. 3334

APPENDIX E

STANDARDIZED VOCABULARY ASSESSMENT

Name: Expressive One-Word Picture Vocabulary Test

Acronym: EOWPVT

Author: Brownell, R. (Ed.)

Publisher: Academic Therapy Publications

Publication Date: 1979-2000

APPENDIX F

ACTIVE READ-ALOUD STRATEGY ASSESSMENT

Record Form

Experimental Group: _____ Control Group: _____ Pretest: _____ Posttest: ____

Gender: _____ Grade: _____ Student Code: _____

Examiner: _____

Date of Test: _____ _____ _____

year month day*

Date of Birth: _____ _____ _____

year month day*

Chronological Age: _____ _____ _____

year month day*

**Do not round months up by one if days exceed 15.*

Example:

Target word: *to cinch*

Definition: *to tighten*

Prompts:

1. "*Tell* me what it means *to cinch*." If no response, give the next prompt.

2. "Can you *show* me what it would look like *to cinch*?"

3. * "Does it mean anything else?" Use if the verbal or physical response reflects a correct definition of "cinch" but IS NOT the definition listed. Example: child says "something that is easy."

Scoring:

1. 3 points = the correct definition, *as listed*, is given verbally

2. 2 points = response verbally describes conditions or attributes of the word
    a. uses the target word in the verbal definition, indicating some knowledge of the word
        i. example: CINCH; "you cinch up the saddle"
    b. verbal response shows some knowledge of the target word
        i. example: CINCH; "you do it to a saddle"

3. 1 point = acceptable physical demonstration (using face, hands, or body) of the word's definition
    a. the student demonstrates a pulling/tightening action

4. 0 points = response is unacceptable/incorrect or child does not respond or says "I don't know"
    a. Example: "you CINCH salt"

Score 0-3	Grade Level	Target Word
	4	1. knit[1] *to make with yarn* *
	4	2. parade[2] *to display something*
	4	3. slick[3] *to smooth*
	4	4. somersault[4] *to jump and turn over in the air*
	4	5. tangle[5] *to knot up**
	6	6. doze *to sleep lightly*
	6	7. extend[6] *to reach out**
	6	8. flee[7] *to run away*
	6	9. pant[8] *to breathe quickly*
	6	10. perch *to rest on something*

	6	11. prowl *to hunt quietly and secretly*
	6	12. shrug *to hunch the shoulders*
	6	13. soar *to fly upward**
	6	14. stampede[9] *to run fast (animals in a group)*
	6	15. tromp *to stamp upon*
	8	16. flap[10] *to move back and forth**
	8	17. lunge *to thrust*
	8	18. prance *to dance*
	8	19. quake *to shake*
	8	20. rock *to move back and forth**
	8	21. scurry *to run quickly*

	8	22. shuffle *to drag one's feet**
	8	23. sneer *to speak with scorn (mean)**
	8	24. strain *to stretch beyond limits**
	8	25. summon *to send for**
	8	26. whisk *to sweep quickly**
	8	27. withstand *to hold out against*
	10	28. amble *to walk slowly*
	10	29. bleat *to cry like a sheep*
	10	30. enfold *to wrap up*
	10	31. hover *to stay motionless in the air**
	10	32. lurk *to wait out of sight*

		_____
	10	33. plod *to walk heavily* _____ _____
	10	34. root *to dig around** _____ _____
	10	35. scour *to clean well* _____ _____
	10	36. sweep *to move with a steady motion in a wide curve** _____ _____
	10	37. wallow *to roll about* _____ _____
	12	38. buckle *to fold up** _____ _____
	12	39. caper *to leap and spring lightly* _____ _____
	12	40. croon *to sing* _____ _____
	12	41. dabble *to dip in and out** _____ _____
	12	42. gnash *to grind together* _____ _____

	12	43. laze *to loaf around* _____ _____
	12	44. lumber *to move along heavily* _____ _____
	12	45. lurch *to lean to one side* _____ _____
	12	46. reel *to folk dance** _____ _____
	12	47. sashay *to walk easily* _____ _____
	12	48. swill *to gulp greedily* _____ _____
	12	49. swish *to move with a swishing sound* _____ _____
	13	50. fetch *to get* _____ _____
	13	51. pirouette *to whirl on toes* _____ _____
	13	52. slither *to slip and slide* _____ _____
	13	53. rollick *to have a good time* _____ _____

	16	54. forage *to hunt for food* _____ _____
	16	55. splatter *to spray* _____ _____
Raw Score	**$\bar{X}$**	

1-10 are non-target words

* Words with multiple meanings (16)

APPENDIX G

PARENT INVITATION LETTER

Dear _____,

I am pursuing a doctoral degree in Educational Leadership at Lewis & Clark College in Portland, Oregon. Your child is invited to participate in a research project I will be conducting, entitled "The Effects of Physical Movement during Story Time on Vocabulary Acquisition of Primary Students in Grades K-1: An Exploratory Investigation in One School Location."

The purpose of my research is to study the effects of physical activity during story time. All of the kindergartners and first graders at Amity Creek Magnet School will be invited to participate in the study. Lewis & Clark College and the Bend-LaPine School District have approved this study. The study will begin in September 2008 and end in June 2009.

Reading aloud to children is a common daily practice at Amity Creek. Depending on the day's schedule, your child's teacher will read aloud to the children 1-3 times. The typical read-aloud practices will continue throughout the study. Examples of these practices include: reading the story, showing the books pictures, allowing the children to ask questions, and asking the children to share their thoughts. The research project will include *two additional* read-alouds each week, for 10 weeks. Ten storybooks have been chosen for the study.

One kindergarten/first grade class will serve as the control group. The children in the control group will be read the stories in the typical fashion; their teacher will read to them as they sit on the classroom risers. Each of the 10 books will be read twice. The children will be invited to draw a picture of their favorite part of the story at the end of the second reading.

The other class will serve as the experimental group. Their teacher will read the same storybooks and include physical activities during the lessons, as well as the typical read-aloud practices described above.

The two classes will be randomly assigned to either the control group or the experimental group. The different groups will allow me to see if including physical activity during story time has an effect of reading development. Prior to the study's read-alouds, children in both groups will have their current level of vocabulary assessed, as well as at the end of the read-aloud period. Jill Biely Dewey, our speech teacher, will assist me by doing the assessments with the children. Jill visits the classrooms regularly and is a familiar face to the children. It will take about 20 minutes for each assessment period.

It is hoped that the teachers and I will learn more about how young children learn new words. This study gives me an opportunity to involve our children in a project that will be informative and fun. Please know that if you choose to decline this invitation to have your child participate in the research project, he/she will still participate in the read-alouds described above but will not be assessed prior to the 10-week period or after. They will also be excused from taking the survey.

I have enclosed the written consent form for your signature, and a "script" for you to share with your child. If you choose to have your child participate in the study, please complete the checklist and sign the forms. Please return the forms to me at your earliest convenience.

Thank you for considering my request!

Sincerely,

Carol Totsky Hammett
Doctoral Candidate, Lewis & Clark College
Email: chammett@lclark.edu
Phone: (541)382-9357
Cell: (541)419-2858

Dr. Tom Ruhl, Dissertation Committee Chair
Flavia Hall
Marylhurst University
PO Box 261
Marylhurst, OR 97036-0261
Email: truhl@marylhurst.edu
Phone: (503)636-8141 ext. 3334

APPENDIX H

INFORMED CONSENT FORM: PARENT/GUARDIAN

Dear _____,

Thank you for allowing your child to participate in my study. The focus of my research, as stated in the enclosed invitation letter, is to study the effects of physical activity during story time. All of the kindergartners and first graders at Amity Creek Magnet School will be invited to participate in the study. Lewis & Clark College and the Bend-LaPine School District have approved this study. The study will begin in September 2008 and end in June 2009.

The purpose of this letter is to ask for your written permission to allow your child to participate in this study. The following information explains specifically what will be expected of your child if you give your permission for him/her to participate. I have listed each of the important points regarding your participation. As you read each of the points, *please check* each one to indicate your understanding.

____ I understand that my child will be assigned to one of two groups. The control group (one class) and the experimental group (the other K/1st grade class) will listen to selected storybooks for 10 weeks. Both teachers will read the same books. The difference between the two groups' story times is the addition of physical activity with the experimental group. Examples of activities include jumping, hopping, leaping, and twisting.

____ I understand that each read-aloud story time will be approximately 20 minutes.

____ I understand that all of the children will have vocabulary assessments before and after the 10-week period. This will take approximately 20 for each assessment, a total of 40 minutes during the study.

____ I understand that in addition to the assessments, the children in the experimental group will complete a very short survey with their classroom teacher at the end of the 10-week period. Carol Hammett will meet with the children individually to talk about their experiences with active and inactive story times.

____ I understand that if I choose not to have my child participate in the study, this decision will have no influence on my child's grades or academic evaluation. My child and I are free to withdraw from the study at any time.

____ I understand that all publications, as a result of this study, will not identify any participant, the school, or the community by name.

____ I understand that close attention will be paid to securing all data and other information.

____ I understand that there are no foreseeable risks associated with the research, as the physical activities are common and the books are appropriate for kindergarten and first grade children.

____ I understand that there will be no monetary compensation for participation in this study. The children will, however, receive a heart-felt "thank you" from Carol Hammett!

____ I understand that if I have any questions or concerns about the study I can contact Carol Hammett at (541) 383-6195, chammett@lclark.edu or contact the researcher's academic advisor, Dr. Tom Ruhl, at (503) 636-8141 ext. 3334, truhl@marylhurst.edu. If I have any additional questions, I can contact the Lewis & Clark College Human Subjects Research Committee at irb@lclark.edu or (503) 768-6124.

Your signature below indicates that you have read this letter, understand the scope of the study, and that you give your consent for your child to participate. I am also enclosing a form so that you can indicate your child's verbal agreement to participate in the study. Please read the form to your child. This form will also be reviewed with your child by the researcher and speech teacher. If you choose to have your child participate, please return the signed forms at your earliest convenience. You will receive a copy of the signed forms for your records.

Sincerely,

Carol Totsky Hammett
Doctoral student, Lewis & Clark College
Email: chammett@lclark.edu
Phone: 541-382-9357

Dr. Tom Ruhl, Dissertation Committee Chair
Flavia Hall
Marylhurst University
PO Box 261
Marylhurst, OR 97036-0261
Email: truhl@marylhurst.edu
Phone: (503)636-8141 ext. 3334

_____

Participant's Signature (Parent/Guardian) Date

APPENDIX I

ASSENT FORM: CHILD PARTICIPANT

Dear Parent,

Please read the following letter to your child. If you wish to have your child participate in the study, please indicate his/her verbal agreement by signing this form.

Hi!

I would like to invite you to join me in a project. Your teacher and I want to know more about how children learn new words. During the project, your teacher will read 10 new stories to you, one each week for 10 weeks. You won't be asked to read anything because your teacher will read the books to you and your friends. Some of the children will be asked to move around the room, just like the characters in the story or draw a picture of their favorite part of the story! You will also play four word games. After all the books are read, I will chat with you to see what you thought about the project.

It is okay to say that you don't want to join in the project. If you want to join us, please tell your parents and they will let me know.

Thank you!

Miss Carol
(Carol Totsky Hammett)

Verification of child's verbal agreement to participate Date
(Participant's signature for child)

Researcher's Signature Date

Speech Teacher's Signature Date

APPENDIX J

TEACHER QUESTIONNAIRE: THOUGHTS ABOUT READ-ALOUDS

Name: _____ Date: _____

1. When reflecting on your experience during the read-aloud study, how would you describe the experience?

2. Were there negative outcomes for the students? If yes, what were they?

3. Were there positive outcomes for the students? If yes, what were they?

4. When considering individual learners, what type of child benefited from the active read-alouds?

5. When considering individual learners, what type of child did not benefit from the active read-alouds?

6. Are you likely to continue providing your students with active read-alouds?

7. If you answered “yes” to question #6, what would you need to enhance this teaching strategy?

8. If you answered “no” to question #5, what do you consider the “roadblocks” to using the active read-aloud teaching strategy?



APPENDIX K

FIDELITY OF IMPLEMENTATION CHECKLIST: CONTROL GROUP

Date:_____ Teacher:_____

Observer:_____ Book Title:_____

Start Time:_____ Reading: 1st 2nd

Stop Time:_____

Control Group – 1st reading

Skill	**No**	**Usually**	**Yes**
Book and notes are ready for the lesson			
Children are sitting comfortably in front of teacher			
Teacher signals the start of the read-aloud session			
Teacher begins by reading the title to the children			
Teacher reads the names of the author and illustrator			
Teacher explains the storyline, as written in the lesson			
Teacher points to the illustrations on the cover			
Teacher reads book as written			
Teacher points to the illustrations to support the text			
After reading the page with the highlighted target word, teacher goes back and rereads the word and presents the definition by saying, "_____ means_____," using the written definition in the lesson plan.			
If asked about a non-target word, teacher says, "I'll reread that part and see if you can guess what the word means."			
Teacher reads with enthusiasm			
Teacher reads lesson plan script to review target vocabulary after finishing the story			

Control Group – 2nd reading

Skill	No	Usually	Yes
Book and notes are ready for the lesson			
Children are sitting comfortably in front of teacher			
Teacher signals the start of the read-aloud session			
Teacher begins by reading the title to the children			
Teacher reads the names of the author and illustrator			
Teacher explains the storyline, as written in the lesson			
Teacher points to the illustrations on the cover			
Teacher reads book as written			
Teacher points to the illustrations to support the text			
After reading the page with the highlighted target word, teacher goes back and rereads the word and presents the definition by saying, "_____ means_____," using the written definition in the lesson plan.			
If asked about a non-target word, teacher says, "I'll reread that part and see if you can guess what the word means."			
Teacher reads with enthusiasm			
Teacher invites children to draw pictures, as indicated in the lesson plan, after finishing the story. Teacher takes dictation if the students cannot notate their drawings themselves.			

APPENDIX L

FIDELITY OF IMPLEMENTATION CHECKLIST: EXPERIMENTAL GROUP

Date:_____ Teacher:_____

Observer:_____ Book Title:_____

Start Time:_____ Reading: 1st 2nd

Stop Time:_____

Experimental Group – 1st reading

Skill	**No**	**Usually**	**Yes**
Book and notes are ready for the lesson			
Children are sitting comfortably in front of teacher			
Teacher signals the start of the read-aloud session			
Teacher begins by reading the title to the children			
Teacher reads the names of the author and illustrator			
Teacher explains the storyline, as written in the lesson			
Teacher points to the illustrations on the cover			
Teacher reads the book as written			
Teacher points to the illustrations to support the text			
After reading the page with the highlighted target word, teacher goes back and rereads the word and presents the definition by saying, "_____ means_____," using the written definition in the lesson plan.			
If asked about a non-target word, teacher says, "I'll reread that part and see if you can guess what the word means			
Teacher reads with enthusiasm			
Teacher follows lesson plan script to review target vocabulary after finishing the story			

Experimental Group – 2nd reading

Skill	No	Usually	Yes
Book and notes are ready for the lesson			
Children are sitting comfortably in the movement space			
Teacher signals the start of the read-aloud session			
Teacher begins by reading the title to the children			
Teacher reminds the children that they listened to the story earlier in the week			
Teacher reviews the storyline, as written in the lesson			
Teacher explains the activity in which the children will engage			
Teacher follows the active lesson plan as scripted, guiding children through the physical activities			

APPENDIX M

TEACHER INVITATION LETTER

Dear _____,

I hope that this letter finds you well and enjoying your school year.

As you know, I am a doctoral student in Educational Leadership at Lewis & Clark College and am in the process of designing my dissertation research study. Because of my passion and interest in early literacy development, I have decided to focus my research on children's reading development in the primary years.

The purpose of my study is to investigate if a particular teaching strategy used during story time affects the vocabulary acquisition of kindergarten and first grade students. As a teacher of a K/1st blended class, you are in a position to inform my study.

The study will be conducted in two phases. In the first phase, baseline data on vocabulary development of the kindergarten and first graders will be gathered using the Expressive One Word Picture Vocabulary Test. Assessment of targeted vocabulary words will also be gathered prior to the intervention. The assessments will be given by the school's speech pathologist, Jill Biely Dewey and me.

During Phase One of the study, both K/1st grade teachers will serve as research assistants. One teacher will be chosen randomly (a coin toss) to implement the intervention. The intervention consists of leading specially designed lesson plans for 20 read-aloud sessions (10 books read twice per week). The lessons will incorporate movement during the read-alouds. Each lesson will take approximately 20 minutes. The treatment period will be 10 weeks. I will meet with the teacher of the experimental group to provide training on the Active Read-Aloud Strategy. The training will include a review of the selected storybooks, lesson plans, and targeted vocabulary words, as well as the specific details regarding the implementation of the strategy. The training will take place prior to the implementation of Phase One. I anticipate that it will take about 2 hours to go through the materials. During the treatment period, I will observe the read-aloud sessions of the treatment group approximately three times. This will allow the teacher an opportunity to ask questions or express concerns about the Active Read-Aloud Strategy. The observations will help provide "fidelity of implementation."

The second teacher will conduct read-alouds, as she does typically (no physical activity). She will read the same books to her class as the teacher leading the experimental group. The teacher of the control group will follow the same 10-week schedule.

Teachers of both the experimental and control groups will keep a log of the books they read to the children outside of the Active Read-Aloud Strategy. I will examine the books to see how often the targeted vocabulary words are present in the additional books that are read to the children.

At the end of the 10-week treatment, each child will be posttested using the standardized assessments. The children in the experimental group will complete a short, "kid-friendly"

questionnaire about their experiences with the Active Read-Aloud Strategy. Data analysis will be shared with the teachers.

Phase Two, at the end of the 10-week period, will involve the participation of the teacher leading the experimental group. As a participant in the study, this teacher will complete a short questionnaire about her perceptions of the Active Read-Aloud Strategy.

Your participation is voluntary and you are under no obligation to participate. There is no monetary incentive if you chose to participate, other than a small "thank you" gift card from a local coffee house. Perhaps a possible benefit from participating in the study is that you will add to your knowledge about young children's vocabulary development.

Confidentiality is a high priority for me. If you choose to participate, your name, the name of our school, or any other identifying information will not be used in the publication of the dissertation or any subsequent publications of the research. All adults will be given pseudonyms, as well as any children who may be identified during the interview, observations, or survey. The results of the vocabulary assessments will in no way affect the evaluation of your students. Your position at Amity Creek Magnet School will not be changed or altered because of your decision whether or not to participate in the study. If you agree to participate, please be assured that you may elect to discontinue your participation at anytime during the study.

Please let me know, at your earliest convenience, whether you are interested in participating in my study. You may contact me by phone or email. If you choose to participate, and are selected to lead the experimental group, I will send a consent form for you to review, sign, and return to me. Both teachers will also sign confidentiality forms.

Thank you for considering my invitation to participate in the research project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Carol Totsky Hammett
Doctoral Candidate, Lewis & Clark College
Email: chammett@lclark.edu
Phone: (541) 382-9357
Cell: (541) 419-2858

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